Scotchflex
Product
Specifications

Electronic Products Division/3M
3M Center, St. Paul, Minnesota 55101
### SECTION I - SCOTCHFLEX FLAT CABLE

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**Issue 7**

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3M PART NO. 3365

DIM. “A”

- .025 ± .007 (.64 ± .18)
- .050 ± .002 (1.27 ± .05) (TYP.)

DIM. “B”

- .035 ± .003 (.89 ± .08)

NO. 28 AWG 7 x 36 (7 x .127) TINNED STRANDED COPPER CONDUCTORS

221°F (105°C) PVC INSULATION FLAME RETARDANT

NOTE: RED MARKING ON ONE EDGE OF CABLE.

<table>
<thead>
<tr>
<th>3M Part Number</th>
<th>DIM. “A”</th>
<th>DIM. “B”</th>
</tr>
</thead>
<tbody>
<tr>
<td>3365/10</td>
<td>.500 ± .010</td>
<td>.450 ± .007</td>
</tr>
<tr>
<td>3365/14</td>
<td>.700 ± .010</td>
<td>.650 ± .007</td>
</tr>
<tr>
<td>3365/16</td>
<td>.800 ± .015</td>
<td>.750 ± .011</td>
</tr>
<tr>
<td>3365/20</td>
<td>1.000 ± .015</td>
<td>.950 ± .011</td>
</tr>
<tr>
<td>3365/24</td>
<td>1.200 ± .015</td>
<td>1.150 ± .011</td>
</tr>
<tr>
<td>3366/26</td>
<td>1.300 ± .015</td>
<td>1.250 ± .011</td>
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<tr>
<td>3365/34</td>
<td>1.700 ± .020</td>
<td>1.650 ± .015</td>
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<td>3365/40</td>
<td>2.000 ± .020</td>
<td>1.950 ± .015</td>
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<tr>
<td>3365/50</td>
<td>2.500 ± .020</td>
<td>2.450 ± .015</td>
</tr>
<tr>
<td>3365/60</td>
<td>3.000 ± .020</td>
<td>2.950 ± .015</td>
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<tr>
<td>3365/64</td>
<td>3.200 ± .020</td>
<td>3.100 ± .015</td>
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</tbody>
</table>

3M PART NO. 3365

3M COMPANY
ELECTRONIC PRODUCTS DIVISION
St. Paul
Minnesota

CABLE SPECIFICATION
U.L. STYLE NO. 2651

JAN. 12, 1976

ISSUE
ISSUE DATE AND CHANGE RECORD
REV.
CH.

6

1000
SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION

CABLE NUMBER 3365 UL STYLE 2651

SCOPE: This specification details the requirements for a multiposition round conductor flat cable on .050" (1.27 mm) wire to wire spacing.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Polyvinyl chloride (PVC) U.L. flammability rating VW-1 (Old FR-1)

COLOR Gray

CONDUCTORS 28 AWG 7 x 36 (7 x .127) stranded

CONDUCTOR PLATING Tin

MARKING Red edge

ELECTRICAL

VOLTAGE RATING $300 \text{ V}_{\text{RMS}}$

INSULATION RESISTANCE $>10^{10} \Omega/10 \text{ ft (3m) sample}$

Ground Signal configuration (GS)

CHARACTERISTIC IMPEDANCE $150\Omega$

CAPACITANCE $7.7 \text{ pF/ft (25.3 pF/m)}$

INDUCTANCE $0.29 \text{ uH/ft (0.95 uH/m)}$

PROPAGATION DELAY $1.38 \text{ ns/ft (4.53 ns/m)}$

Ground Signal Ground configuration (GSG)

CHARACTERISTIC IMPEDANCE $105\Omega$

CAPACITANCE $15.0 \text{ pF/ft (49 pF/m)}$

INDUCTANCE $0.20 \text{ uH/ft (0.66 uH/m)}$

PROPAGATION DELAY $1.40 \text{ ns/ft (4.59 ns/m)}$

ENVIRONMENTAL

TEMPERATURE RATING $-4^\circ\text{F to }+221^\circ\text{F (-20^\circ\text{C to }+105^\circ\text{C})}$
NOTE: RED MARKING ON ONE EDGE OF CABLE

<table>
<thead>
<tr>
<th>3M Part Number</th>
<th>DIM. &quot;A&quot;</th>
<th>DIM. &quot;B&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>3365/10</td>
<td>0.500 ± 0.010 (12.70 ± 0.25)</td>
<td>0.450 ± 0.007 (11.43 ± 0.18)</td>
</tr>
<tr>
<td>3365/14</td>
<td>0.700 ± 0.010 (17.78 ± 0.25)</td>
<td>0.650 ± 0.007 (16.51 ± 0.18)</td>
</tr>
<tr>
<td>3365/16</td>
<td>0.800 ± 0.015 (20.32 ± 0.38)</td>
<td>0.750 ± 0.011 (19.05 ± 0.28)</td>
</tr>
<tr>
<td>3365/20</td>
<td>1.000 ± 0.015 (25.40 ± 0.38)</td>
<td>0.950 ± 0.011 (24.13 ± 0.28)</td>
</tr>
<tr>
<td>3365/24</td>
<td>1.200 ± 0.015 (30.48 ± 0.38)</td>
<td>1.150 ± 0.011 (29.21 ± 0.28)</td>
</tr>
<tr>
<td>3365/25</td>
<td>1.250 ± 0.015 (31.75 ± 0.38)</td>
<td>1.200 ± 0.011 (30.48 ± 0.28)</td>
</tr>
<tr>
<td>3365/26</td>
<td>1.300 ± 0.015 (33.02 ± 0.38)</td>
<td>1.250 ± 0.011 (31.75 ± 0.28)</td>
</tr>
<tr>
<td>3365/34</td>
<td>1.700 ± 0.020 (43.18 ± 0.51)</td>
<td>1.650 ± 0.015 (41.91 ± 0.38)</td>
</tr>
<tr>
<td>3365/37</td>
<td>1.850 ± 0.020 (46.99 ± 0.51)</td>
<td>1.800 ± 0.015 (45.72 ± 0.38)</td>
</tr>
<tr>
<td>3365/40</td>
<td>2.000 ± 0.020 (50.80 ± 0.51)</td>
<td>1.950 ± 0.015 (49.53 ± 0.38)</td>
</tr>
<tr>
<td>3365/50</td>
<td>2.500 ± 0.020 (63.50 ± 0.51)</td>
<td>2.450 ± 0.015 (62.23 ± 0.38)</td>
</tr>
<tr>
<td>3365/60</td>
<td>3.000 ± 0.020 (76.20 ± 0.51)</td>
<td>2.950 ± 0.015 (74.93 ± 0.38)</td>
</tr>
<tr>
<td>3365/64</td>
<td>3.200 ± 0.020 (81.28 ± 0.51)</td>
<td>3.150 ± 0.015 (80.01 ± 0.38)</td>
</tr>
</tbody>
</table>

TINNED STRANDED COPPER CONDUCTORS
221°F. (105°C.) PVC INSULATION FLAME RETARDANT

NO. 28 AWG 7 x 36 (7 x .127)
SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION

CABLE NUMBER 3365 UL STYLE 2651

SCOPE: This specification details the requirements for a multi-position round conductor flat cable on .050" (1.27 mm) wire to wire spacing.

SPECIFICATIONS:

<table>
<thead>
<tr>
<th>PHYSICAL</th>
<th>ELECTRICAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSULATOR MATERIAL</td>
<td>VOLTAGE RATING 300 V&lt;sub&gt;RMS&lt;/sub&gt;</td>
</tr>
<tr>
<td>Polyvinyl chloride (PVC) U.L.</td>
<td>INSULATION RESISTANCE &gt;10&lt;sup&gt;10&lt;/sup&gt;Ω /10 ft (3m) sample</td>
</tr>
<tr>
<td>flammability rating VW-1 (Old FR-1)</td>
<td>Ground Signal configuration (GS)</td>
</tr>
<tr>
<td>COLOR Gray</td>
<td>CHARACTERISTIC IMPEDANCE 155Ω</td>
</tr>
<tr>
<td>CONDUCTORS 28 AWG 7 x 36 (7 x .127) stranded</td>
<td>CAPACITANCE 6.6 pF/ft (21.7 pF/m)</td>
</tr>
<tr>
<td>CONDUCTOR PLATING Tin</td>
<td>INDUCTANCE .26 µH/ft (.85 µH/m)</td>
</tr>
<tr>
<td>MARKING Red edge</td>
<td>PROPAGATION DELAY 1.34 ns/ft (4.40 ns/m)</td>
</tr>
<tr>
<td></td>
<td>Ground Signal Ground configuration (GSG)</td>
</tr>
<tr>
<td></td>
<td>CHARACTERISTIC IMPEDANCE 105Ω</td>
</tr>
<tr>
<td></td>
<td>CAPACITANCE 12.6 pF/ft (41.3 pF/m)</td>
</tr>
<tr>
<td></td>
<td>INDUCTANCE .17 µH/ft (.56 µH/m)</td>
</tr>
<tr>
<td></td>
<td>PROPAGATION DELAY 1.37 ns/ft (4.49 ns/m)</td>
</tr>
<tr>
<td>ENVIRONMENTAL</td>
<td>TEMPERATURE RATING -4°F to +221°F (-20°C to +105°C)</td>
</tr>
</tbody>
</table>

1000 A
NO. 24 AWG 7 x 32 (7 x .203) BARE STRANDED COPPER CONDUCTORS

DIM. "B"

DIM. "A"

.075 ± .003 (1.91 ± .08) (TYP.)

.037 ± .007 (.94 ± .18)

.044 ± .003 (1.12 ± .08)

221°F (105°C) PVC INSULATION FLAME RETARDANT

NOTE: RED MARKING ON ONE EDGE OF CABLE.

3M Part Number | DIM. "A" | DIM. "B"
--- | --- | ---
3405/28 | 2.100 ± .015 (53.34 ± .38) | 2.025 ± .011 (51.43 ± .28)
3405/36 | 2.700 ± .020 (68.58 ± .51) | 2.625 ± .015 (66.68 ± .38)

USED ON

IMPORTANT NOTICE TO PURCHASER: All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, express or implied.

Seller’s and manufacturer’s only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. Before using, user shall determine the suitability of the product for his intended use, and user assumes all risk and liability whatsoever in connection herewith. No statement or recommendation not contained herein shall have any force or effect until in an agreement signed by officers of seller and manufacturer.

TOLERANCE UNLESS NOTED

<table>
<thead>
<tr>
<th>INCH (mm)</th>
<th>.0</th>
<th>.00</th>
<th>.000</th>
</tr>
</thead>
<tbody>
<tr>
<td>INCH</td>
<td>± .1</td>
<td>± .01</td>
<td>± .005</td>
</tr>
<tr>
<td>mm</td>
<td>± .3</td>
<td>± .13</td>
<td>DR.</td>
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</table>

3M Part No. 3405

CABLE SPECIFICATION

3M

JULY 2, 1979

ISSUE

ISSUE DATE AND CHANGE RECORD

REV. CH.
SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION
CABLE NUMBER 3405 UL STYLE 2651

SCOPE: This specification details the requirements for a multiposition round conductor flat cable on .075" (1.91 mm) wire to wire spacing.

SPECIFICATIONS:

<table>
<thead>
<tr>
<th>PHYSICAL</th>
<th>ELECTRICAL</th>
<th>ENVIRONMENTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSULATOR MATERIAL</td>
<td>Polyvinyl chloride (PVC) U.L. flammability rating VW-1 (Old FR-1)</td>
<td>TEMPERATURE RATING</td>
</tr>
<tr>
<td>COLOR</td>
<td>Gray</td>
<td></td>
</tr>
<tr>
<td>CONDUCTORS</td>
<td>24 AWG 7 x 32 (7 x .203) stranded</td>
<td></td>
</tr>
<tr>
<td>MARKING</td>
<td>Red edge</td>
<td></td>
</tr>
<tr>
<td>VOLTAGE RATING</td>
<td>300 V RMS</td>
<td></td>
</tr>
<tr>
<td>INSULATION RESISTANCE</td>
<td>&gt;10^10Ω/ 10 ft (3m) sample</td>
<td></td>
</tr>
<tr>
<td>CHARACTERISTIC IMPEDANCE</td>
<td>150Ω</td>
<td></td>
</tr>
<tr>
<td>CAPACITANCE</td>
<td>7.0 pF/ft (23.0 pF/m)</td>
<td></td>
</tr>
<tr>
<td>INDUCTANCE</td>
<td>.26 μH/ft (.85 μH/m)</td>
<td></td>
</tr>
<tr>
<td>PROPAGATION DELAY</td>
<td>1.31 ns/ft (4.30 ns/m)</td>
<td></td>
</tr>
<tr>
<td>CHARACTERISTIC IMPEDANCE</td>
<td>100Ω</td>
<td></td>
</tr>
<tr>
<td>CAPACITANCE</td>
<td>13 pF/ft (43 pF/m)</td>
<td></td>
</tr>
<tr>
<td>INDUCTANCE</td>
<td>.17 μH/ft (.56 μH/m)</td>
<td></td>
</tr>
<tr>
<td>PROPAGATION DELAY</td>
<td>1.33 ns/ft (4.36 ns/m)</td>
<td></td>
</tr>
</tbody>
</table>
**3M PART NO. 3350**

**DIM. “A”**
- 0.025 ± 0.007 (0.64 ± 0.18)
- 0.050 ± 0.002 (1.27 ± 0.05) (TYP.)

**DIM. “B”**
- 0.035 ± 0.003 (0.89 ± 0.08)

**NOTE:** RED MARKING ON ONE EDGE OF CABLE.

**NO. 30 AWG (.254) BARE SOLID COPPER CONDUCTORS**

**221°F (105°C) PVC INSULATION FLAME RETARDANT**

**TOLERANCE UNLESS NOTED**

<table>
<thead>
<tr>
<th>INCH (mm)</th>
<th>.00</th>
<th>.000</th>
</tr>
</thead>
<tbody>
<tr>
<td>INCH</td>
<td>± .1</td>
<td>± .01</td>
</tr>
<tr>
<td>mm</td>
<td>± .3</td>
<td>± .13</td>
</tr>
</tbody>
</table>

**3M Part Number | DIM. “A” | DIM. “B”**
--- | --- | ---
3350/10 | 0.500 ± 0.010 (12.70 ± 0.25) | 0.450 ± 0.007 (11.43 ± 0.18)
3350/14 | 0.700 ± 0.010 (17.78 ± 0.25) | 0.650 ± 0.007 (16.51 ± 0.18)
3350/16 | 0.800 ± 0.015 (20.32 ± 0.38) | 0.750 ± 0.011 (19.05 ± 0.28)
3350/20 | 1.000 ± 0.015 (25.40 ± 0.38) | 0.950 ± 0.011 (24.13 ± 0.28)
3350/24 | 1.200 ± 0.015 (30.48 ± 0.38) | 1.150 ± 0.011 (29.21 ± 0.28)
3350/26 | 1.300 ± 0.015 (33.02 ± 0.38) | 1.250 ± 0.011 (31.75 ± 0.28)
3350/34 | 1.700 ± 0.020 (43.18 ± 0.51) | 1.650 ± 0.015 (41.91 ± 0.38)
3350/40 | 2.000 ± 0.020 (50.80 ± 0.51) | 1.950 ± 0.015 (49.53 ± 0.38)
3350/50 | 2.500 ± 0.020 (63.50 ± 0.51) | 2.450 ± 0.015 (62.23 ± 0.38)
3350/60 | 3.000 ± 0.020 (76.20 ± 0.51) | 2.950 ± 0.015 (74.93 ± 0.38)

**USED ON**

**DEC. 1, 1978**

**ISSUE** | **ISSUE DATE AND CHANGE RECORD** | **REV. CH.**
--- | --- | ---
**Electronic Products Division**

**3M**

**CABLE SPECIFICATION U. L. STYLE NO. 2651**

**TOLERANCE UNLESS NOTED**

**INCH (mm)**

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<thead>
<tr>
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<tr>
<td>INCH</td>
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<tr>
<td>mm</td>
<td>± .3</td>
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</table>
SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION
CABLE NUMBER 3350 UL STYLE 2651

SCOPE: This specification details the requirements for a multiposition round conductor flat cable on .050" (1.27 mm) wire to wire spacing.

SPECIFICATIONS:

<table>
<thead>
<tr>
<th>PHYSICAL</th>
<th>ELECTRICAL</th>
<th>ENVIRONMENTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSULATOR MATERIAL</td>
<td>VOLTAGE RATING 300 V&lt;sub&gt;RMS&lt;/sub&gt;</td>
<td>TEMPERATURE RATING</td>
</tr>
<tr>
<td>Polyvinyl chloride (PVC) U.L.</td>
<td>INSULATION RESISTANCE &gt;10&lt;sup&gt;10&lt;/sup&gt;/10 ft (3m) sample</td>
<td>-4°F to +221°F (-20°C to +105°C)</td>
</tr>
<tr>
<td>flammability rating VW-1 (Old FR-1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COLOR Gray</td>
<td>Ground Signal configuration (GS)</td>
<td></td>
</tr>
<tr>
<td>CONDUCTORS 30 AWG solid</td>
<td>CHARACTERISTIC IMPEDANCE 175Ω</td>
<td></td>
</tr>
<tr>
<td>MARKING Red edge</td>
<td>CAPACITANCE 6.5 pF/ft (21.3 pF/m)</td>
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<td></td>
<td>INDUCTANCE .33 μH/ft (1.08 μH/m)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PROPAGATION DELAY 1.41 ns/ft (4.62 ns/m)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ground Signal Ground configuration (GSG)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CHARACTERISTIC IMPEDANCE 125Ω</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CAPACITANCE 12.0 pF/ft (39 pF/m)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>INDUCTANCE .23 μH/ft (.75 μH/m)</td>
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</tr>
<tr>
<td></td>
<td>PROPAGATION DELAY 1.42 ns/ft (4.66 ns/m)</td>
<td></td>
</tr>
</tbody>
</table>

1003
NOTE: RED MARKING ON ONE EDGE OF CABLE

TOLERANCE UNLESS NOTED

<table>
<thead>
<tr>
<th>TOLERANCE</th>
<th>INCH (mm)</th>
</tr>
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<tbody>
<tr>
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<tr>
<td>.3</td>
<td>± .13</td>
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<tr>
<td>.13</td>
<td>± .13</td>
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SCALE: A 1011

MAY 4, 1979

ISSUE DATE AND CHANGE RECORD

REV. CH.

Electronic Products Division

3M

CABLE SPECIFICATION

3M PART NO. 3451/24
SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION
CABLE NUMBER 3451 UL STYLE 2651

SCOPE: This specification details the requirements for a multiposition round conductor flat cable on .0625" (1.588 mm) wire to wire spacing.

SPECIFICATIONS:

<table>
<thead>
<tr>
<th>PHYSICAL</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>INSULATOR MATERIAL</td>
<td>Polyvinyl chloride (PVC) U.L. flammability rating W-1 (old FR-1)</td>
</tr>
<tr>
<td>COLOR</td>
<td>Gray</td>
</tr>
<tr>
<td>CONDUCTORS</td>
<td>24 AWG 7 X 32 (7 X .203) stranded</td>
</tr>
<tr>
<td>MARKING</td>
<td>Red edge</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ELECTRICAL</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>VOLTAGE RATING</td>
<td>300 V&lt;sub&gt;RMS&lt;/sub&gt;</td>
</tr>
<tr>
<td>INSULATION RESISTANCE</td>
<td>&gt;10&lt;sup&gt;10&lt;/sup&gt;Ω/ 10 ft (3m) sample</td>
</tr>
<tr>
<td>Ground Signal configuration</td>
<td>(GS)</td>
</tr>
<tr>
<td>CHARACTERISTIC IMPEDANCE</td>
<td>130Ω</td>
</tr>
<tr>
<td>CAPACITANCE</td>
<td>9.2 pF/ft (30.2 pF/m)</td>
</tr>
<tr>
<td>INDUCTANCE</td>
<td>.30 µH/ft (.98 µH/m)</td>
</tr>
<tr>
<td>PROPAGATION DELAY</td>
<td>1.22 ns/ft (4.00 ns/m)</td>
</tr>
</tbody>
</table>

Ground Signal Ground configuration (GSG)

| CHARACTERISTIC IMPEDANCE     | 85Ω         |
| CAPACITANCE                  | 16.0 pF/ft (52 µH/m) |
| INDUCTANCE                   | .17 µH/ft (.56 µH/m) |
| PROPAGATION DELAY            | 1.29 ns/ft (4.23 ns/m) |

| ENVIRONMENTAL                |             |
| TEMPERATURE RATING           | -4°F to +221°F (-20°C to +105°C) |
NO. 28 AWG 7 x 36 (7 x .127) TINNED STRANDED COPPER CONDUCTORS

221°F (105°C) PVC INSULATION FLAME RETARDANT

1.700 ± 0.015
(43.18 ± 0.38)

0.25 ± 0.007
(.64 ± .18)

0.050 ± 0.002
(1.27 ± .05) (TYP.)

0.650 ± 0.006
(16.51 ± .15)

0.350 ± 0.005
(8.89 ± .13)

0.650 ± 0.006
(16.51 ± .15)

1.650 ± 0.010
(41.91 ± .25)

0.035 ± 0.003
(.89 ± .08)

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and is made in lieu of all warranties, expressed or implied.
SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION

CABLE NUMBER 3401 UL STYLE 2651

SCOPE: This specification details the requirements for a multiposition round conductor flat cable on .050" (1.27 mm) wire to wire spacing.

SPECIFICATIONS:

**PHYSICAL**

- **INSULATOR MATERIAL**: Polyvinyl chloride (PVC) U.L. flammability rating VW-1 (Pld FR-l)
- **COLOR**: Gray
- **CONDUCTORS**: 28 AWG 7 x 36 (7 x .127) stranded
- **CONDUCTOR PLATING**: Tin
- **MARKING**: Red edge

**ELECTRICAL**

- **VOLTAGE RATING**: 300 V
- **INSULATION RESISTANCE**: >10^10/ 10 ft (3m) sample
  - Ground Signal configuration (GS)
    - CHARACTERISTIC IMPEDANCE: 150Ω
    - CAPACITANCE: 7.7 pF/ft (25.3 pF/m)
    - INDUCTANCE: .29 µH/ft (.95 µH/m)
    - PROPAGATION DELAY: 1.38 ns/ft (4.53 ns/m)
  - Ground Signal Ground configuration (GSG)
    - CHARACTERISTIC IMPEDANCE: 105Ω
    - CAPACITANCE: 15.0 pF/ft (49 pF/m)
    - INDUCTANCE: .20 µH/ft (.66 µH/m)
    - PROPAGATION DELAY: 1.40 ns/ft (4.59 ns/m)

**ENVIRONMENTAL**

- **TEMPERATURE RATING**: -4°F to +221°F (-20°C to +105°C)
NOTE: RED MARKING ON ONE EDGE OF CABLE.

<table>
<thead>
<tr>
<th>3M Part Number</th>
<th>DIM. “A”</th>
<th>DIM. “B”</th>
</tr>
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<td>.500 ± .010 (12.70 ± .25)</td>
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Scotchflex Round Conductor Flat Cable

Product Number 3306
UL Style 2651

Scope: This specification details the requirements for a multiposition round conductor flat cable with .050” (1.27mm) conductor spacing.

Specifications:

Physical:
- Insulation Material: Polyvinyl Chloride (PVC)
- UL Flammability Rated VW-1
- Color: Gray
- Marking: Red Edge
- Conductors: 26 AWG (.404mm) Solid Copper

Electrical:
- Voltage Rating: 300 V
- Insulation Resistance: > $1 \times 10^{10} \, \Omega/10 \, \text{ft. (3m)}$
- *Characteristic Impedance: 100 \, \Omega$
- *Capacitance: 13.3 pF/ft. (43.6 pF/m)
- *Inductance: .17 \mu H/ft. (.56 \mu H/m)
- *Propagation Delay: 1.38 ns/ft. (4.53 ns/m)
- *Note: These values measured with conductors connected in ground — signal — ground configuration (GSG).

Environmental:
- Temperature Rating: -4°F to +221°F (-20°C to +105°C)
### NOTES:
1. LINEAL LENGTH OF .054 (1.37) SPACING = 6.69 ± .25 (169.9 ± 6.4)
2. LINEAL LENGTH OF .050 (1.27) SPACING = 6.69 ± .25 (169.9 ± 6.4)
3. TRANSITION LENGTH (NO ASSEMBLY ZONE) BETWEEN .054 (1.37) AND .050 (1.27) SPACING = 2.69 ± .20 (68.3 ± 5.1) WITH NINE RIB-LIKE FEATURES.
4. PATTERN REPEATS ITSELF EVERY 18.76 ± .35 (476.5 ± 8.9)
5. CABLE MARKING IS RED STRIPE DOWN .050 (1.27) SPACING FOR A LINEAL LENGTH OF 6.00 ± .30 (152.4 ± 7.6)

### USED ON

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All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and is made in lieu of all warranties, expressed or implied.

### ISSUE DATE AND CHANGE RECORD

| JAN. 12 1977 | 3 |

### TITLE

CABLE SPECIFICATION
U.L. STYLE NO. 2651

### SCALE

A

1023
SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION
CABLE NUMBER 3349 UL STYLE 2651

SCOPE: This specification details the requirements for a multiposition round conductor flat cable varying from .054" (1.37 mm) conductor center to center spacing to .050" (1.27 mm) center to center.

SPECIFICATIONS:

**PHYSICAL**
- INSULATOR MATERIAL: Polyvinyl chloride (PVC) U.L. flammability rating VW-l (Old FR-l)
- COLOR: Gray
- CONDUCTORS: 26 AWG (.404) solid
- MARKING: Red stripe down .050" (1.27 mm) conductor spacing, raised lines across cable width

**ELECTRICAL**
- VOLTAGE RATING: $300 \text{ V}_{\text{RMS}}$
- INSULATION RESISTANCE: $>10^{10} \Omega/10 \text{ ft (3m) sample}$
- Ground Signal configuration (GS)
  - CHARACTERISTIC IMPEDANCE: 137Ω
  - CAPACITANCE: 8.0 pF/ft (26.3 pF/m)
  - INDUCTANCE: .25 μH/ft (.82 μH/m)
  - PROPAGATION DELAY: 1.42 ns/ft (4.66 ns/m)
- Ground Signal Ground configuration (GSG)
  - CHARACTERISTIC IMPEDANCE: 94Ω
  - CAPACITANCE: 14.6 pF/ft (47.9 pF/m)
  - INDUCTANCE: .16 μH/ft (.52 μH/m)
  - PROPAGATION DELAY: 1.46 ns/ft (4.79 ns/m)

**ENVIRONMENTAL**
- TEMPERATURE RATING: -4°F to +221°F (-20°C to +105°C)
NOTE: RED MARKING ON ONE EDGE OF CABLE.
SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION
CABLE NUMBER 3348 UL STYLE 2651

SCOPE: This specification details the requirements for a multiposition round conductor flat cable on .0625" (1.59 mm) wire to wire spacing.

SPECIFICATIONS:

<table>
<thead>
<tr>
<th>PHYSICAL</th>
<th>INSULATOR MATERIAL</th>
<th>Polyvinyl chloride (PVC) U.L. flammability rating VW-1 (old FR-1)</th>
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</thead>
<tbody>
<tr>
<td>COLOR</td>
<td>Gray</td>
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<tr>
<td>CONDUCTORS</td>
<td>26 AWG (.404) solid</td>
<td></td>
</tr>
<tr>
<td>MARKING</td>
<td>Red edge</td>
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</table>

<table>
<thead>
<tr>
<th>ELECTRICAL</th>
<th>VOLTAGE RATING</th>
<th>300 V$_{RMS}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSULATION RESISTANCE</td>
<td>&gt;10$^4$M$\Omega$ /10 ft (3m) sample</td>
<td></td>
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</table>

Ground Signal configuration (GS)

- CHARACTERISTIC IMPEDANCE 170$\Omega$
- CAPACITANCE 6.1 pF/ft (20.0 pF/m)
- INDUCTANCE .27 $\mu$H/ft (.89 $\mu$H/m)
- PROPAGATION DELAY 1.29 ns/ft (4.23 ns/m)

Ground Signal Ground configuration (GSG)

- CHARACTERISTIC IMPEDANCE 120$\Omega$
- CAPACITANCE 10.6 pF/ft (34.8 pF/m)
- INDUCTANCE .18 $\mu$H/ft (.59 $\mu$H/m)
- PROPAGATION DELAY 1.31 ns/ft (4.30 ns/m)

<table>
<thead>
<tr>
<th>ENVIRONMENTAL</th>
<th>TEMPERATURE RATING</th>
<th>-4°F to +221°F (-20°C to +105°C)</th>
</tr>
</thead>
</table>

1026
NO. 28 AWG 7 x 36 (7 x .127) TINNED STRANDED COPPER CONDUCTORS

221°F (105°C) PVC INSULATION FLAME RETARDANT

NOTE: RED MARKING ON ONE EDGE OF CABLE

TOLERANCE UNLESS NOTED

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<tr>
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<td>±.3</td>
<td>±.13</td>
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</table>
Scotchflex Round Conductor Flat Cable

Product Number 3558
UL Style 2651 (105°C)

Scope: This specification details the requirements for a multiposition round conductor flat cable with .050” (1.27mm) conductor spacing.

Specifications:

Physical:
Insulation Material: Polyvinylchloride (PVC)
Color: Gray
Conductors: 28 AWG 7 × 36 (7 × .127) Tinned Stranded

Electrical:
Voltage Rating: 300 Volts
Insulation Resistance: > × 10¹⁰Ω/10 ft. (3m)
*Characteristic Impedance: 95Ω
*Capacitance: 15.1 pF/ft. (49.5 pF/m)
*Inductance: .17μH/ft. (.56μH/m)
*Propagation Delay: 1.32 ns/ft. (4.33 ns/m)
*Note: These values measured with conductors connected in ground—signal—ground configuration (GSG)

Environmental:
Temperature Rating: −4°F to +221°F (−20°C to +105°C)
3M PART NO. 3312

DIM. "A"

.027 ± .007 (.69 ± .18)

.054 ± .002 (1.37 ± .05) (TYP.)

.035 ± .003 (.89 ± .08)

DIM. "B"

NO. 28 AWG 7 x 36 (7 x .127)
TINNED STRANDED COPPER CONDUCTORS

221°F. (105°C.) PVC INSULATION
FLAME RETARDANT

NOTE: RED MARKING ON ONE EDGE
OF CABLE

<table>
<thead>
<tr>
<th>3M Part Number</th>
<th>DIM. &quot;A&quot;</th>
<th>DIM. &quot;B&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>3312/25</td>
<td>1.350 ± .015 (34.29 ± .38)</td>
<td>1.296 ± .011 (32.92 ± .28)</td>
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<tr>
<td>3312/37</td>
<td>1.998 ± .020 (50.75 ± .51)</td>
<td>1.944 ± .015 (49.37 ± .38)</td>
</tr>
</tbody>
</table>

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ULERANCE UNLESS NOTED

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<tr>
<td>mm</td>
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<td>± .13</td>
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</table>

Electronic Products Division

CABLE SPECIFICATION
U.L. STYLE NO. 2651

July 15, 1978

REV. CH.

1
Scotchflex Round Conductor Flat Cable
Product Number 3312
UL Style 2651

Scope: This specification details the requirements for a multiposition round conductor flat cable with 0.054" (1.37mm) conductor spacing.

Specifications:

Physical:
Insulation Material: Polyvinyl Chloride (PVC)
UL Flammability rated VW-1
Color: Gray
Conductors: 28 AWG 7 x 36 (7 x .127) tinned stranded

Electrical:
Voltage Rating: 300 Volts
Insulation Resistance: > 1 x 10^10 Ω /10 ft. (3m)
*Characteristic Impedance: 110 Ω
*Capacitance: 11.3 pF/ft. (37.1 pF/m)
*Inductance: .18 μH/ft. (.59 μH/m)
*Propagation Delay: 1.40 ns/ft. (4.59 ns/m)
*Note: These values measured with conductors connected in ground — signal — ground configuration (GSG)

Environmental:
Temperature Rating: -40°F to +221°F (-20°C to +105°C)
NOTE: GREEN LINE ON INSULATION ABOVE ONE EDGE CONDUCTOR.

<table>
<thead>
<tr>
<th>3M Part Number</th>
<th>DIM &quot;A&quot;</th>
<th>DIM &quot;B&quot;</th>
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<tbody>
<tr>
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<td>2.250 (57.15)</td>
<td>1.950 (49.53)</td>
</tr>
<tr>
<td>3380/50</td>
<td>2.750 (69.85)</td>
<td>2.450 (62.23)</td>
</tr>
</tbody>
</table>
SCOPE: This specification details the requirements for a multiposition round conductor flat cable on .050" (1.27 mm) wire to wire spacing with a ground plane running parallel to the conductors.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Polyvinyl chloride (PVC) U.L. flammability rating VW-l (Old FR-l)

COLOR Gray

CONDUCTORS 30 AWG solid

MARKING Green line on insulation above one edge conductor

GROUND PLANE Expanded copper

ELECTRICAL

VOLTAGE RATING 300 V_{RMS}

INSULATION RESISTANCE \( >10^9 \Omega/10 \text{ ft (3m) sample} \)

Signal with ground plane configuration (\( S_G \))

CHARACTERISTIC IMPEDANCE 75Ω

CAPACITANCE 22.0 pF/ft (72.2 pF/m)

INDUCTANCE .19 μH/ft (.62 μH/m)

PROPAGATION DELAY 1.68 ns/ft (5.51 ns/m)

Ground Signal with ground plane configuration (\( G_S G \))

CHARACTERISTIC IMPEDANCE 75Ω

CAPACITANCE 24.0 pF/ft (78.7 pF/m)

INDUCTANCE .18 μH/ft (.59 μH/m)

PROPAGATION DELAY 1.68 ns/ft (5.51 ns/m)

Ground Signal Ground with ground plane configuration (\( G_S G_G \))

CHARACTERISTIC IMPEDANCE 75Ω

CAPACITANCE 26.0 pF/ft (85.3 pF/m)

INDUCTANCE .17 μH/ft (.56 μH/m)

PROPAGATION DELAY 1.68 ns/ft (5.51 ns/m)

ENVIRONMENTAL

TEMPERATURE RATING -4°F to +221°F (-20°C to +105°C)
NOTE: RED LINE ON INSULATION ABOVE ONE EDGE CONDUCTOR.
SCOPE: This specification details the requirements for a multiposition round conductor flat cable on .050" (1.27 mm) wire to wire spacing with a ground plane running parallel to the conductors.

SPECIFICATIONS:

**PHYSICAL**
- INSULATOR MATERIAL: Polyvinyl chloride (PVC) U.L. flammability rating VW-1 (Old FR-1)
- COLOR: Gray
- CONDUCTORS: 28 AWG 7 x 36 (7 x .127) stranded
- CONDUCTOR PLATING: Tin
- MARKING: Red line on insulation above one edge conductor
- GROUND PLANE: Expanded copper

**ELECTRICAL**
- VOLTAGE RATING: 300 V RMS
- INSULATION RESISTANCE: >10⁹ Ω/ 10 ft (3m) sample

Signal with ground plane configuration (Sg)
- CHARACTERISTIC IMPEDANCE: 65Ω
- CAPACITANCE: 25.0 pF/ft (82.0 pF/m)
- INDUCTANCE: .17 µH/ft (.56 µH/m)
- PROPAGATION DELAY: 1.70 ns/ft (5.58 ns/m)

Ground Signal with ground plane configuration (GsG)
- CHARACTERISTIC IMPEDANCE: 65Ω
- CAPACITANCE: 27.0 pF/ft (88.6 pF/m)
- INDUCTANCE: .16 µH/ft (.52 µH/m)
- PROPAGATION DELAY: 1.66 ns/ft (5.45 ns/m)

Ground Signal Ground with ground plane configuration (GSGG)
- CHARACTERISTIC IMPEDANCE: 65Ω
- CAPACITANCE: 29.0 pF/ft (95.1 pF/m)
- INDUCTANCE: .15 µH/ft (.49 µH/m)
- PROPAGATION DELAY: 1.65 ns/ft (5.41 ns/m)

**ENVIRONMENTAL**
- TEMPERATURE RATING: -4°F to +221°F (-20°C to +105°C)
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BLACK LINE ABOVE WIRE DESIGNATES DRAIN
221°F (105°C) PVC INSULATION
FLAME RETARDANT

NO. 28 AWG 7 x 36 (7 x .127)
TINNED STRANDED COPPER CONDUCTORS

DIM. "A" ± .015 (± .38) ± .010
DIM. "B" (± .25)

0.015 ± .003 (1.22 ± .08) .050 ± .007 (1.27 ± .18) .050 ± .002 (1.27 ± .05) (TYP.)

0.010 (± .25) .020 (.51) REF.

0.150 ± .010 (3.81 ± .25) .050 ± .007 (1.27 ± .18)

3M Part Number | DIM. “A” | DIM. “B” |
--- | --- | --- |
3476/20 | 1.250 (31.75) | 0.950 (24.13) |
3476/26 | 1.550 (39.37) | 1.250 (31.75) |
3476/34 | 1.950 (49.53) | 1.650 (41.91) |
3476/40 | 2.250 (57.15) | 1.950 (49.53) |
3476/50 | 2.750 (69.85) | 2.450 (62.23) |
3476/60 | 3.250 (82.55) | 2.950 (74.93) |

DEC. 1, 1978

Electronic Products Division

CABLE SPECIFICATION
U. L. STYLE NO. 2682
3M PART NO. 3476

1017
Scotchflex Round Conductor Flat Cable With Ground Plane

Product Number 3476
UL Style 2682

Scope: This specification details the requirements for a multiposition round conductor flat cable with .050" (1.27mm) conductor spacing, a ground plane and drain wire.

Specifications:
Physical:
Insulation Material: Polyvinyl Chloride (PVC)
UL Flammability rated VW-1
Color: Gray
Marking: Black line on insulation above one edge conductor
Conductors: 28 AWG (7 x 36) tinned stranded copper
Ground Plane: Expanded copper

Electrical:
Voltage Rating: 300 Volts
Insulation Resistance: \( >1 \times 10^6 \Omega/10 \text{ ft.} \) (3M)

**Signal to ground plane configuration \((S_G)\)**
Characteristic Impedance: 65\(\Omega\)
Capacitance: 25.0 pF/ft. (82.0 pF/m)
Inductance: .17\(\mu\)H/ft. (.56\(\mu\)H/m)
Propagation Delay: 1.70 ns/ft. (5.58 ns/m)

**Ground — signal — ground to ground plane configuration \((GSG_G)\)**
Characteristic Impedance: 65\(\Omega\)
Capacitance: 29.0 pf/ft. (95.1 pf/m)
Inductance: .15\(\mu\)H/ft. (.49\(\mu\)H/m)
Propagation Delay: 1.65 ns/ft. (5.41 ns/m)

Environmental:
Temperature Rating: -4°F to 221°F (-20°C to + 105°C)
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SCALE

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TOLERANCE UNLESS NOTED

DEC. 1, 1978

ISSUE DATE AND CHANGE RECORD

REV. CH.

CABLE SPECIFICATION
U.L. STYLE NO. 2682
3M PART NO. 3353

Electronic Products Division

3M

DEC. 1, 1978

3

1024
SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION
CABLE NUMBER 3353 UL STYLE 2682

SCOPE: This specification details the requirements for a multiposition round conductor flat cable on .050" (1.27 mm) wire to wire spacing with a ground plane running parallel to the conductors and a drain line on either side.

SPECIFICATIONS:

<table>
<thead>
<tr>
<th>PHYSICAL</th>
<th>ELECTRICAL</th>
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<tbody>
<tr>
<td><strong>INSULATOR MATERIAL</strong></td>
<td><strong>VOLTAGE RATING</strong></td>
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<tr>
<td>Polyvinyl chloride (PVC) U.L.</td>
<td>300 V&lt;sub&gt;RMS&lt;/sub&gt;</td>
</tr>
<tr>
<td>flammability rating VW-1 (Old FR-1)</td>
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<tr>
<td><strong>COLOR</strong></td>
<td><strong>INSULATION RESISTANCE</strong></td>
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<tr>
<td>Gray</td>
<td>&gt;10&lt;sup&gt;9&lt;/sup&gt; Ω/ 10 ft (3m) sample</td>
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<tr>
<td><strong>CONDUCTORS</strong></td>
<td><strong>Signal with ground plane configuration (S&lt;sub&gt;G&lt;/sub&gt;)</strong></td>
</tr>
<tr>
<td>28 AWG 7 x 36 (7 x .127) stranded</td>
<td>CHARACTERISTIC IMPEDANCE 65Ω</td>
</tr>
<tr>
<td><strong>MARKING</strong></td>
<td>CAPACITANCE 25.0 pF/ft (82.0 pF/m)</td>
</tr>
<tr>
<td>Black line on insulation above both edge</td>
<td>INDUCTANCE .17 μH/ft (.56 μH/m)</td>
</tr>
<tr>
<td>conductors</td>
<td>PROPAGATION DELAY 1.70 ns/ft (5.58 ns/m)</td>
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<tr>
<td><strong>GROUND PLANE</strong></td>
<td><strong>Ground Signal with ground plane configuration (G&lt;sub&gt;S&lt;/sub&gt;&lt;sub&gt;G&lt;/sub&gt;)</strong></td>
</tr>
<tr>
<td>Expanded copper</td>
<td>CHARACTERISTIC IMPEDANCE 65Ω</td>
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<tr>
<td><strong>VOLTAGE RATING</strong></td>
<td>CAPACITANCE 27.0 pF/ft (88.6 pF/m)</td>
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<tr>
<td>300 V&lt;sub&gt;RMS&lt;/sub&gt;</td>
<td>INDUCTANCE .16 μH/ft (.52 μH/m)</td>
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<tr>
<td><strong>INSULATION RESISTANCE</strong></td>
<td>PROPAGATION DELAY 1.66 ns/ft (5.45 ns/m)</td>
</tr>
<tr>
<td>&gt;10&lt;sup&gt;9&lt;/sup&gt; Ω/ 10 ft (3m) sample</td>
<td></td>
</tr>
<tr>
<td>Signal with ground plane configuration (S&lt;sub&gt;G&lt;/sub&gt;)</td>
<td><strong>Ground Signal Ground with ground plane configuration (GSG&lt;sub&gt;G&lt;/sub&gt;)</strong></td>
</tr>
<tr>
<td>CHARACTERISTIC IMPEDANCE 65Ω</td>
<td>CHARACTERISTIC IMPEDANCE 65Ω</td>
</tr>
<tr>
<td>CAPACITANCE 29.0 pF/ft (95.1 pF/m)</td>
<td>CAPACITANCE 27.0 pF/ft (88.6 pF/m)</td>
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<tr>
<td>INDUCTANCE .15 μH/ft (.49 μH/m)</td>
<td>INDUCTANCE .16 μH/ft (.52 μH/m)</td>
</tr>
<tr>
<td>PROPAGATION DELAY 1.65 ns/ft (5.41 ns/m)</td>
<td>PROPAGATION DELAY 1.66 ns/ft (5.45 ns/m)</td>
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</table>

ENVIRONMENTAL

**TEMPERATURE RATING** -4°F to +221°F (-20°C to +105°C)
3M PART NO. 3302

NO. 28 AWG 7 x 36 (7 x .127)

TINNED STRANDED COPPER CONDUCTORS

176°F (80°C) PVC INSULATION
FLAME RETARDANT

<table>
<thead>
<tr>
<th>3M Part Number</th>
<th>DIM. &quot;A&quot;</th>
<th>DIM. &quot;B&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>3302/10</td>
<td>.500 ± .015 (12.70 ± .38)</td>
<td>.450 ± .010 (11.43 ± .25)</td>
</tr>
<tr>
<td>3302/14</td>
<td>.700 ± .015 (17.78 ± .38)</td>
<td>.650 ± .010 (16.51 ± .25)</td>
</tr>
<tr>
<td>3302/16</td>
<td>.800 ± .020 (20.32 ± .51)</td>
<td>.750 ± .015 (19.05 ± .38)</td>
</tr>
<tr>
<td>3302/20</td>
<td>1.000 ± .020 (25.40 ± .51)</td>
<td>.950 ± .015 (24.13 ± .38)</td>
</tr>
<tr>
<td>3302/24</td>
<td>1.200 ± .020 (30.48 ± .51)</td>
<td>1.150 ± .015 (29.21 ± .38)</td>
</tr>
<tr>
<td>3302/26</td>
<td>1.300 ± .020 (33.02 ± .51)</td>
<td>1.250 ± .015 (31.75 ± .38)</td>
</tr>
<tr>
<td>3302/34</td>
<td>1.700 ± .025 (43.18 ± .63)</td>
<td>1.650 ± .020 (41.91 ± .51)</td>
</tr>
<tr>
<td>3302/40</td>
<td>2.000 ± .025 (50.80 ± .63)</td>
<td>1.950 ± .020 (49.53 ± .51)</td>
</tr>
<tr>
<td>3302/50</td>
<td>2.500 ± .025 (63.50 ± .63)</td>
<td>2.450 ± .020 (62.23 ± .51)</td>
</tr>
<tr>
<td>3302/60</td>
<td>3.000 ± .025 (76.20 ± .63)</td>
<td>2.950 ± .020 (74.93 ± .51)</td>
</tr>
<tr>
<td>3302/64</td>
<td>3.200 ± .025 (81.28 ± .63)</td>
<td>3.100 ± .020 (78.74 ± .51)</td>
</tr>
</tbody>
</table>

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CABLE SPECIFICATION
U.L. STYLE NO. 2776

TOLERANCE UNLESS NOTED

<table>
<thead>
<tr>
<th>INCH (mm)</th>
<th>±.1</th>
<th>±.02</th>
<th>±.005</th>
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</tr>
<tr>
<td>mm</td>
<td>±.5</td>
<td>±.13</td>
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</tr>
</tbody>
</table>
SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION

CABLE NUMBER 3302 UL STYLE 2776

SCOPE: This specification details the requirements for a multiposition color coded round conductor flat cable on .050" (1.27 mm) wire to wire spacing.

SPECIFICATIONS:

<table>
<thead>
<tr>
<th>PHYSICAL</th>
<th>ELECTRICAL</th>
<th>ENVIRONMENTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSULATOR MATERIAL</td>
<td>VOLTAGE RATING 300 V&lt;sub&gt;RMS&lt;/sub&gt;</td>
<td>TEMPERATURE RATING -4°F to+176°F (=20°C to+80°C)</td>
</tr>
<tr>
<td>Polyvinyl chloride (PVC)</td>
<td>INSULATION RESISTANCE 10³Ω / 10 ft (3m) sample</td>
<td></td>
</tr>
<tr>
<td>U.L. flammability rating</td>
<td>Ground Signal configuration (GS)</td>
<td></td>
</tr>
<tr>
<td>VW-1 (Old FR-1)</td>
<td>CHARACTERISTIC IMPEDANCE 150Ω</td>
<td></td>
</tr>
<tr>
<td>COLOR 10 color repeat, clear carrier</td>
<td>CAPACITANCE 7.3 pF/ft (23.9 pF/m)</td>
<td></td>
</tr>
<tr>
<td>CONDUCTORS 28 AWG 7 x 36 (7 x .127) stranded</td>
<td>INDUCTANCE .26 µH/ft (.85 µH/m)</td>
<td></td>
</tr>
<tr>
<td>CONDUCTOR PLATING Tin</td>
<td>PROPAGATION DELAY 1.37 ns/ft (4.49 ns/m)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ground Signal Ground configuration (GSG)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CHARACTERISTIC IMPEDANCE 105Ω</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CAPACITANCE 12.9 pF/ft (42.3 pF/m)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>INDUCTANCE .17 µH/ft (.56 µH/m)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PROPAGATION DELAY 1.39 ns/ft (4.56 ns/m)</td>
<td></td>
</tr>
</tbody>
</table>
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CABLE SPECIFICATION

U.L. STYLE NO. 2776

USED ON

1028
SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION
CABLE NUMBER 3389UL STYLE 2776

SCOPE: This specification details the requirements for a multiposition color coded round conductor flat cable on .0425" (1.08mm) spacing.

SPECIFICATIONS:

PHYSICAL

<table>
<thead>
<tr>
<th>INSULATOR MATERIAL</th>
<th>Polyvinyl chloride (PVC) U.L. flammability rating VW-1 (Old FR-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLOR</td>
<td>10 color repeat, clear carrier</td>
</tr>
<tr>
<td>CONDUCTORS</td>
<td>28 AWG 7 X 36 (7 X .127) stranded</td>
</tr>
<tr>
<td>CONDUCTOR PLATING</td>
<td>Tin</td>
</tr>
</tbody>
</table>

ELECTRICAL

<table>
<thead>
<tr>
<th>VOLTAGE RATING</th>
<th>300 V_{RMS}</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSULATION RESISTANCE</td>
<td>&gt;10^9 \Omega / 10 ft (3m) sample</td>
</tr>
<tr>
<td>Ground Signal configuration (GS)</td>
<td></td>
</tr>
<tr>
<td>CHARACTERISTIC IMPEDANCE</td>
<td>135 \Omega</td>
</tr>
<tr>
<td>CAPACITANCE</td>
<td>9.0 pF/ft (29.5 pF/m)</td>
</tr>
<tr>
<td>INDUCTANCE</td>
<td>.23 \muH/ft (.75 \muH/m)</td>
</tr>
<tr>
<td>PROPAGATION DELAY</td>
<td>1.40 ns/ft (4.59 ns/m)</td>
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<td>Ground Signal Ground configuration (GSG)</td>
<td></td>
</tr>
<tr>
<td>CHARACTERISTIC IMPEDANCE</td>
<td>95 \Omega</td>
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<tr>
<td>CAPACITANCE</td>
<td>17.3 pF/ft (56.8 pF/m)</td>
</tr>
<tr>
<td>INDUCTANCE</td>
<td>.16 \muH/ft (.52 \muH/m)</td>
</tr>
<tr>
<td>PROPAGATION DELAY</td>
<td>1.43 ns/ft (46.9 ns/m)</td>
</tr>
</tbody>
</table>

ENVIRONMENTAL

| TEMPERATURE RATING | -4°F to +176°F (-20°C to +80°C)                                     |
3M PART NO. 3301

**DIM. "A"**

0.54 (1.37) (TYP.)

**DIM. "B"**

0.42 ± 0.003 (1.07 ± 0.08)

3M Part Number | DIM. "A" | DIM. "B"
--- | --- | ---
3301/25 | 1.350 ± 0.020 (34.29 ± 0.51) | 1.296 ± 0.015 (32.92 ± 0.38)
3301/37 | 1.998 ± 0.025 (50.75 ± 0.63) | 1.944 ± 0.020 (49.37 ± 0.51)

**USED ON**

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**TOLERANCE UNLESS NOTED**

<table>
<thead>
<tr>
<th>INCH (mm)</th>
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<th>.00</th>
<th>.000</th>
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</thead>
<tbody>
<tr>
<td>INCH</td>
<td>± .1</td>
<td>± .02</td>
<td>± .005</td>
</tr>
<tr>
<td>mm</td>
<td>± .5</td>
<td>± .13</td>
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</tr>
</tbody>
</table>

**SCALE**

A

**CABLE SPECIFICATION**

U.L. STYLE NO. 2776

**SEPT. 1, 1978**

**2**

**ISSUE**

**ISSUE DATE AND CHANGE RECORD**

**REV.**

**CH.**

**Electronic Products Division**

**3M**

**10 Color Repeat**

Brown
Red
Orange
Yellow
Green
Blue
Violet
Gray
White
Black
SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION
CABLE NUMBER 3301 UL STYLE 2776

SCOPE: This specification details the requirements for a multiposition color coded round conductor flat cable on .054" (1.37 mm) wire to wire spacing.

SPECIFICATIONS:

**PHYSICAL**
- **INSULATOR MATERIAL** Polyvinyl chloride (PVC) U.L. flammability rating VW-1 (old FR-1)
- **COLOR** 10 color repeat, clear carrier
- **CONDUCTORS** 28 AWG 7 x 36 (7 x .127) stranded
- **CONDUCTOR PLATING** Tin

**ELECTRICAL**
- **VOLTAGE RATING** 300 V<sub>RMS</sub>
- **INSULATION RESISTANCE** $10^9 \Omega /10$ ft (3m) sample
- **Ground Signal configuration (GS)**
  - **CHARACTERISTIC IMPEDANCE** 160Ω
  - **CAPACITANCE** 6.9 pF/ft (22.64 pF/m)
  - **INDUCTANCE** .27 μH/ft (.89 μH/m)
  - **PROPAGATION DELAY** 1.33 ns/ft (4.36 ns/m)
- **Ground Signal Ground configuration (GSG)**
  - **CHARACTERISTIC IMPEDANCE** 110Ω
  - **CAPACITANCE** 12.7 pF/ft (41.7 pF/m)
  - **INDUCTANCE** .18 μH/ft (.59 μH/m)
  - **PROPAGATION DELAY** 1.38 ns/ft (4.53 ns/m)

**ENVIRONMENTAL**
- **TEMPERATURE RATING** -4°F to +176°F (-20°C to +80°C)
**3M PART NO. 3384/50**

- **2.125 ± .025** (53.97 ± .63)
- **2.083 ± .020** (52.90 ± .51)
- **.0425** (1.08) (TYP.)

---

**10 Color Repeat** *(TYP.)*
- Brown
- Red
- Orange
- Yellow
- Green
- Blue
- Violet
- Gray
- White
- Black

**176°F (80°C) PVC INSULATION**
- **FLAME RETARDANT**

**NO. 26 AWG (.404)**
- **BARE SOLID COPPER CONDUCTORS**

---

**USED ON**

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**CABLE SPECIFICATION**
- **U.L. STYLE NO. 2776**
- **3M**
- **Electronic Products Division**

**TOLERANCE UNLESS NOTED**

<table>
<thead>
<tr>
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<tbody>
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<td>± .005</td>
</tr>
<tr>
<td>mm</td>
<td>± .5</td>
<td>± .13</td>
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</tbody>
</table>

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**ISSUE**
- **SEPT. 1, 1978**
- **ISSUE DATE AND CHANGE RECORD**
- **REV.**
- **CH.**
- **3**

---

**1031**
SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION

CABLE NUMBER 3384 UL STYLE 2776

SCOPE: This specification details the requirements for a multiposition color coded round conductor flat cable on .0425" (1.08mm) wire to wire spacing.

SPECIFICATIONS:

PHYSICAL

<table>
<thead>
<tr>
<th>INSULATOR MATERIAL</th>
<th>Polyvinyl chloride (PVC) U.L. flammability rating VW-1 (Old FR-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLOR</td>
<td>10 color repeat, clear carrier</td>
</tr>
<tr>
<td>CONDUCTORS</td>
<td>26 AWG (.404) solid</td>
</tr>
</tbody>
</table>

ELECTRICAL

<table>
<thead>
<tr>
<th>VOLTAGE RATING</th>
<th>300 V&lt;sub&gt;RMS&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSULATION RESISTANCE</td>
<td>&gt;10&lt;sup&gt;9&lt;/sup&gt;Ω / 10 ft (3m) sample</td>
</tr>
<tr>
<td>Ground Signal configuration (GS)</td>
<td></td>
</tr>
<tr>
<td>CHARACTERISTIC IMPEDANCE</td>
<td>120Ω</td>
</tr>
<tr>
<td>CAPACITANCE</td>
<td>8.3 pF/ft (27.23 pF/m)</td>
</tr>
<tr>
<td>INDUCTANCE</td>
<td>.21 µH/ft (.69 µH/m)</td>
</tr>
<tr>
<td>PROPAGATION DELAY</td>
<td>1.37 ns/ft (4.49 ns/m)</td>
</tr>
<tr>
<td>Ground Signal Ground configuration (GSG)</td>
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</tr>
<tr>
<td>CHARACTERISTIC IMPEDANCE</td>
<td>85Ω</td>
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<tr>
<td>CAPACITANCE</td>
<td>15.7 pF/ft (51.5 pF/m)</td>
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<tr>
<td>INDUCTANCE</td>
<td>.16 µH/ft (.52 µH/m)</td>
</tr>
<tr>
<td>PROPAGATION DELAY</td>
<td>1.41 ns/ft (4.63 ns/m)</td>
</tr>
</tbody>
</table>

ENVIRONMENTAL

| TEMPERATURE RATING | -4°F to +176°F (-20°C to +80°C) |

1031
### 3M Part Specifications

**3M Part No. 3517**

**CABLE SPECIFICATIONS**

**3M PART NO. 3517**

#### Cable Details:
- **Number 28 AWG 7 x 36 (7 x .127)**
- **Tinned Stranded Copper Conductors on .050 (1.27) Centers**
- **176°C (80°C) PVC Insulation Flame Retardant**
- **Expanded Copper Ground Plane**

#### Dimensions:
- **DIM. “A”**
- **DIM. “B”**
- **DIM. “C”**
- **DIM. “D”**

#### Table:

<table>
<thead>
<tr>
<th>3M Part Number</th>
<th>DIM. “A”</th>
<th>DIM. “B”</th>
<th>DIM. “C”</th>
<th>DIM. “D”</th>
</tr>
</thead>
<tbody>
<tr>
<td>3517/10</td>
<td>1.00 (25.4)</td>
<td>.032 (.81)</td>
<td>.11 (2.8)</td>
<td>.450 ± .007 (11.43 ± .18)</td>
</tr>
<tr>
<td>3517/14</td>
<td>1.30 (33.0)</td>
<td>.032 (.81)</td>
<td>.11 (2.8)</td>
<td>.650 ± .007 (16.51 ± .18)</td>
</tr>
<tr>
<td>3517/16</td>
<td>1.30 (33.0)</td>
<td>.032 (.81)</td>
<td>.11 (2.8)</td>
<td>.750 ± .011 (19.05 ± .28)</td>
</tr>
<tr>
<td>3517/20</td>
<td>1.50 (38.1)</td>
<td>.032 (.81)</td>
<td>.11 (2.8)</td>
<td>.950 ± .011 (24.13 ± .28)</td>
</tr>
<tr>
<td>3517/24</td>
<td>1.85 (47.0)</td>
<td>.032 (.81)</td>
<td>.11 (2.8)</td>
<td>1.150 ± .011 (29.21 ± .28)</td>
</tr>
<tr>
<td>3517/25</td>
<td>1.85 (47.0)</td>
<td>.032 (.81)</td>
<td>.11 (2.8)</td>
<td>1.200 ± .011 (30.48 ± .28)</td>
</tr>
<tr>
<td>3517/26</td>
<td>1.85 (47.0)</td>
<td>.032 (.81)</td>
<td>.11 (2.8)</td>
<td>1.250 ± .011 (31.75 ± .28)</td>
</tr>
<tr>
<td>3517/34</td>
<td>2.16 (54.9)</td>
<td>.047 (1.19)</td>
<td>.14 (3.6)</td>
<td>1.650 ± .015 (41.91 ± .38)</td>
</tr>
<tr>
<td>3517/37</td>
<td>2.31 (58.7)</td>
<td>.047 (1.19)</td>
<td>.14 (3.6)</td>
<td>1.800 ± .015 (45.72 ± .38)</td>
</tr>
<tr>
<td>3517/40</td>
<td>2.46 (62.5)</td>
<td>.047 (1.19)</td>
<td>.14 (3.6)</td>
<td>1.950 ± .015 (49.53 ± .38)</td>
</tr>
<tr>
<td>3517/50</td>
<td>2.96 (75.2)</td>
<td>.047 (1.19)</td>
<td>.14 (3.6)</td>
<td>2.450 ± .015 (62.23 ± .38)</td>
</tr>
<tr>
<td>3517/60</td>
<td>3.58 (90.9)</td>
<td>.062 (1.57)</td>
<td>.17 (4.3)</td>
<td>2.950 ± .015 (74.93 ± .38)</td>
</tr>
<tr>
<td>3517/64</td>
<td>3.78 (96.0)</td>
<td>.062 (1.57)</td>
<td>.17 (4.3)</td>
<td>3.150 ± .015 (80.01 ± .38)</td>
</tr>
</tbody>
</table>

---

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**Tolerance Table:**

<table>
<thead>
<tr>
<th>TOLERANCE UNLESS NOTED</th>
<th>INCH (mm)</th>
</tr>
</thead>
<tbody>
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</tr>
<tr>
<td>INCH (.1 .05 .010)</td>
<td>DR.</td>
</tr>
<tr>
<td>mm (.3 1.27)</td>
<td>APP.</td>
</tr>
</tbody>
</table>

**Used On:**

- **SEPT. 17, 1979**
- **Issue:** 3
- **Issue Date and Change Record:** 3M Products Division
- **3M Part No. 3517**
Scotchflex Jacketed Round Conductor Flat Cable

Product Number 3517
UL Style 2912

Scope: This specification details the requirements for a multiposition round conductor flat cable with .050" (1.27mm) conductor spacing which is encapsulated by a protective jacket.

Specifications:

Physical:
- Jacketing Material: Polyvinyl Chloride (PVC)
- UL Flammability rated VW-1
- Color: Black

Inner Cable: Scotchflex Product No. 3365
- 28 AWG 7 x 36 (7 x .127) Conductors on .050 (1.27) centers
- UL Style 2651

Shielding: Expanded copper above and below cable.

Electrical:
- Voltage Rating: 150 Volts
- *Characteristic Impedance: 55-80Ω
- *Capacitance: 58.3 pF/ft. (191.3 pF/m)
- *Inductance: .08μH/ft. (.26μH/m)
- *Propagation Delay: 1.45 ns/ft. (4.76ns/m)

*Note: These values measured with conductors connected in ground — signal — ground configuration (GSG)

Environmental:
- Temperature Rating: -4°F to + 176°F (-20°C to + 80°C)
POLYESTER FILM (SEE NOTE 1)

3365 CABLE
NO. 28 AWG 7 x 36 (7 x .127) TINNED STRANDED COPPER CONDUCTORS ON .050 (1.27) CENTERS

176°F (80°C) PVC INSULATION FLAME RETARDANT

NOTE 1:
POLYESTER FILM
NOT USED ON
60 AND 64
CONDUCTOR WIDTH

3M PART NO. 3603

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Scotchflex Jacketed Round Conductor Flat Cable

Product Number 3603
UL Style 2912

Scope: This specification details the requirements for a multiposition round conductor flat cable with .050" (1.27mm) conductor spacing which is encapsulated by a protective jacket.

Specifications:

Physical:
- Jacketing Material: Polyvinyl Chloride (PVC)
  - UL Flammability rated VW-1
  - Color: Black
- Inner Cable: Scotchflex Product No. 3365
  - 28 AWG 7 x 36 (7 x .127) Conductors on .050 (1.27) centers
  - UL Style 2651

Electrical:
- Voltage Rating: 150 Volts
- *Characteristic Impedance: 97Ω
- *Capacitance: 13.5 pF/ft (44.3 pF/m)
- *Inductance: .22μH/ft. (.72μH/m)
- *Propagation Delay: 1.45 ns/ft. (4.76ns/m)
- *Note: These values measured with conductors connected in ground — signal — ground configuration (GSG)

Environmental:
- Temperature Rating: -4°F to +176°F (-20°C to +80°C)
3M PART NO. 3441-0000

2.27 (57.7)

POS. 2
POS. 28

.150 (3.81) (TYP.)

TRIANGLE INDICATES
POSITION NO. 1

POS. 1
POS. 27

.150 (3.81) (TYP.)

.075 (1.91) REF.

"U" CONTACT
(28 PLACES)

2.27 (57.7)

2.12 (53.8)

.300 (7.62)

.29 (7.4)

IDENTIFICATION

.16 (4.1)

.075 (1.91) (TYP.)

NON-CONDUCTIVE TRANSFER
ADHESIVE WITH LINER

.075 (1.91)

TRIANGLE INDICATES
POSITION NO. 1

POS. 2
POS. 28

.150 (3.81) (TYP.)

POS. 1
POS. 27

.150 (3.81) (TYP.)

.075 (1.91) REF.

"U" CONTACT
(28 PLACES)

2.27 (57.7)

2.12 (53.8)

.300 (7.62)

.29 (7.4)

IDENTIFICATION

.16 (4.1)

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NON-CONDUCTIVE TRANSFER
ADHESIVE WITH LINER

.075 (1.91)

TRIANGLE INDICATES
POSITION NO. 1

POS. 2
POS. 28

.150 (3.81) (TYP.)

POS. 1
POS. 27

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.075 (1.91) REF.

"U" CONTACT
(28 PLACES)

2.27 (57.7)

2.12 (53.8)

.300 (7.62)

.29 (7.4)

IDENTIFICATION

.16 (4.1)

.075 (1.91) (TYP.)

NON-CONDUCTIVE TRANSFER
ADHESIVE WITH LINER

.075 (1.91)
SCOTCHFLEX SOCKET CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multiposition socket transition between round conductor flat cable on .075" (1.91 mm) centers and .025" (.64 mm) round or square wrap posts on .150" (3.81 mm) by .150" (3.81 mm) grid.

SPECIFICATIONS:

**PHYSICAL**
- **INSULATOR MATERIAL** Glass reinforced polyester
  - U.L. flammability rating 94V-0
- **COLOR** Gray
- **CONTACT MATERIAL** Beryllium Copper
- **CONTACT PLATING** 0.000030" (.762 \(\mu\)m) gold per Mil-G-45204 Type II, class 0 over 0.000050" (1.27 \(\mu\)m) nickel
- **MARKING** Raised figures; 3M logo, part identification number, contact position numbers and orientation triangle
- **WIRE ACCOMMODATION** 24 AWG stranded
- **INSERTION FORCE** .16 lb (.71N) per contact typical
- **WITHDRAWAL FORCE** .11 lb (.49N) per contact typical

**ELECTRICAL**
- **CURRENT RATING** 1 A
- **INSULATION RESISTANCE** \(> 1 \times 10^9 \Omega\)
- **DIELECTRIC WITHSTANDING VOLTAGE** 1000 V\(_{\text{RMS}}\)

**ENVIRONMENTAL**
- **TEMPERATURE RATING** -67°F to +221°F (-55°C to +105°C)
NOTE:

1. TIP END OF POST TO BE LOCATED WITHIN .025 (.64) TPD
IMPORTANT NOTICE TO PURCHASER: All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, express or implied.

Seller's and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. Before using, user shall determine the suitability of the product for his intended use, and user assumes all risk and liability whatsoever in connection therewith. No statement or recommendation not contained herein shall have any force or effect until in an agreement signed by officers of seller and manufacturer.

IMPORTANT UNLESS NOTED  INCH  (mm)  SCALE

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<td>± .005</td>
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DECEMBER 14, 1978

SOCKET CONNECTOR BODY SPECIFICATION

3M PART NO. 3450

1.525 ± .010
(38.74 ± .25)

.250
(6.36)

.125 (TYP.)

.0625
(1.588)

.010 (.25)

.09
(2.3)

.12
(3.0)

.43
(10.9)

.24
(6.1)

.14
(3.6)

"U" CONTACT
(24 PLACES)
SCOTCHFLEX SOCKET CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multi-position socket transition between round conductor flat cable on .0625" (1.588 mm) centers and .025" (.64 mm) round or square wrap posts on .125" (3.18 mm) by .250" (6.35 mm) grid.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-O
COLOR Gray
CONTACT MATERIAL Beryllium Copper
CONTACT PLATING 0.000050" (1.27 μm) gold per Mil-G-45204 Type II, class 0 over 0.000050" (1.27 μm) nickel
MARKING Raised figures; 3M logo, part identification number, contact position numbers, and orientation triangle
WIRE ACCOMMODATION 24 AWG stranded
26 AWG solid
INSERTION FORCE .2 lb (.89 N) per contact typical
WITHDRAWAL FORCE .1 lb (.44 N) per contact typical

ELECTRICAL

CURRENT RATING 1A
INSULATION RESISTANCE > 1 x 10⁹ Ω
DIELECTRIC WITHSTANDING VOLTAGE 1000 V_RMS

ENVIRONMENTAL

TEMPERATURE RATING -67°F to +221°F (-55°C to +105°C)

2017
3M PART NO. 3450-0001
(Closed-End Cover)

1.66
(42.2)

1.52
(38.6)

.43
(10.9)

.13
(3.3)

.0625
(1.588) (TYP.)

NONCONDUCTIVE TRANSFER ADHESIVE WITH LINER

3M PART NO. 3450-0000
(Bussing Cover)

1.66
(42.2)

1.52
(38.6)

.28
(7.1)

.24
(6.1)

.16
(4.1)

.0625
(1.588) (TYP.)

NONCONDUCTIVE TRANSFER ADHESIVE WITH LINER

USED ON
3M PART NO. 3450

JANUARY 4, 1977

TOLERANCE UNLESS NOTED

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and is made in lieu of all warranties, expressed or implied.

INCH

± .1 ± .01 ± .005

mm

± .3 ± .13

.000

.000

.1 ± .005

GULAR ± .0

ISO–METHOD A

SCALE

INCH

(mm)

A

2017A

8861-6
.30 (7.6) MIN. TO ADJACENT GROUP OF POSTS IF STRAIN RELIEF CLIP IS USED

.34 (8.6) MIN. TO ADJACENT GROUP OF POSTS IF EXTRACTOR TOOL IS USED

MIN. TO ADJACENT GROUP OF POSTS

MIN. AREA REQUIRED FOR CONNECTOR & CABLE OR CONNECTOR ONLY

MIN. AREA REQUIRED OVER CONDUCTORS OR CONNECTOR

PARABOLIC, ROUND OR SQUARE TAPER CONFIGURATION RECOMMENDED ON TIP (SEE NOTE 1)

NOTE:
1. TIP END OF POST TO BE LOCATED WITHIN .025 (.64) TPD

<table>
<thead>
<tr>
<th>3M PART NO.</th>
<th>DIM. &quot;A&quot;</th>
<th>DIM. &quot;B&quot;</th>
<th>DIM. &quot;C&quot;</th>
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</thead>
<tbody>
<tr>
<td>3450-0000</td>
<td>.100 (2.54)</td>
<td>.440 (11.18)</td>
<td>.20 (5.1)</td>
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<tr>
<td>3450-0001</td>
<td>.165 (4.19)</td>
<td>.510 (12.95)</td>
<td>.27 (6.9)</td>
</tr>
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</table>

3M PART NO. 3450

JANUARY 4, 1977

ISSUE DATE AND CHANGE RECORD

REV. CH.

TITLE

POST PATTERN SPECIFICATION

2017 B
All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and is made in lieu of all warranties, expressed or implied.
SCOTCHFLEX SOCKET CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multi-position socket transition between round conductor flat cable on .050" (1.27 mm) centers and .025" (.64 mm) round or square wrap posts on .100" (2.54 mm) by .200" (5.08 mm) grid.

SPECIFICATIONS:

<table>
<thead>
<tr>
<th>PHYSICAL</th>
<th>INSULATOR MATERIAL</th>
<th>Glass reinforced polyester</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>U.L. flammability rating</td>
<td>94V-0</td>
</tr>
<tr>
<td>COLOR</td>
<td>Gray</td>
<td></td>
</tr>
<tr>
<td>CONTACT MATERIAL</td>
<td>Beryllium Copper</td>
<td></td>
</tr>
<tr>
<td>CONTACT PLATING</td>
<td>0.000030&quot; (.762 μm) gold per MIL-G-45204 Type II, class 0 over 0.000100&quot; (2.54 μm) nickel</td>
<td></td>
</tr>
<tr>
<td>MARKING</td>
<td>Raised figures; 3M logo, part identification number, contact position numbers and orientation triangle.</td>
<td></td>
</tr>
<tr>
<td>WIRE ACCOMMODATION</td>
<td>26 AWG solid or stranded</td>
<td></td>
</tr>
<tr>
<td></td>
<td>28 AWG solid or stranded</td>
<td></td>
</tr>
<tr>
<td></td>
<td>30 AWG solid</td>
<td></td>
</tr>
<tr>
<td>INSERTION FORCE</td>
<td>.5 lb (2.2 N) per contact typical</td>
<td></td>
</tr>
<tr>
<td>WITHDRAWAL FORCE</td>
<td>.5 lb (2.2 N) per contact typical</td>
<td></td>
</tr>
</tbody>
</table>

ELECTRICAL

| CURRENT RATING               | 1A                        |
| INSULATION RESISTANCE        | > 1 x 10^9Ω               |
| DIELECTRIC WITHSTANDING VOLTAGE | 1000V_{RMS}         |

ENVIRONMENTAL

| TEMPERATURE RATING           | -67°F to +221°F (-55°C to +105°C) |
.200 ± .002 (5.08 ± .05) (TYP.)

.20 (5.1) MIN. TO ADJACENT GROUP OF POSTS

.100 ± .002 (2.54 ± .05) (TYP.)

.30 (7.6) MIN. TO ADJACENT GROUP OF POSTS IF STRAIN RELIEF CLIP IS USED.

.42 (10.7) MIN. TO ADJACENT GROUP OF POSTS IF EXTRACTOR TOOL IS USED

.200 ± .002 (5.08 ± .05)

POS. 1

.20 (5.1) MIN. TO ADJACENT GROUP OF POSTS

.230 (5.84) MIN. POST

.40 (10.2)

.125 (3.17)

MIN. AREA REQUIRED OVER CONDUCTORS

MIN. AREA REQUIRED FOR CONNECTOR & CABLE

NOTE:

1 TIP END OF POST TO BE LOCATED WITHIN .025 (.64) TPD

.025 ± .001 (.64 ± .03) ROUND OR SQUARE POST

PARABOLIC, ROUND OR SQUARE TAPER CONFIGURATION RECOMMENDED ON TIP (SEE NOTE 1)
POLARIZING HOLES (2)

NONCONDUCTIVE TRANSFER ADHESIVE WITH LINER

IDENTIFICATION

CONNECTOR COVER

“U” CONTACT (14 PLACES)

CONNECTOR BODY

3M PART NO. 3407-0000

TOLERANCE UNLESS NOTED

<table>
<thead>
<tr>
<th>INCH</th>
<th>mm</th>
</tr>
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<tbody>
<tr>
<td>±.1</td>
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<tr>
<td>±.005</td>
<td>±.06</td>
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ST. PAUL MINNESOTA

JANUARY 4, 1977

SOCKET CONNECTOR SPECIFICATION

SCALE A

2020
SCOTCHFLEX SOCKET CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multi-position socket transition between round conductor flat cable on .050" (1.27 mm) centers and .025" (.64 mm) round or square wrap posts on .100" (2.54 mm) by .300" (7.62 mm) grid.

SPECIFICATIONS:

<table>
<thead>
<tr>
<th>PHYSICAL</th>
<th>INSULATOR MATERIAL</th>
<th>Glass reinforced polyester U.L. flammability rating 94V-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLOR</td>
<td>Gray</td>
<td></td>
</tr>
<tr>
<td>CONTACT MATERIAL</td>
<td>Beryllium Copper</td>
<td></td>
</tr>
<tr>
<td>CONTACT PLATING</td>
<td>0.000030&quot; (.762 μm) per MIL-G-45204 Type II, class 0 over 0.000100&quot; (2.54 μm) nickel</td>
<td></td>
</tr>
<tr>
<td>MARKING</td>
<td>Raised figures; 3M logo, part identification number, and contact position numbers</td>
<td></td>
</tr>
<tr>
<td>WIRE ACCOMMODATION</td>
<td>26 AWG solid or stranded 28 AWG solid or stranded 30 AWG solid</td>
<td></td>
</tr>
<tr>
<td>INSERTION FORCE</td>
<td>.5 lb (2.2 N) per contact typical</td>
<td></td>
</tr>
<tr>
<td>WITHDRAWAL FORCE</td>
<td>.5 lb (2.2 N) per contact typical</td>
<td></td>
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<table>
<thead>
<tr>
<th>ELECTRICAL</th>
<th>CURRENT RATING</th>
<th>1A</th>
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</thead>
<tbody>
<tr>
<td>INSULATION RESISTANCE</td>
<td>$&gt; 1 \times 10^9 \Omega$</td>
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</tr>
<tr>
<td>DIELECTRIC WITHSTANDING VOLTAGE</td>
<td>1000 V RMS</td>
<td></td>
</tr>
</tbody>
</table>

| ENVIRONMENTAL | TEMPERATURE RATING | -67°F to +221°F (-55°C to +105°C) |

2020
NOTE:
1) END OF POSTS TO BE LOCATED WITHIN .025 (.64) TPD AT TIP END
2) OPTIONAL POLARIZING POSTS (2)

PARABOLIC, ROUNDED OR SQUARE, TAPER CONFIGURATION RECOMMENDED ON TIP (SEE NOTE 1)
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JANUARY 4, 1977

SOCKET CONNECTOR
SPECIFICATION

3M PART NO. 3327-0000

I

IDENTIFICATION

.050 (1.27) (TYP.)

NONCONDUCTIVE TRANSFER
ADHESIVE WITH LINER

3M PART NO. 3327-0000

.85
(21.6)

.85
(21.6)

.100
(2.54) (TYP.)

.42
(10.7)

.24
(6.1)

.06
(1.5)

.09
(2.3)

IDENTIFICATION

"U" CONTACT
(16 PLACES)
SCOTCHFLEX SOCKET CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multi-position socket transition between round conductor flat cable on .050" (1.27 mm) centers and .025" (.64 mm) round or square wrap posts on .100" (2.54 mm) by .300" (7.62 mm) grid.

SPECIFICATIONS:

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<th>SPECIFICATIONS</th>
<th>PHYSICAL</th>
<th>ELECTRICAL</th>
<th>ENVIRONMENTAL</th>
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</thead>
<tbody>
<tr>
<td>INSULATOR MATERIAL</td>
<td>Glass reinforced polyester U.L. flammability rating 94V-0</td>
<td>CURRENT RATING 1A</td>
<td>TEMPERATURE RATING -67°F to +221°F (-55°C to +105°C)</td>
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<tr>
<td>COLOR</td>
<td>Gray</td>
<td>INSULATION RESISTANCE &gt; 1 x 10⁹Ω</td>
<td></td>
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<tr>
<td>CONTACT MATERIAL</td>
<td>Beryllium Copper</td>
<td>DIELECTRIC WITHSTANDING VOLTAGE 1000 V₉ RMS</td>
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<tr>
<td>CONTACT PLATING</td>
<td>0.000030&quot; (.762 μm) per MIL-G-45204 Type II, class 0 over 0.000100&quot; (2.54 μm) nickel</td>
<td>WITHDRAWAL FORCE .5 lb (2.2 N) per contact typical</td>
<td></td>
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<tr>
<td>MARKING</td>
<td>Raised figures; 3M logo, part identification number, and contact position numbers</td>
<td>INSERTION FORCE .5 lb (2.2 N) per contact typical</td>
<td></td>
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<tr>
<td>WIRE ACCOMMODATION</td>
<td>26 AWG solid or stranded</td>
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<td>28 AWG solid or stranded</td>
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<tr>
<td></td>
<td>30 AWG solid</td>
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2040
NOTE:
1 END OF POSTS TO BE LOCATED WITHIN .025 (.64) TPD AT TIP END

PARABOLIC, ROUNDED OR SQUARE, TAPER CONFIGURATION RECOMMENDED ON TIP (SEE NOTE 1)
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3M COMPANY
ELECTRONIC PRODUCTS
St. Paul
Minnesota

SCALE

ISO-METHOD A

PART NO.

2041

USED ON

TOLERANCE UNLESS NOTED

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<th>± .005</th>
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<td>± .13</td>
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JANUARY 4, 1977

ISSUE DATE AND CHANGE RECORD

REV. CH.

SOCKET CONNECTOR SPECIFICATION

DATE

ISSUE

REV.

CH.

3M PART NO. 3332

3.35 (85.1)

.100 (2.54) (TYP.)

.12 (3.0)

.34 (8.6) REF.

POSITION NO. 32

POSITION NO. 1

.100 (2.54)

.200 (5.08)

.050 (1.27) REF.

"U" CONTACT
(64 PLACES)

0.200 (5.08)

0.100 (2.54)

- 0.050 (1.27)
SCOTCHFLEX SOCKET CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multi-position socket transition between round conductor flat cable on .050" (1.27 mm) centers and .025" (.64 mm) round or square wrap posts on .100" (2.54 mm) by .200" (5.08 mm) grid.

SPECIFICATIONS:

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<tbody>
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<td>INSULATOR MATERIAL</td>
<td>Glass reinforced polyester</td>
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<td>COLOR</td>
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<tr>
<td>CONTACT MATERIAL</td>
<td>Beryllium Copper</td>
</tr>
<tr>
<td>CONTACT PLATING</td>
<td>0.000030&quot; (.762 μm) gold per</td>
</tr>
<tr>
<td></td>
<td>MIL-G-45204 Type II, class 0 over</td>
</tr>
<tr>
<td></td>
<td>0.000050&quot; (1.27 μm) nickel</td>
</tr>
<tr>
<td>MARKING</td>
<td>Raised figures; 3M logo, part identification number, contact position numbers and orientation triangle.</td>
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<tr>
<td>WIRE ACCOMMODATION</td>
<td>26 AWG solid or stranded</td>
</tr>
<tr>
<td></td>
<td>28 AWG solid or stranded</td>
</tr>
<tr>
<td></td>
<td>30 AWG solid</td>
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<tr>
<td>INSERTION FORCE</td>
<td>1 lbs (   N) per contact typical</td>
</tr>
<tr>
<td>WITHDRAWAL FORCE</td>
<td>1 lbs (   N) per contact typical</td>
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<tr>
<th>ENVIRONMENTAL</th>
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<tbody>
<tr>
<td>CURRENT RATING</td>
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<td>INSULATION RESISTANCE</td>
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<tr>
<td>DIELECTRIC WITHSTANDING VOLTAGE</td>
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<tr>
<td>TEMPERATURE RATING</td>
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3M PART NO. 3332-0000
(Without Mounting Flanges)

3M PART NO. 3332-0001
(With Mounting Flanges)

3M COMPANY
ELECTRONIC PRODUCTS
St. Paul
Minnesota

ISSUE DATE AND CHANGE RECORD
JANUARY 4, 1977
1

TOLERANCE UNLESS NOTED

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</thead>
<tbody>
<tr>
<td>mm</td>
<td>±.3 ±.13</td>
</tr>
</tbody>
</table>

SCALE

ISO-METHOD A

DR. C. L. A. H. N
APP. R. K. R.
.100 ± .002 (2.54 ± .05) (TYP.)

.200 ± .002 (5.08 ± .05)

.30 (7.6) MIN. TO ADJACENT GROUP OF POSTS

.20 (5.1) MIN. TO ADJACENT GROUP OF POSTS

.13 (3.3)

3.35 (85.1)

.40 (10.2)

.125 (3.17)

MIN. AREA REQUIRED OVER CONDUCTORS

MIN. AREA REQUIRED FOR CONNECTOR & CABLE

NOTE:

1 TIP END OF POST TO BE LOCATED WITHIN .025 (.64) TPD

MIN. POST

.170 (4.32)

PARABOLIC, ROUND OR SQUARE TAPER CONFIGURATION RECOMMENDED ON TIP (SEE NOTE 1)

.025 ± .001 (.64 ± .03) ROUND OR SQUARE POST

3M PART NO. 3332

JANUARY 4, 1977

2041B
NONCONDUCTIVE TRANSFER ADHESIVE WITH LINER

Contact 3M Part Number

<table>
<thead>
<tr>
<th>Contact Quantity</th>
<th>3M Part Number</th>
<th>DIM. &quot;A&quot;</th>
<th>DIM. &quot;B&quot;</th>
</tr>
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<tbody>
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<td>20</td>
<td>3575</td>
<td>1.18</td>
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<td>3310</td>
<td>1.88</td>
<td>1.76</td>
</tr>
<tr>
<td>40</td>
<td>3318</td>
<td>2.18</td>
<td>2.06</td>
</tr>
<tr>
<td>50</td>
<td>3307</td>
<td>2.68</td>
<td>2.56</td>
</tr>
</tbody>
</table>

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Scale: A

2042
Scotchflex Socket Specification

UL File No. E68080, Guide RTRT2
CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition socket transition between round conductor flat cable on .050" (1.27 mm) centers and .025" (.64 mm) round or square wrap posts on .100" (2.54 mm) by .200" (5.08 mm) grid.

Specifications:

Physical:
Insulator Material: Glass reinforced polyester
Flammability rating: UL 94V-0
Color: Gray
Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Beryllium Copper
Plating: 0.000030" (.762 µm) gold per Mil-G-45204 Type II, class 0, over 0.000100" (2.54 µm) nickel
Wire accommodation: 26 AWG solid or stranded
28 AWG solid or stranded
30 AWG solid

Insertion Force: .5 lb (2.2N) per contact typical
Withdrawal Force: .5 lb (2.2N) per contact typical

Electrical:
Current Rating: 1 A
Insulation Resistance: > 1 × 10⁹Ω @ 500 vdc
Withstanding Voltage: 1000VRMS @ sea level

Environmental:
Temperature Rating: -67°F to +221°F (-55°C to +105°C)
## Post Pattern Specification

**3M Part Nos.** 3572, 3556, 3321, 3396, 3404

### Contact Quantity

<table>
<thead>
<tr>
<th>Contact Quantity</th>
<th>3M Part Number</th>
<th>DIM. &quot;A&quot;</th>
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<tbody>
<tr>
<td>20</td>
<td>3670</td>
<td>1.20 (30.5)</td>
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<td>26</td>
<td>3556</td>
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<td>34</td>
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<td>40</td>
<td>3396</td>
<td>2.20 (55.9)</td>
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<tr>
<td>50</td>
<td>3404</td>
<td>2.70 (68.6)</td>
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</table>

### Notes:
1. **TIP END OF POST TO BE LOCATED WITHIN .025 (.64) TPD**

### Clearance Unless Noted

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<tr>
<td>mm</td>
<td>± .3</td>
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</table>
**NOTES:**
1. THIS POLARIZING GROOVE NON-EXISTANT ON 3385 AND 3473 SERIES

**USED ON**

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<td>±.005</td>
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<tr>
<td>mm</td>
<td>±.3</td>
<td>±.13</td>
<td></td>
</tr>
</tbody>
</table>
Scotchflex Socket Specification

UL File No. E68080, Guide RTRT2
CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition socket transition between round conductor flat cable on .050″ (1.27 mm) centers and .025″ (.64 mm) round or square wrap posts on .100″ (2.54 mm) by .100″ (2.54 mm) grid.

Specifications:

Physical:
- Insulator Material: Glass reinforced polyester
- Flammability rating: UL 94V-0
- Color: Gray
- Marking: Raised figures; 3M logo, part identification number, and orientation triangle
- Contact Material: Beryllium Copper
- Plating: 0.000030″ (.762 μm) gold per Mil-G-45204 Type II, class 0, over 0.000100″ (2.54 μm) nickel
- Wire accommodation: 26 AWG solid or stranded
- 28 AWG solid or stranded
- 30 AWG solid
- Insertion Force: .5 lb (2.2N) per contact typical
- Withdrawal Force: .5 lb (2.2N) per contact typical

Electrical:
- Current Rating: 1 A
- Insulation Resistance: $> 1 \times 10^9 \Omega$ @ 500 vdc
- Withstanding Voltage: 1000V RMS @ sea level

Environmental:
- Temperature Rating: $-67^\circ F$ to $+221^\circ F$ ($-55^\circ C$ to $+105^\circ C$)
CONTACT 3M PART DIM. "A" DIM. "B"

<table>
<thead>
<tr>
<th>Contact Quantity</th>
<th>3M Part Number</th>
<th>DIM. &quot;A&quot;</th>
<th>DIM. &quot;B&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>3473-6000</td>
<td>.68 (17.3)</td>
<td>.54 (13.7)</td>
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<tr>
<td>14</td>
<td>3385-6000</td>
<td>.88 (22.4)</td>
<td>.74 (18.8)</td>
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<tr>
<td>16</td>
<td>3452-6000</td>
<td>.98 (24.9)</td>
<td>.84 (21.3)</td>
</tr>
<tr>
<td>20</td>
<td>3421-6000</td>
<td>1.18 (29.0)</td>
<td>1.04 (26.4)</td>
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<tr>
<td>26</td>
<td>3399-6000</td>
<td>1.48 (37.6)</td>
<td>1.34 (34.0)</td>
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<tr>
<td>34</td>
<td>3414-6000</td>
<td>1.88 (47.8)</td>
<td>1.74 (44.2)</td>
</tr>
<tr>
<td>40</td>
<td>3417-6000</td>
<td>2.18 (55.4)</td>
<td>2.04 (51.8)</td>
</tr>
<tr>
<td>50</td>
<td>3425-6000</td>
<td>2.68 (68.1)</td>
<td>2.54 (64.5)</td>
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<tr>
<td>60</td>
<td>3334-6000</td>
<td>3.18 (80.8)</td>
<td>3.04 (77.2)</td>
</tr>
</tbody>
</table>

NON CONDUCTIVE TRANSFER ADHESIVE WITH LINER

DIM. "A"

.050 (1.27) (REF.)

DIM. "B"

.24 (6.1)

NON CONDUCTIVE TRANSFER ADHESIVE WITH LINER

DIM. "A"

.050 (1.27) REF.

DIM. "B"

.24 (6.1)

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TOLERANCE UNLESS NOTED

<table>
<thead>
<tr>
<th>INCH</th>
<th>SCALE</th>
</tr>
</thead>
<tbody>
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<td>A</td>
</tr>
<tr>
<td>.00</td>
<td>2051A</td>
</tr>
<tr>
<td>.000</td>
<td>APP.</td>
</tr>
</tbody>
</table>
.100 ± .002 (2.54 ± .05) MIN. TO ADJACENT POST GROUP

.100 ± .002 (TYP.) (2.54 ± .05)

.32 (8.1) MIN. TO ADJACENT POST GROUP

.20 (5.1) MIN. TO ADJACENT POST GROUP

.30 (7.6) MIN.

.16 (4.1) MIN.

.125 (3.18) MIN.

DIM. "A"

NOTE:
1 END OF POSTS TO BE LOCATED WITHIN .025 (.64) TPD AT TIP END

.230 (5.84) MIN.

.025 ± .001 (1.64 ± .03) ROUND OR SQUARE POSTS

PARABOLIC, ROUNDED OR SQUARE TAPER CONFIGURATION RECOMMENDED ON TIP (SEE NOTE 1)

3M PART NOS. 3473, 3421, 3399, 3414, 3417, 3425

3M COMPANY
St. Paul
Minnesota

ISO-METHOD A

TOLERANCE UNLESS NOTED

INCH ± .1 ± .01 ± .005

mm ± .3 ± .13

ANGULAR ± 0

SCALE

INCH

(mm)

DR. GLO

APP. RKR

A

2051B

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ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

POST PATTERN SPECIFICATION

NOVEMBER 4, 1977

1
3M PART NO. 3424-0000

3M PART NO. 3424-0000

IDENTIFICATION

NON-CONDUCTIVE TRANSFER ADHESIVE WITH LINER

"U" CONTACT 34 PLACES

TRIANGLE INDICATES POSITION NO. 1

MARCH 15, 1977

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ISSUE DATE AND CHANGE RECORD

REV. CH.

TITLE

SOCKET CONNECTOR SPECIFICATION

2054

8861-6
# SCOTCHFLEX SOCKET CONNECTOR SPECIFICATION

**SCOPE:** This specification details the requirements for a multi-position socket transition between round conductor flat cable on .050" (1.27 mm) centers and .025" (.64 mm) round or square wrap posts on .100" (2.54 mm) by .200" (5.08 mm) grid.

## SPECIFICATIONS:

<table>
<thead>
<tr>
<th>Physical</th>
<th>Insulator Material</th>
<th>Glass reinforced polyester</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>U.L. flammability rating 94V-0</td>
</tr>
<tr>
<td>Color</td>
<td></td>
<td>Gray</td>
</tr>
<tr>
<td>Contact Material</td>
<td>Beryllium Copper</td>
<td></td>
</tr>
<tr>
<td>Contact Plating</td>
<td>0.000030&quot; (.762 μm) min. gold per MIL-G-45204 Type II over 0.000100&quot; (2.54 μm) min. Nickel</td>
<td></td>
</tr>
<tr>
<td>Marking</td>
<td>Raised figures; 3M logo, part identification number, contact position numbers and orientation triangle.</td>
<td></td>
</tr>
<tr>
<td>Wire Accommodation</td>
<td>26 AWG solid</td>
<td></td>
</tr>
<tr>
<td></td>
<td>28 AWG solid or stranded</td>
<td></td>
</tr>
<tr>
<td></td>
<td>30 AWG solid</td>
<td></td>
</tr>
<tr>
<td>Insertion Force</td>
<td>.5 lb (2.2 N) per contact typical</td>
<td></td>
</tr>
<tr>
<td>Withdrawal Force</td>
<td>.5 lb (2.2 N) per contact typical</td>
<td></td>
</tr>
</tbody>
</table>

## Electrical

| Current Rating | 1A |
| Insulation Resistance | $> 1 \times 10^9 \Omega$ |
| Dielectric Withstanding Voltage | 1000 V RMS |

## Environmental

| Temperature Rating | -67°F to +221°F (-55°C to +105°C) |

2054
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SCALE

<table>
<thead>
<tr>
<th>.0</th>
<th>.00</th>
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</tr>
</thead>
<tbody>
<tr>
<td>INCH</td>
<td>± .1</td>
<td>± .01</td>
</tr>
<tr>
<td>mm</td>
<td>± .3</td>
<td>± .13</td>
</tr>
</tbody>
</table>

A

2057
Scotchflex Socket Specification

Scope: This specification details the requirements for a multiposition transition between round conductor flat cable on .0625” (1.588 mm) centers and .025” (.64 mm) square wrap posts on .125” (3.18 mm) by .125” (3.18 mm) grid.

Specifications:

Physical:
Insulator Material: Polycarbonate
Oxygen Index: > 28
Color: Gray
Marking: Raised figures; 3M logo, part identification number, and orientation triangle
Contact Material: Beryllium Copper
Plating: 0.000050” (1.27 μm) gold per Mil-G-45204 Type II, class 0, on wiper, gold flash throughout over 0.000100” (2.54 μm) nickel
Wire accommodation: 24 AWG solid
26 AWG solid
28 AWG solid or stranded
Insertion Force: .4 lb. per contact max.
Withdrawal Force: .4 lb. per contact max.

Electrical:
Current Rating: 1 A
Insulation Resistance: > 1 × 10⁹Ω @ 500 vdc
Withstanding Voltage: 1000V RMS @ sea level

Environmental:
Temperature Rating: −67°F to +221°F (−55°C to +105°C)
**DIM. X**

<table>
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<tr>
<th>CABLE DIRECTION</th>
<th>DIMENSION (IN)</th>
<th>DIMENSION (MM)</th>
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</thead>
<tbody>
<tr>
<td>IDENTICAL</td>
<td>.125 ± .002</td>
<td>3.175 ± 0.05</td>
</tr>
<tr>
<td>OPPOSITE</td>
<td>.375 ± 0.05</td>
<td>9.53 ± 0.05</td>
</tr>
</tbody>
</table>

**NOTE:**
1. TIP END OF POST TO BE LOCATED WITHIN .025 (.64) TPD

**PARABOLIC, ROUND OR SQUARE TAPER CONFIGURATION RECOMMENDED ON TIP**

**SCALE:**
- A
- 2057A

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**USED ON** 3M PART NO. 3525-1000, 3526, 3485-5000
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TOLERANCE UNLESS NOTED

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<thead>
<tr>
<th>INCH (mm)</th>
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<tbody>
<tr>
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<td>± .01</td>
<td>± .005</td>
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<tr>
<td>mm</td>
<td>± .3</td>
<td>± .13</td>
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</table>

SCALE

A

APRIL 1, 1979

1

SOCKET CONNECTOR SPECIFICATION
3M PART NO. 3525-1000

3M PART NO. 3525-1000
Scotchflex Socket Specification

Scope: This specification details the requirements for a multiposition transition between round conductor flat cable on .0625” (1.588) centers and .025” (.64 mm) square wrap posts on .125” (3.18 mm) by .125” (3.18 mm) grid.

Specifications:

Physical:
Insulator Material: Polyester
Oxygen Index: > 28
Color: Gray
Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Beryllium Copper
Plating: 0.000050” (1.27 μm) gold per Mil-G-45204 Type II, class 0, on wiper, gold flash throughout over 0.000100” (2.54μm) nickel
Wire accommodation: 26 AWG solid
28 AWG solid or stranded
30 AWG solid

Electrical:
Current Rating: 1 A
Insulation Resistance: > 1 × 10⁹Ω @ 500 vdc
Withstanding Voltage: 1000VRMS @ sea level

Environmental:
Temperature Rating: −67°F to +221°F (−55°C to +105°C)
.125 ± .002 (3.52 ± .05) (TYP.)

.125 ± .002 (3.52 ± .05)

.125 (3.52) MIN. TO ADJACENT GROUP OF POSTS

.250 (7.03) MIN. TO ADJACENT GROUP OF POSTS

.05 (1.4)

2.73 (76.8)

.12 (3.0)

MIN. AREA REQUIRED FOR CONNECTOR & CABLE

.36 (10.1)

.185 (4.70)

.290 (7.37)

3M PART NO. 3526

PARABOLIC, ROUND OR SQUARE TAPER CONFIGURATION RECOMMENDED ON TIP (SEE NOTE 1)

.025 ± .001 (.64 ± .03) ROUND OR SQUARE POST

NOTE:
1 TIP END OF POST TO BE LOCATED WITHIN .025 (.64) TPD

USED ON 3M PART NO. 3525-0000, 3526, 3448-22

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<tbody>
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<td>± .01</td>
</tr>
<tr>
<td>mm</td>
<td>± .3</td>
<td>± .13</td>
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Electronic Products Division

3M

POST PATTERN SPECIFICATION

SEPTMBER 10, 1979 1

ISSUE ISSUE DATE AND CHANGE RECORD REV. CH.

2058A
**DIMENSION TABLE**

<table>
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<tr>
<th>Contact Quantity</th>
<th>3M Part Number</th>
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<tr>
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<td>40</td>
<td>3418</td>
<td>2.20 (55.9)</td>
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**TOLERANCES UNLESS NOTED**

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<td>DR.</td>
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<tr>
<td>APP.</td>
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</table>

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**P.C.B. CONNECTOR SPECIFICATION**

**DEC. 7, 1978**

**P.C.B. CONNECTOR SPECIFICATION**

**SOLDER WASHPADS**

**DETAIL A**

**CONNECTOR COVER**

**CONNECTOR BODY**

**"U" CONTACT**

**DETAIL B**

**SOLDER WASHPADS**

<table>
<thead>
<tr>
<th>3M Part Number</th>
<th>3M Part Number</th>
<th>P.C.B. Thickness</th>
<th>DIM. &quot;B&quot;</th>
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</thead>
<tbody>
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<tr>
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<td>-0000T</td>
<td>.062 (1.57)</td>
<td>.100 (2.54)</td>
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<td>--</td>
<td>-0001T</td>
<td>.094 – .125 (2.39 – 3.18)</td>
<td>.156 (3.96)</td>
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</tbody>
</table>
SCOTCHFLEX PCB CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between round conductor flat cable on .050" (1.27 mm) centers and a printed circuit board.

SPECIFICATIONS:

**PHYSICAL**

<table>
<thead>
<tr>
<th>INSULATOR MATERIAL</th>
<th>Glass reinforced polyester U.L. flammability rating 94V-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLOR</td>
<td>Gray</td>
</tr>
<tr>
<td>CONTACT MATERIAL</td>
<td>Beryllium Copper</td>
</tr>
<tr>
<td>CONTACT PLATING</td>
<td>Au/Ni - 0.000020&quot; (.508 μm) min. gold per Mil-G-45204 Type II, class 00 over 0.000050&quot; (1.27 μm) nickel SnPb - 0.00020&quot; (5.08 μm) min. tin lead</td>
</tr>
<tr>
<td>MARKING</td>
<td>Raised figures; 3M logo, and part identification number</td>
</tr>
<tr>
<td>WIRE ACCOMMODATION</td>
<td>26 AWG solid or stranded 28 AWG solid or stranded 30 AWG solid</td>
</tr>
</tbody>
</table>

**ELECTRICAL**

| CURRENT RATING     | 1 A                                                      |
| INSULATION RESISTANCE | > 1 x 10^9Ω                          |
| DIELECTRIC WITHSTANDING VOLTAGE | 1000 V_RMS |

**ENVIRONMENTAL**

| TEMPERATURE RATING | -67°F to +221°F (-55°C to +105°C) |

2002
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NOTE: HOLE PATTERN IS SHOWN FOR THE MOUNTING SIDE OF THE P.C. BOARD
.050 (1.27) – 19 SPACES. EACH LOCATION MAY VARY ± .002 (± .05) FROM DATUM LINE X

.15 (3.8)  

.60 (15.2) .300 (7.62) REF.

.100 (2.54) – 3 SPACES. EACH LOCATION MAY VARY ± .002 (± .05) FROM DATUM LINE Y

.124 (31.5) .950 (24.13) REF.

.200 (5.08) REF.

MIN. P.C. BOARD AREA REQ'D PER CONNECTOR

.047 (1.19) DIA. HOLE AFTER PLATING – 20 PLACES

NOTE: HOLE PATTERN IS SHOWN FOR THE MOUNTING SIDE OF THE P.C. BOARD

USED ON

3M PART NO. 3422

3M COMPANY
St. Paul
Minnesota

P.C.B. HOLE PATTERN SPECIFICATION

JANUARY 3, 1977

REV. CH.

ISSUE
ISSUE DATE AND CHANGE RECORD

TITLE

TOLERANCE UNLESS NOTED

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<td>± .008</td>
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.00001

.00005

.00008

.0001

.00013

.00018

.0002

.0003

.0005

.0008

.001

.003

.005

.01

.013

.018

.03

.05

.1

.13

.18

.3

.5

1

3

A

2002 B

ISO-METHOD A

SCALE /
## CONNECTOR COVER

### DIMENSION TABLE

<table>
<thead>
<tr>
<th>Contact Quantity</th>
<th>3M Part Number</th>
<th>DIM. &quot;A&quot;</th>
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<tr>
<td>26</td>
<td>3434</td>
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<td>50</td>
<td>3426</td>
<td>2.70 (68.6)</td>
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</tbody>
</table>

### CONNECTOR BODY

- Nonconductive Transfer Adhesive with Liner
- Connector Body
- "U" Contact
- 

### SOLDER WASHPADS

SEE DETAIL B

### DETAIL B

### IMPORTANT NOTICE TO PURCHASER:

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### TOLERANCE UNLESS NOTED

<table>
<thead>
<tr>
<th>INCH (mm)</th>
<th>DR.</th>
<th>APP.</th>
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<td>±.1</td>
<td>±.01</td>
<td>±.005</td>
</tr>
<tr>
<td>±.3</td>
<td>±.13</td>
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</tbody>
</table>

### SCALE

A

### ISSUE

DEC. 7, 1978

### ISSUE DATE AND CHANGE RECORD

6

### Electronic Products Division

3M

### P.C.B. CONNECTOR SPECIFICATION

- P.C.B. Number
- P.C.B. Thickness
- DIM. "B"

### Table

<table>
<thead>
<tr>
<th>3M Part Number</th>
<th>3M Part Number</th>
<th>P.C.B. Thickness</th>
<th>DIM. &quot;B&quot;</th>
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<tbody>
<tr>
<td>AU/NI</td>
<td>SN/CU</td>
<td>.062 (1.57)</td>
<td>.100 (2.54)</td>
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<td>-0000</td>
<td>-0000T</td>
<td>.094 – .125 (2.39 – 3.18)</td>
<td>.156 (3.96)</td>
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SCOTCHFLEX PCB CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between round conductor flat cable on .050" (1.27 mm) centers and a printed circuit board.

SPECIFICATIONS:

**PHYSICAL**

<table>
<thead>
<tr>
<th>INSULATOR MATERIAL</th>
<th>Glass reinforced polyester</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLOR</td>
<td>Gray</td>
</tr>
<tr>
<td>CONTACT MATERIAL</td>
<td>Beryllium Copper</td>
</tr>
<tr>
<td>CONTACT PLATING</td>
<td>Au/Ni - 0.000020&quot; (.508 µm) gold per Mil-G-45204 Type II, class 00 over 0.000050&quot; (1.27 µm) nickel</td>
</tr>
<tr>
<td></td>
<td>SnPB - 0.00020&quot; (5.08 µm) min. tin lead</td>
</tr>
<tr>
<td>MARKING</td>
<td>Raised figures; 3M logo, and part identification number</td>
</tr>
<tr>
<td>WIRE ACCOMMODATION</td>
<td>26 AWG solid or stranded</td>
</tr>
<tr>
<td></td>
<td>28 AWG solid or stranded</td>
</tr>
<tr>
<td></td>
<td>30 AWG solid</td>
</tr>
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</table>

**ELECTRICAL**

| CURRENT RATING     | 1 A                      |
| INSULATION RESISTANCE | $> 1 \times 10^9 \Omega$ |
| DIELECTRIC WITHSTANDING VOLTAGE | 1000 V$_{RMS}$ |

**ENVIRONMENTAL**

| TEMPERATURE RATING | -67°F to +221°F (-55°C to +105°C) |

2003
USED ON

3M PART NO. 3426

JANUARY 3, 1977

ISSUE

ISSUE DATE AND CHANGE RECORD

REV. CH.

P.C.B. HOLE PATTERN
SPECIFICATION

3M COMPANY
ELECTRONIC PRODUCTS DIVISION
St. Paul
Minnesota

SCALE / A

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8861-6
.050 (1.27) - 25 SPACES. EACH LOCATION MAY VARY ± .002 (± .05) FROM DATUM LINE X

.300 REF. (7.62)

.15 (3.8)

.60 (15.2)

.100 (2.54) - 3 SPACES. EACH LOCATION MAY VARY ± .002 (± .05) FROM DATUM LINE Y

MIN. P.C. BOARD AREA REQ'D PER CONNECTOR

.047 (1.19) DIA. HOLE AFTER PLATING - 26 PLACES

NOTE: HOLE PATTERN IS SHOWN FOR THE MOUNTING SIDE OF THE P.C. BOARD
**CONNECTOR COVER**

- NONCONDUCTIVE TRANSFER ADHESIVE WITH LINER

**DIM. “A”**

- .024 (.61)

**CONNECTOR BODY**

- “U” CONTACT (10 PLACES)

**SEE DETAIL B**

**SOLDER WASHPADS**

**DETAIL B**

- .010 (.25)

**3M PART NUMBER (AU/NI)**

- 3474-0000

**3M PART NUMBER (SN/CU)**

- 3474-0000T

**P.C.B. THICKNESS**

- .062 (1.57)

**DIM. “A”**

- .100 (2.54)

**P.C.B. CONNECTOR SPECIFICATION**

<table>
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<tr>
<th>3M PART NUMBER (AU/NI)</th>
<th>3M PART NUMBER (SN/CU)</th>
<th>P.C.B. THICKNESS</th>
<th>DIM. “A”</th>
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<td>3474-0000T</td>
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<td>.100 (2.54)</td>
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<td>3474-0001T</td>
<td>.094 – .125 (2.39 – 3.18)</td>
<td>.156 (3.96)</td>
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**TOLERANCE UNLESS NOTED**

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<tbody>
<tr>
<td>DR.</td>
<td>± .01 ± .005</td>
</tr>
<tr>
<td>APP.</td>
<td>± .13 ± .005</td>
</tr>
</tbody>
</table>

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**ISSUE DATE AND CHANGE RECORD**

- DEC. 7, 1978

**CH 3M**

**ISSUE**

- ISSUE 5

**P.C.B. CONNECTOR SPECIFICATION**

- 3M ELECTRONIC PRODUCTS DIVISION
SCOTCHFLEX PCB CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multi-position transition between round conductor flat cable on .050" (1.27 mm) centers and a printed circuit board.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL  Glass reinforced polyester U.L. flammability rating 94V-0

COLOR  Gray

CONTACT MATERIAL  Beryllium Copper

CONTACT PLATING  Au/Ni - 0.000020" (.508 μm) gold per Mil-G-45204 Type II, class 00 over 0.000050" (1.27 μm) nickel

SnPb - 0.00020" (5.08 μm) min. tin lead

MARKING  Raised figures; 3M logo, and part identification number

WIRE ACCOMMODATION  26 AWG solid or stranded  
28 AWG solid or stranded  
30 AWG solid

ELECTRICAL

CURRENT RATING  1 A

INSULATION RESISTANCE  > 1 \times 10^9 Ω

DIELECTRIC WITHSTANDING VOLTAGE  1000 V RMS

ENVIRONMENTAL

TEMPERATURE RATING  -67°F to +221°F (-55°C to +105°C)
NOTE:

HOLE PATTERN IS SHOWN FOR THE MOUNTING SIDE OF THE P.C. BOARD

.050 (1.27) - 9 SPACES.
EACH LOCATION MAY VARY ± .002 (.05)
FROM DATUM LINE X

.100 (2.54) - 3 SPACES.
EACH LOCATION MAY VARY ± .002 (.05)
FROM DATUM LINE Y

MIN. P.C. BOARD AREA REQ'D PER CONNECTOR

.047 (1.19) DIA. HOLE
AFTER PLATING – 10 PLACES
SCOPE: This specification details the requirements for a multiposition transition between round conductor flat cable on .075" (1.91 mm) centers and a printed circuit board.

SPECIFICATIONS:

**PHYSICAL**

<table>
<thead>
<tr>
<th>INSULATOR MATERIAL</th>
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<tr>
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<thead>
<tr>
<th>CONTACT MATERIAL</th>
<th>Beryllium Copper</th>
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<tr>
<th>CONTACT PLATING</th>
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<tr>
<td>Sn/Cu - 0.00020&quot; (5.08 μm)</td>
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<td>tin lead</td>
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<th>MARKING</th>
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<th>WIRE ACCOMMODATION</th>
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**ELECTRICAL**

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<th>CURRENT RATING</th>
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<table>
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<tr>
<th>INSULATION RESISTANCE</th>
<th>&gt; 1 \times 10^9 Ω</th>
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<th>DIELECTRIC WITHSTANDING VOLTAGE</th>
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**ENVIRONMENTAL**

<table>
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<tr>
<th>TEMPERATURE RATING</th>
<th>-67°F to +221°F (-55°C to +105°C)</th>
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</thead>
</table>

2018
.075 (1.91) – 35 SPACES. EACH LOCATION MAY VARY ± .002 (± .05) FROM DATUM LINE X

MIN. P.C. BOARD AREA REQ'D PER CONNECTOR

.21 (5.3)

.150 (3.81) – 1 SPACE. EACH LOCATION MAY VARY ± .002 (± .05) FROM DATUM LINE Y

.047 (1.19) DIA. HOLE AFTER PLATING – 36 PLACES

.17 (4.3) MIN.

.36 (9.1) MIN.

NOTE: HOLE PATTERN IS SHOWN FOR THE MOUNTING SIDE OF THE P.C. BOARD

USED ON

3M PART NO. 3378

3M COMPANY
ELECTRONIC PRODUCTS DIVISION
St. Paul Minnesota

INCH SCALE

1/2

ISSUE ISSUE DATE AND CHANGE RECORD REV. CH.

3 JANUARY 3, 1977

TOLERANCE UNLESS NOTED

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DR. 3M

APP.

2018A
SCOTCHFLEX PCB CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between round conductor flat cable on .075" (1.91 mm) centers and a printed circuit board.

SPECIFICATIONS:

**PHYSICAL**

- **INSULATOR MATERIAL**: Glass reinforced polyester
- **COLOR**: Gray
- **CONTACT MATERIAL**: Beryllium Copper
- **CONTACT PLATING**: 0.00020" (5.08 μm) tin lead
- **MARKING**: Raised figures; 3M logo, part identification number
- **WIRE ACCOMMODATION**: 24 AWG stranded

**ELECTRICAL**

- **CURRENT RATING**: 1 A
- **INSULATION RESISTANCE**: $>1 \times 10^9 \Omega$
- **DIELECTRIC WITHSTANDING VOLTAGE**: 1000 V$_{RMS}$

**ENVIRONMENTAL**

- **TEMPERATURE RATING**: -67°F to +221°F (-55°C to +105°C)
NOTE: HOLE PATTERN IS SHOWN FOR THE MOUNTING SIDE OF THE P.C. BOARD.
SCOTCHFLEX PCB CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between round conductor flat cable on .0625" (1.588mm) centers and a printed circuit board.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL: Glass reinforced polyester
U.L. flammability rating: 94V-0

COLOR: Gray

CONTACT MATERIAL: Beryllium Copper

CONTACT PLATING: 0.00020" (5.08 μm) tin lead

MARKING: Raised figures; 3M logo, part identification number

WIRE ACCOMMODATION: 24 AWG stranded

ELECTRICAL

CURRENT RATING: 1 A

INSULATION RESISTANCE: > 1 x 10^9 Ω

DIELECTRIC WITHSTANDING VOLTAGE: 1000 V_RMS

ENVIRONMENTAL

TEMPERATURE RATING: -67°F to +221°F (-55°C to +105°C)
NOTE: HOLE PATTERN IS SHOWN FOR THE MOUNTING SIDE OF THE P.C. BOARD.
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SCOPE: This specification details the requirements for a multiposition transition between round conductor flat cable on .050" (1.27 mm) centers and a printed circuit board.

SPECIFICATIONS:

**PHYSICAL**

| INSULATOR MATERIAL       | Glass reinforced polyester  
| U.L. flammability rating 94V-0 |
| COLOR                   | Gray                      |
| CONTACT MATERIAL        | Beryllium Copper           |
| CONTACT PLATING         | Au/Ni - 0.000020" (.508 µm)  
|                        | gold per Mil-G-45204 Type II, class 00 over  
|                        | 0.000050" (1.27 µm) nickel   |
|                        | SNPb - 0.00020" (5.08 µm) tin lead |
| MARKING                 | Raised figures; 3M logo, and part  
|                        | identification number       |
| WIRE ACCOMMODATION      | 26 AWG solid or stranded  
|                        | 28 AWG solid or stranded  
|                        | 30 AWG solid               |

**ELECTRICAL**

| CURRENT RATING         | 1 A                        |
| INSULATION RESISTANCE  | > 1 x 10^9Ω                |
| DIELECTRIC WITHSTANDING VOLTAGE | 1000 V_{RMS}          |

**ENVIRONMENTAL**

| TEMPERATURE RATING     | -67°F to +221°F (-55°C to  
|                        | +105°C)                     |
NOTE: HOLE PATTERN IS SHOWN FOR THE MOUNTING SIDE OF THE P.C. BOARD
### Table: 3M Part Cover Contact

<table>
<thead>
<tr>
<th>CONTACT QUANTITY</th>
<th>3M PART NUMBER</th>
<th>COVER TYPE</th>
<th>CONTACT TYPE</th>
<th>DIM. &quot;A&quot;</th>
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</thead>
<tbody>
<tr>
<td>14</td>
<td>3406-0000</td>
<td>FLAT CABLE</td>
<td>RECTANGULAR</td>
<td>.75 (19.1)</td>
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<tr>
<td>14</td>
<td>3406-0002</td>
<td>FLAT CABLE</td>
<td>ROUND</td>
<td>.75 (19.1)</td>
</tr>
<tr>
<td>14</td>
<td>3406-1000</td>
<td>INDIVIDUAL WIRE</td>
<td>RECTANGULAR</td>
<td>.75 (19.1)</td>
</tr>
<tr>
<td>16</td>
<td>3416-0000</td>
<td>FLAT CABLE</td>
<td>RECTANGULAR</td>
<td>.85 (21.6)</td>
</tr>
<tr>
<td>16</td>
<td>3416-0002</td>
<td>FLAT CABLE</td>
<td>ROUND</td>
<td>.85 (21.6)</td>
</tr>
<tr>
<td>16</td>
<td>3416-1000</td>
<td>INDIVIDUAL WIRE</td>
<td>RECTANGULAR</td>
<td>.85 (21.6)</td>
</tr>
</tbody>
</table>

### Diagram:

1. **BODY**

   - Ref. Position 1
   - Dim. "A" with dimensions: .050 (1.27), .30 (7.62), .42 (10.7)

2. **"U" CONTACT**

   - .175 ± .010 (4.45 ± .25)

3. **INDIVIDUAL WIRE COVER -1000**

   - Dim. "A" with dimensions: .050 (1.27), .11 (2.8), .30 (7.62), .42 (10.7)

4. **CONTACT**

   - -0000, -1000
   - -0002
   - .018 (4.6) Dia.
   - .016 ± .010 (.41 ± .25) DIA.
   - .021 ± .010 (.53 ± .25)

5. **FLAT CABLE COVER -0000, -0002**

   - Dim. "A" with dimensions: .050 (1.27) TYP., .09 (2.3), .42 (10.7)

6. **NON-CONDUCTIVE TRANSFER ADHESIVE WITH LINER**
SCOTCHFLEX DIP CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multiposition DIP plug transition between round conductor flat cable on .050" (1.27 mm) centers and a .100" X .300" (2.54 mm X 7.62 mm) I.C. socket.

SPECIFICATIONS:

**PHYSICAL**

- **INSULATOR MATERIAL**: Glass reinforced polyester
  - U.L. flammability rating 94V-0
- **COLOR**: 3406, Gray; 3416, Red
- **CONTACT MATERIAL**: Beryllium Copper
- **CONTACT PLATING**: 0.000030" (.762 μm) gold
  - per Mil-G-45204 Type II, class 0 over
  - 0.000050" (1.27 μm) nickel
- **MARKING**: Raised figures; 3M logo, part identification number, and contact position numbers
- **WIRE ACCOMMODATION**: 26 AWG solid
  - 28 AWG solid or stranded

**ELECTRICAL**

- **CURRENT RATING**: 1 A
- **INSULATION RESISTANCE**: > 1 x 10⁹ Ω
- **DIELECTRIC WITHSTANDING VOLTAGE**: 1000 V_RMS

**ENVIRONMENTAL**

- **TEMPERATURE RATING**: -67°F to +221°F (-55°C to +105°C)

2000
**D.I.P. CONNECTOR SPECIFICATION**

**USED ON**

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**TOLERANCE UNLESS NOTED**

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<thead>
<tr>
<th>INCH (mm)</th>
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<th>.000</th>
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<tr>
<td>INCH</td>
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<td>± .01</td>
</tr>
<tr>
<td>mm</td>
<td>± .3</td>
<td>± .13</td>
</tr>
</tbody>
</table>

**OCTOBER 27, 1978**

**3M PART NUMBER** | **CONTACT TYPE**
--- | ---
3460-0000 | RECTANGULAR
3460-0002 | ROUND

**SCALE**

**DR. A. H. Olson**

**APP.**

**2016**
SCOTCHFLEX DIP CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multiposition DIP plug transition between round conductor flat cable on .050" (1.27 mm) centers and a .100" X .600" (2.54 mm X 15.24 mm) I.C. socket.

SPECIFICATIONS:

PHYSICAL

<table>
<thead>
<tr>
<th>INSULATOR MATERIAL</th>
<th>Glass reinforced polyester</th>
</tr>
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<tbody>
<tr>
<td>COLOR</td>
<td>Gray</td>
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<tr>
<td>CONTACT MATERIAL</td>
<td>Beryllium Copper</td>
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<tr>
<td>CONTACT PLATING</td>
<td>0.000030&quot; (.762 µm) gold per</td>
</tr>
<tr>
<td></td>
<td>Mil-G-45204 Type II, class 0 over</td>
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<tr>
<td></td>
<td>0.000050&quot; (1.27 µm) nickel</td>
</tr>
<tr>
<td>MARKING</td>
<td>Raised figures; 3M logo, part identification number, and contact position numbers</td>
</tr>
<tr>
<td>WIRE ACCOMMODATION</td>
<td>26 AWG solid</td>
</tr>
<tr>
<td></td>
<td>28 AWG solid or stranded</td>
</tr>
</tbody>
</table>

ELECTRICAL

<table>
<thead>
<tr>
<th>CURRENT RATING</th>
<th>1 A</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSULATION RESISTANCE</td>
<td>&gt; 1 x 10⁹Ω</td>
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<td>1000 V RMS</td>
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</table>

ENVIRONMENTAL

| TEMPERATURE RATING | -67°F to +221°F (-55°C to +105°C) |

2016
3M PART NO. 3498-0000

"U" CONTACT
16 PLACES

SHOWN FAR SIDE
SOLDER
WASHPADS

SHOWN NEAR SIDE

"U" CONTACT
16 PLACES

010
(.25)

.020
(.51)

.050
(1.27)

.050
(1.27)

.06
(1.5)

.30
(7.62)

.42
(10.7)

.85
(21.6)

.07
(1.8)

.205
(5.21)

.12
(3.0)

.09
(2.3)

.050
(1.27)

.42
(10.7)

.85
(21.6)

NONCONDUCTIVE
TRANSFER
ADHESIVE
WITH LINER

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D.I.P. CONNECTOR SPECIFICATIONS

St. Paul
Minnesota

 SCALE

FEBRUARY 8, 1977

REV. CH.

ISSUE DATE AND CHANGE RECORD

2049

ISO-METHOD A

DR. G. L. Olson

APP. A

TOLERANCE UNLESS NOTED

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SCOTCHFLEX DIP CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multiposition DIP plug transition between round conductor flat cable on .050" (1.27 mm) centers and a .100" X .300" (2.54 mm X 7.62 mm) printed circuit board grid.

SPECIFICATIONS:

| PHYSICAL | INSULATOR MATERIAL | Glass reinforced polyester |
|          | U.L. flammability rating | 94V-0 |

| COLOR | Gray |

| CONTACT MATERIAL | Beryllium Copper |

| CONTACT PLATING | 0.000200" (5.08 μm) min. tin/lead |

| MARKING | Raised figures; 3M logo, part identification number, and contact position numbers |

| WIRE ACCOMMODATION | 26 AWG solid |
|                    | 28 AWG solid or stranded |

| ELECTRICAL | CURRENT RATING | 1 A |

| INSULATION RESISTANCE | $> 1 \times 10^9 \Omega$ |

| DIELECTRIC WITHSTANDING VOLTAGE | 1000V_RMS |

| ENVIRONMENTAL | TEMPERATURE RATING | -67°F to +221°F (-55°C to +105°C) |
SCOTCHFLEX DIP CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multiposition DIP plug transition between round conductor flat cable on .050" (1.27 mm) centers and a .100" X .600" (2.54 mm X 15.24 mm) I.C. socket.

SPECIFICATIONS:

| PHYSICAL                          | INSULATOR MATERIAL          | Glass reinforced polyester  |
|                                  |                             | U.L. flammability rating 94V-0 |
| COLOR                            | Gray                        |                             |
| CONTACT MATERIAL                 | Beryllium Copper            |                             |
| CONTACT PLATING                  | 0.000030" (.762 μm) min. gold per Mil-G-45204 Type II over 0.000050" (1.27 μm) min. Nickel |
| MARKING                          | Raised figures; 3M logo, part identification number, and contact position numbers |
| WIRE ACCOMMODATION               | 26 AWG solid                |
|                                  | 28 AWG solid or stranded    |

<p>| ELECTRICAL                       | CURRENT RATING              | 1 A                          |
|                                  | INSULATION RESISTANCE       | &gt; 1 x 10^9Ω                  |
|                                  | DIELECTRIC WITHSTANDING VOLTAGE | 1000 V_{RMS}               |
| ENVIRONMENTAL                    | TEMPERATURE RATING          | -67°F to +221°F (-55°C to +105°C) |</p>
<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>NUMBER</th>
<th>3M PART NO.</th>
<th>MOUNTING STYLE</th>
<th>DIM. &quot;A&quot;</th>
<th>DIM. &quot;B&quot;</th>
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<tr>
<td>50</td>
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<td>WITH MOUNTING</td>
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<td>3.30</td>
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<td>2.70</td>
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**SCALE**

- INCH
  - TOLERANCE UNLESS NOTED
    - ± .003
    - ± .01
    - ± .065
  - DR. (mm)
    - 0
    - 0
    - 0

**EDGECARD CONNECTOR**

**SPECIFICATION**

**3M PART NO. 3415**

**ISSUE DATE AND CHANGE RECORD**

- ISSUE OCTOBER 2, 1979
- REV. CH. 8

**CONTACT**

**3M PART NUMBER**

**SCHEDULE**

- MOUNTING STYLE
  - "A"
  - "B"

**DIM.**

- NONCONDUCTIVE TRANSFER ADHESIVE WITH LINER
  - 2.05 (72.4)
  - 0.62 (15.7)
  - 0.50 (12.7)

**IDENTIFICATION**

- EDGE CARD CONNECTOR
- SPECIFICATION
- 3M PART NO. 3415
Scotchflex Card Edge Specification

UL File No. E68080, Guide RTRT2
CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a dual readout multi-position transition between round conductor flat cable on .050” (1.27 mm) centers to a printed circuit card edge on .100” (2.54 mm) centers.

Specifications:

Physical:
- Insulator Material: Glass reinforced polyester
- Flammability rating: UL 94V-0
- Color: Gray
- Marking: Raised figures; 3M logo, part identification number
- Contact Material: Beryllium Copper
- Plating: 0.000050” (1.27 µm) gold per Mil-G-45204 Type II, class 1, on wiping area, gold flash on “U” area, over 0.000100” (2.54 µm) nickel throughout
- Wire accommodation: 26 AWG solid or stranded
- 28 AWG solid or stranded
- 30 AWG solid
- Insertion Force: .54 lb (2.40N) per contact typical
- Withdrawal Force: .26 lb (1.16N) per contact typical

Electrical:
- Current Rating: 1 A
- Insulation Resistance: > 1 × 10⁹Ω @ 500 vdc
- Withstanding Voltage: 1000VRMS @ sea level

Environmental:
- Temperature Rating: −67°F to +221°F (−55°C to +105°C)
### Contact Quantity

<table>
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<th>3M Part Number</th>
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<td>26</td>
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<td>40</td>
<td>3464</td>
<td>2.095 (53.21)</td>
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<td>2.595 (65.91)</td>
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### TOLERANCE UNLESS NOTED

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<thead>
<tr>
<th>INCH</th>
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<td>mm</td>
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---

### SCALE

**ISO-METHOD A**

### ISSUE

**JANUARY 17, 1977**

**CARD-EDGE SPECIFICATION**

**TITILE**

**3M COMPANY**

**ELECTRONIC PRODUCTS DIVISION**

**St. Paul, Minnesota**

**SCALE**

**A**

**ISSUE DATE AND CHANGE RECORD**

**REV.**

**CH.**

**DR. G.L. Olson**

**APP. RK**

**2010 A**
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**NON-CONDUCTIVE TRANSFER ADHESIVE WITH LINER**

**3M PART NUMBER**

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**OCTOBER 2, 1979**

**ISSUE**

**ISSUE DATE AND CHANGE RECORD**

**REV. CH.**

**EDGE CARD SPECIFICATION**

**3M PART NO. 3461, 3462, 3463, 3464**

**TOLERANCE UNLESS NOTED**

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<td>DR. Gary L. Olson</td>
</tr>
<tr>
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**2012**
Scotchflex Card Edge Specification

UL File No. E68080, Guide RTRT2
CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a dual readout multi-position transition between round conductor flat cable on .050” (1.27 mm) centers to a printed circuit card edge having .100” (2.54 mm) centers.

Specifications:

Physical:
Insulator Material: Glass reinforced thermoplastic
Flammability rating: UL 94V-1
Color: Gray
Marking: Raised figures; 3M logo, part identification number
Contact Material: Beryllium Copper
Plating: 0.000050” (1.27 μm) gold per Mil-G-45204 Type II, class 1, on wiping area, gold flash on “U” area, over 0.000100” (2.54 μm) nickle throughout
Wire accommodation: 26 AWG solid
28 AWG solid or stranded
30 AWG solid
Insertion Force: .54 lb (2.40 N) per contact typical
Withdrawal Force: .26 lb (1.16N) per contact typical

Electrical:
Current Rating: 1 A
Insulation Resistance: \( > 1 \times 10^9 \Omega @ 500 \text{vdc} \)
Withstanding Voltage: 1000VRMS @ sea level

Environmental:
Temperature Rating: \(-67^\circ F \text{ to } +221^\circ F (\text{-55}^\circ C \text{ to } +105^\circ C)\)
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Electronic Products Division

WRAP POST CARDEDGE CONNECTOR SPECIFICATION
PART NO. 3533-0000

TOLERANCE UNLESS NOTED

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<tr>
<td></td>
<td>± .01</td>
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<td>± .000</td>
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OCTOBER 4, 1979
ISSUE
ISSUE DATE AND CHANGE RECORD
REV.
CH.

3M

2056
Scotchflex Wrap Post
Card Edge Specification

Scope: This specification details the requirements for a dual readout multi-position transition between round conductor flat cable on .050˝ (1.27 mm) centers to a printed circuit card edge on .100˝ (2.54 mm) centers and .25˝ (.64 mm) square wrap posts on .100˝ (2.54 mm) by .100˝ (2.54 mm) grid.

Specifications:

Physical:
Insulator Material: Glass reinforced thermoplastic
Flammability rating: UL 94V-1
Color: Gray
Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Beryllium Copper
Plating: 0.000050˝ (1.27 μm) gold per Mil-G-45204 Type II, class 1 on wiping area, gold flash on “U” area, over 0.000100˝ (2.54 μm) nickel throughout wrap post: gold flash over 0.000100˝ (2.54 μm) nickel.

Wire accommodation: 26 AWG solid or stranded
28 AWG solid or stranded
30 AWG solid

Insertion Force: .54 lb (2.40N) per contact typical

Withdrawal Force: .26 lb (1.16N) per contact typical

Electrical:
Current Rating: 1 A
Insulation Resistance: > 1 × 10^9 Ω @ 500 vdc
Withstanding Voltage: 1000V RMS @ sea level

Environmental:
Temperature Rating: −67°F to +221°F (−55°C to +105°C)
### Table: Dimensions

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<tr>
<th>Contact Quantity</th>
<th>3M Part Number</th>
<th>DIM. &quot;A&quot;</th>
<th>DIM. &quot;B&quot;</th>
<th>DIM. &quot;C&quot;</th>
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### Used On

- **3446, 3314, 3408, 3428, 3429, 3431, 3432, 3433, 3372**

### Specification

**STRAIGHT HEADER**

0.025 (.64) SQUARE WRAP POST

3M PART NOS. 3446, 3314, 3408, 3428, 3429, 3431, 3432, 3433, 3372

**ISSUE DATE AND CHANGE RECORD**

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Scotchflex Header Specification

UL File No. E68080, Guide RTRT2
CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition transition between socket connectors and wrap panels having a .100” (2.54 mm) by .100” (2.54 mm) grid.

Specifications:

Physical:
- Insulator Material: Glass reinforced polyester
- Flammability rating: UL 94V-0
- Color: Gray
- Marking: Raised figures; 3M logo, part identification number, and orientation triangle
- Contact Material: Copper Alloy CA-725
- Plating: 0.000030” (7.62 μm) minimum gold per Mil-G-45204 Type II, class 0, over 0.000050” (1.27 μm) minimum nickel, 0.200” (5.08 μm) mating end

Electrical
- Current Rating: 1 A
- Insulation Resistance: > 1 × 10^8Ω @ 500 vdc
- Withstanding Voltage: 1000V_{RMS} @ sea level

Environmental:
- Temperature Rating: -67°F to +221°F (-55°C to +105°C)
Scotchflex Header Specification

UL File No. E68080, Guide RTRT2
CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition transition between socket connectors and wrap panels having a .100" (2.54 mm) by .100" (2.54 mm) grid.

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- Insulator Material: Glass reinforced polyester
- Flammability rating: UL 94V-0
- Color: Gray
- Marking: Raised figures; 3M logo, part identification number, and orientation triangle
- Contact Material: Copper Alloy CA-725
- Plating: 0.000030" (7.62 μm) minimum gold per Mil-G-45204 Type II, class 0, over 0.000050" (1.27 μm) minimum nickel, 0.200" (5.08 μm) mating end

Electrical
- Current Rating: 1 A
- Insulation Resistance: > 1 × 10⁹Ω @ 500 vdc
- Withstanding Voltage: 1000V RMS @ sea level

Environmental:
- Temperature Rating: -67°F to +221°F (-55°C to +105°C)
Contact Quantity | 3M Part Number | DIM. "A" | DIM. "B" | DIM. "C" | DIM. "E"
|---|---|---|---|---|---
| 10 | 3446-4305 | 1.27 (32.3) | 1.10 (27.9) | .71 (18.0) | 2.06 (52.3) |
| 14 | 3314-4305 | 1.47 (37.3) | 1.30 (33.0) | .91 (23.1) | 2.10 (53.3) |
| 16 | 3408-4305 | 1.57 (39.9) | 1.40 (35.6) | 1.01 (25.7) | 2.36 (59.9) |
| 20 | 3429-4305 | 1.76 (44.7) | 1.60 (40.6) | 1.21 (30.7) | 2.56 (64.8) |
| 26 | 3429-4305 | 2.06 (52.3) | 1.90 (48.3) | 1.51 (38.4) | 2.85 (72.4) |
| 34 | 3433-4305 | 2.46 (62.5) | 2.30 (58.4) | 1.91 (48.5) | 3.25 (82.6) |
| 40 | 3432-4305 | 2.76 (70.1) | 2.60 (66.0) | 2.21 (56.1) | 3.55 (90.2) |
| 50 | 3433-4305 | 3.26 (82.8) | 3.10 (78.7) | 2.71 (68.8) | 4.05 (102.9) |
| 60 | 3372-4305 | 3.77 (95.8) | 3.60 (91.4) | 3.21 (81.5) | 4.56 (115.9) |

### USED ON

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**TOLERANCE UNLESS NOTED**

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**SPECIFICATION**

STRAIGHT HEADER

.025 (.64) SQUARE WRAP POST

3M PART NOS. 3446, 3314, 3408, 3428, 3429, 3431, 3432, 3433, 3372

**ISSUE**

JAN. 3, 1980

**REMARKS**

1. ACCEPTS NO. 4 THREAD CUTTING TAPPING SCREW (REAR MOUNTING).
2. NO SLOT ON 3446 SERIES.
3. THIS NOTCH NON-EXISTENT ON 3446 AND 3314 SERIES.

**RECOMMENDED HOLES PATTERN**

(SHOWN FOR MOUNTING SIDE OF BOARD)

**NOTES:**

9
Scotchflex Header Specification

UL File No. E68080, Guide RTRT2
CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition transition between socket connectors and wrap panels having a .100” (2.54 mm) by .100” (2.54 mm) grid.

Specifications:

Physical:
- Insulator Material: Glass reinforced polyester
- Flammability rating: UL 94V-0
- Color: Gray
- Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Copper Alloy CA-725
- Plating: 0.000030” (7.62 μm) minimum gold per Mil-G-45204 Type II, class 0, over 0.000050” (1.27 μm) minimum nickel, 0.200” (5.08 μm) mating end

Electrical
- Current Rating: 1 A
- Insulation Resistance: > 1 × 10⁹Ω @ 500 vdc
- Withstanding Voltage: 1000V RMS @ sea level

Environmental:
- Temperature Rating: −67°F to +221°F (−55°C to +105°C)
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**TOLERANCE UNLESS NOTED**

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**SPECIFICATION**

**STRAIGHT HEADER**

.025 (.64) SQUARE WRAP POST

3M PART NOS. 3446, 3314, 3408, 3428, 3429, 3431, 3432, 3433, 3372

**ISSUE**

NOV. 9, 1979

**ISSUE DATE AND CHANGE RECORD**

1

**REV. CH**

2005C
Scotchflex Header Specification

UL File No. E68080, Guide RTRT2
CSA File No. LR-40971, Guide 365-E-1, Class 6233

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Electrical:
Current Rating: 1 A
Insulation Resistance: $> 1 \times 10^{9} \Omega$ @ 500 vdc
Withstanding Voltage: 1000V_{RMS} @ Sea Level

Environmental:
Temperature Rating: $-67^\circ F$ to $+221^\circ F$ ($-55^\circ C$ to $+105^\circ C$)
**DIM. "A"**

**DIM. "B"**

**DIM. "C"**

- **DIM. "A"**
  - **DIM. "B"**
  - **DIM. "C"**

**DIM. "A"**

- **DIM. "B"**

**DIM. "C"**

**SEG. A-A**

**SEE NOTE 2**

**NOTE 3**

**SEE NOTE 1**

**POLARIZING NOTCH**

**IDENTIFICATION**

**CONTACT ORIENTATION TRIANGLE**

**NOTES:**
1. **ACCEPTS NO. 2-56 ROUND HEAD SCREW (FRONT MOUNTING), NO. 4 THREAD CUTTING TAPPING SCREW (REAR MOUNTING), OR NO. 2 RIVET, WHEN USING NO. 4 SELF-TAPPING SCREW, PANEL HOLE DIAMETER SHOULD BE INCREASED TO .116 (2.95).**
2. **NO SLOT ON 3446 SERIES.**
3. **THIS NOTCH NON-EXISTENT ON 3446 AND 3314 SERIES.**

**USED ON**

**3M PART NOS. 3446, 3314, 3408, 3428, 3429, 3431, 3432, 3433, 3372**

**SPECIFICATION**

**RIGHT ANGLE HEADER**

**.025 (.64) SQUARE WRAP POST**

- **3M PART NOS. 3446, 3314, 3408, 3428, 3429, 3431, 3432, 3433, 3372**

**SCALE**

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**Aug. 4, 1979**

**RECOMMENDED**

**P.C. BOARD HOLE PATTERN**

**FOR MOUNTING SIDE OF BOARD**

**NOTES:**

1. **ACCEPTS NO. 2-56 ROUND HEAD SCREW (FRONT MOUNTING), NO. 4 THREAD CUTTING TAPPING SCREW (REAR MOUNTING), OR NO. 2 RIVET, WHEN USING NO. 4 SELF-TAPPING SCREW, PANEL HOLE DIAMETER SHOULD BE INCREASED TO .116 (2.95).**
2. **NO SLOT ON 3446 SERIES.**
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Scotchflex Header Specification

UL File No. E68080, Guide RTRT2
CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition transition between socket connectors and wrap panels having a .100" (2.54 mm) by .100" (2.54 mm) grid.

Specifications:

Physical:
Insulator Material: Glass reinforced polyester
Flammability rating: UL 94V-0
Color: Gray
Marking: Raised figures; 3M logo, part identification number, and orientation triangle
Contact Material: Phosphor Bronze
Plating: 0.000030" (.762 μm) gold per Mil-G-45204 Type II, class 0 over 0.000050" (1.27 μm) nickel

Electrical:
Current Rating: 1 A
Insulation Resistance: > 1 x 10⁹Ω
Withstanding Voltage: 1000VRMS

Environmental:
Temperature Rating: -67°F to +221°C (-55°C to +105°C)
**Contact Information**

**Quantity Number**

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**DIMENSIONS**

- **DIM. "A"**: 
  - 1.00 DIA. (2) (2.54) SEE NOTE 1
- **DIM. "B"**: 
  - .055 (1.40) (1.18) (2.54 ± .01 (0.06)
- **DIM. "C"**: 
  - .35 (8.9)
- **DIM. "E"**: 
  - .192 (4.88)
- **DIM. "D"**: 
  - .12 (3.0)
- **DIM. "F"**: 
  - .08 (2.0)
- **DIM. "G"**: 
  - .05 (1.3)
- **DIM. "H"**: 
  - .03 (0.8)
- **DIM. "I"**: 
  - .01 (0.3)

**NOTES**

- **NOTE 1**: DIM. "E" ± .100 (2.54)
- **NOTE 2**: DIM. "C" ± .025 (.062)
- **NOTE 3**: DIM. "D" ± .010 (.025)

**SPECIFICATION**

**RIGHT ANGLE HEADER**

- **0.025 (.64) SQUARE WRAP POST**
- **3M PART NOS. 3446, 3314, 3408, 3428, 3429, 3431, 3432, 3433, 3372**

**ISSUE**

AUG. 4, 1979 8

**REMARKS**

- **TITLE**: ELECTRONIC PRODUCTS DIVISION
- **DRAWN**
- **CHECKED**
- **APPROVED**
- **SIGNATURE**
- **DATE**
- **CH.**
- **REV.**

**TOLERANCE**

- **INCH**
  - .00 ±0.000
  - .00 ±0.000
- **SCALE**
  - .00 ±0.000

**REFERENCE**

- **NOTE**: All dimensions and tolerances are in millimeters unless otherwise specified.
- **REMARKS**: This drawing is subject to change without notice.
- **NOTES**: All dimensions are approximate and subject to change without notice.

**NOTES TO THE PURCHASER**

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**PRODUCT**

- **3M PART NOS. 3446, 3314, 3408, 3428, 3429, 3431, 3432, 3433, 3372**

**ISSUE DATE AND CHANGE RECORD**

AUG. 4, 1979 8
Scotchflex Header Specification

UL File No. E68080, Guide RTRT2
CSA File No. LR-40971, Guide 365-E-1, Class 6233

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Specifications:

Physical:
- Insulator Material: Glass reinforced polyester
- Flammability rating: UL 94V-0
- Color: Gray
- Marking: Raised figures; 3M logo, part identification number, and orientation triangle

- Contact Material: Phosphor Bronze
- Plating: 0.000030" (.762 μm) gold per Mil-G-45204 Type II, class 0 over 0.000050" (1.27 μm) nickel

Electrical:
- Current Rating: 1 A
- Insulation Resistance: $> 1 \times 10^8 \Omega$
- Withstanding Voltage: 1000V RMS

Environmental:
- Temperature Rating: $-67^\circ F$ to $+221^\circ C$ ($-55^\circ C$ to $+105^\circ C$)
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TOLERANCE UNLESS NOTED

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ELECTRONIC PRODUCTS

AUG. 4, 1979

RESOLUTION

RIGHT ANGLE HEADER

SPECIFICATION

.025 (.64) SQUARE WRAP POST

3M PART NOS. 3446, 3314, 3408, 3428, 3429, 3431, 3432, 3372

3M
Scotchflex Header Specification

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Contact 3M Part Quantity Number

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Dimensions:
- DIM. "A" ±.025 (.64)
- DIM. "B" ±.002 SQ.
- DIM. "C" ±.000

Tolerances:
- "B" ±.005
- "C" ±.003

Notes:
1. Accepts No. 2-56 Round Head Screw (Front Mounting), No. 4 Thread Cutting Tapping Screw (Rear Mounting), or No. 2 Rivet. [When using No. 4 Self-Tapping Screw, Panel Hole Diameter Should Be Increased to .116 (2.95)].
2. No Slot on 3446 Series.
3. This Notch Non-Existent on 3446 and 3314 Series.

Used On:
- Electronic Products Division

Specification:
- Right Angle Header
- .025 (.64) Square Wrap Post
- 3M Part Nos. 3446, 3314, 3408, 3428, 3429, 3431, 3432, 3433, 3372

Issue: Nov. 8, 1979

Revision: 1

Issue Date and Change Record: 1
Scotchflex Header Specification

UL File No. E68080, Guide RTRT2
CSA File No. LR-40971, Guide 365-E-1, Class 6233

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- Insulation Resistance: $> 1 \times 10^9 \Omega$ @ 500 vdc
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- Temperature Rating: $-67^\circ\text{F} \text{ to } +221^\circ\text{F} \left(-55^\circ\text{C} \text{ to } +105^\circ\text{C}\right)$
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3. THIS NOTCH NON-EXISTENT ON 3446 AND 3314 SERIES.

**USES ON**
3M PART NOS. 3446, 3314, 3408, 3428, 3429, 3431, 3432, 3433, 3372

**SPECIFICATION**

**STRAIGHT HEADER**

`.025 (.64) ROUND SOLDER PIN`  

**3M PART NOS.** 3446, 3314, 3408, 3428, 3429, 3431, 3432, 3433, 3372

**ISSUE DATE AND CHANGE RECORD**

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Scotchflex Header Specification

UL File No. E68080, Guide RTRT2
CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .100" (2.54 mm) by .100" (2.54 mm) grid.

Specifications:

Physical:
- Insulator Material: Glass reinforced polyester
- Flammability rating: UL 94V-0
- Color: Gray
- Marking: Raised figures; 3M logo, part identification number, and orientation triangle
- Contact Material: Phosphor Bronze
- Plating: 0.000030" (.762 μm) gold per Mil-G-45204 Type II, class 0 over 0.000050" (1.27 μm) nickel

Electrical:
- Current Rating: 1 A
- Insulation Resistance: > 1 \times 10^9 \Omega
- Withstanding Voltage: 1000V_{RMS}

Environmental:
- Temperature Rating: -67°F to +221°C (-55°C to +105°C)
### Dimensions and Tolerances

<table>
<thead>
<tr>
<th>Quantity</th>
<th>3M Part Number</th>
<th>DIM. &quot;A&quot;</th>
<th>DIM. &quot;B&quot;</th>
<th>DIM. &quot;C&quot;</th>
<th>DIM. &quot;E&quot;</th>
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<td>1.10</td>
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**NOTES:**
1. ACCEPTS NO. 4 THREAD CUTTING TAPPING SCREW (REAR MOUNTING).
2. NO SLOT ON 3446 SERIES.
3. THIS NOTCH NON-EXISTENT ON 3446 AND 3314 SERIES.

---

**USED ON**

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---

**SPECIFICATION**

**STRAIGHT HEADER**

.025 (.64) ROUND SOLDER PIN

3M PART NOS. 3446, 3314, 3408, 3428, 3429, 3431, 3432, 3433, 3372

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**ISSUE DATE AND CHANGE RECORD**

AUG. 4, 1979  8

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**TOLERANCE UNLESS NOTED**

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**SCALE**

A  2007A

---

**SIGNATURES**

G. Olson

---

**ELECTRONIC PRODUCTS DIVISION**

3M
Scotchflex Header Specification

UL File No. E68080, Guide RTRT2
CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .100” (2.54 mm) by .100” (2.54 mm) grid.

Specifications:

Physical:
- Insulator Material: Glass reinforced polyester
- Flammability rating: UL 94V-0
- Color: Gray
- Marking: Raised figures; 3M logo, part identification number, and orientation triangle
- Contact Material: Phosphor Bronze
- Plating: 0.000030” (.762 μm) gold per Mil-G-45204 Type II, class 0 over 0.000050” (1.27 μm) nickel

Electrical:
- Current Rating: 1 A
- Insulation Resistance: > 1 × 10^9Ω
- Withstanding Voltage: 1000VRMS

Environmental:
- Temperature Rating: −67°F to +221°C (−55°C to +105°C)
**IMPORTANT NOTICE TO PURCHASER:**

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**3M PART NUMBER:**

- **P.C.B. Thickness:**
  - 2302: 0.62 (1.57)
  - 2303: 0.94 (2.39 - 3.18)
  - 2304: 1.25 (3.18)

**SPECIFICATION:**

- **STRAIGHT HEADER**
  - .025 (.64) ROUND SOLDER PIN
  - 3M PART NOS. 3446, 3314, 3408, 3428, 3429, 3431, 3432, 3433, 3372

**TOLERANCE UNLESS NOTED:**

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<th>INCH (mm)</th>
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<td>.3</td>
<td>.13</td>
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</tbody>
</table>

**ISSUE:**

- ISSUE DATE AND CHANGE RECORD
  - AUG. 4, 1979
  - 8

**RECOMMENDED P.C. BOARD HOLE PATTERN (SHOWN FOR MOUNTING SIDE OF BOARD):**

- **NOTES:**
  1. ACCEPTS NO.4 THREAD CUTTING TAPPING SCREW (REAR MOUNTING).
  2. NO SLOT ON 3446 SERIES.
  3. THIS NOTCH NON-EXISTENT ON 3446 AND 3314 SERIES.
Scotchflex Header Specification

UL File No. E68080, Guide RTRT2  
CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope:  This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .100” (2.54 mm) by .100” (2.54 mm) grid.

Specifications:

Physical:
- Insulator Material: Glass reinforced polyester  
- Flammability rating: UL 94V-0  
- Color: Gray  
- Marking: Raised figures; 3M logo, part identification number, and orientation triangle  
- Contact Material: Phosphor Bronze  
- Plating: 0.000030” (.762 μm) gold per Mil-G-45204 Type II, class 0 over 0.000050” (1.27 μm) nickel

Electrical:
- Current Rating: 1 A  
- Insulation Resistance: > 1 × 10^9Ω  
- Withstanding Voltage: 1000V RMS

Environmental:
- Temperature Rating: −67°F to +221°C (−55°C to +105°C)
Scotchflex Header Specification

UL File No. E68080, Guide RTRT2
CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multi-position transition between socket connectors and printed circuit boards having a .100" (2.54 mm) by .100" (2.54 mm) grid.

Specifications:

Physical:
- Insulator Material: Glass reinforced polyester
- Flammability rating: UL 94V-0
- Color: Gray
- Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Phosphor Bronze
- Plating: 0.000030" (.762 μm) gold per Mil-G-45204 Type II, class 0 over 0.000050" (1.27 μm) nickel

Electrical:
- Current Rating: 1 A
- Insulation Resistance: > 1 × 10^9 Ω @ 500 vdc
- Withstanding Voltage: 1000VRMS @ Sea Level

Environmental:
- Temperature Rating: -67°F to +221°F (-55°C to +105°C)
**TOLERANCE UNLESS NOTED**

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<th>Inch (mm)</th>
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**Contact**  
Quantity | 3M Part Number | DIM. “A” | DIM. “B” | DIM. “C” |
<table>
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<td>.86 (21.8)</td>
<td>.71 (18.0)</td>
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<td>3314</td>
<td>1.47 (37.3)</td>
<td>1.06 (26.9)</td>
<td>.91 (23.1)</td>
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<td>1.76 (44.7)</td>
<td>1.36 (34.5)</td>
<td>1.21 (30.7)</td>
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<tr>
<td>26</td>
<td>3429</td>
<td>2.06 (52.3)</td>
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<td>1.51 (38.4)</td>
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<tr>
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<td>2.46 (62.5)</td>
<td>2.06 (52.3)</td>
<td>1.91 (48.5)</td>
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<td>40</td>
<td>3432</td>
<td>2.76 (70.1)</td>
<td>2.36 (59.9)</td>
<td>2.21 (56.1)</td>
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<tr>
<td>50</td>
<td>3433</td>
<td>3.26 (82.8)</td>
<td>2.86 (72.6)</td>
<td>2.71 (68.8)</td>
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<td>60</td>
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<td>3.77 (95.8)</td>
<td>3.36 (85.3)</td>
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**3M Part Number** | **P.C.B. Thickness** | **DIM. “D”** |
<table>
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<td>-1003</td>
<td>.094 – .125 (2.39 – 3.18)</td>
<td>.155 (3.94)</td>
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**SPECIFICATION**

**STRAIGHT HEADER**

**.025 (.64) ROUND SOLDER PIN**

3M PART NOS. 3346, 3314, 3408, 3428, 3429, 3431, 3432, 3433, 3372

**ISSUE DATE AND CHANGE RECORD**

8 AUG. 4, 1979

**REV. CH.**
Scotchflex Header Specification

UL File No. E68080, Guide RTRT2
CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .100” (2.54 mm) by .100” (2.54 mm) grid.

Specifications:

Physical:
- Insulator Material: Glass reinforced polyester
- Flammability rating: UL 94V-0
- Color: Gray
- Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Phosphor Bronze
- Plating: 0.000030” (.762 μm) gold per Mil-G-45204 Type II, class 0 over 0.000050” (1.27 μm) nickel

Electrical:
- Current Rating: 1 A
- Insulation Resistance: > $1 \times 10^9 \Omega$
- Withstanding Voltage: 1000VRMS

Environmental:
- Temperature Rating: −67°F to +221°C (−55°C to +105°C)
# Contact Information

<table>
<thead>
<tr>
<th>3M Part Number</th>
<th>DIM. &quot;A&quot;</th>
<th>DIM. &quot;B&quot;</th>
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## P.C.B Thickness

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<td>.094 – .125 (.239 – .318)</td>
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2. NO SLOT ON 3446 SERIES.

3. THIS NOTCH NON-EXISTENT ON 3446 AND 3314 SERIES.
Scotchflex Header Specification

UL File No. E68080, Guide RTRT2
CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .100" (2.54 mm) by .100" (2.54 mm) grid.

Specifications:

Physical:
- Insulator Material: Glass reinforced polyester
- Flammability rating: UL 94V-0
- Color: Gray
- Marking: Raised figures; 3M logo, part identification number, and orientation triangle
- Contact Material: Phosphor Bronze
- Plating: 0.000030" (.762 μm) gold per Mil-G-45204 Type II, class 0 over 0.000050" (1.27 μm) nickel

Electrical:
- Current Rating: 1 A
- Insulation Resistance: > $1 \times 10^9 \Omega$
- Withstanding Voltage: 1000V_RMS

Environmental:
- Temperature Rating: $-67^\circ F$ to $+221^\circ C \ (-55^\circ C$ to $+105^\circ C)$
### TOLERANCE

The tolerances noted in the drawings should be taken into account when interpreting the dimensions.

### TABLE

<table>
<thead>
<tr>
<th>Contact Number</th>
<th>3M Part Number</th>
<th>DIM. &quot;A&quot;</th>
<th>DIM. &quot;B&quot;</th>
<th>DIM. &quot;C&quot;</th>
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<td>.86</td>
<td>.71</td>
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<td>.065</td>
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<td>3.77</td>
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<td>3.21</td>
<td>.065</td>
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</table>

### NOTES

1. ACCEPTS NO. 2-56 ROUND HEAD SCREW (FRONT MOUNTING), NO. 4 THREAD CUTTING TAPPING SCREW (REAR MOUNTING) OR NO. 2 RIVET. (WHEN USING NO. 4 SELF-TAPPING SCREW, PANEL HOLE DIAMETER SHOULD BE INCREASED TO .116 [2.96]).
2. NO SLOT ON 3446 SERIES.
3. THIS NOTCH NON-EXISTENT ON 3446 AND 3314 SERIES.

### USED ON

3M PART NOS. 3446, 3314, 3408, 3428, 3429, 3431, 3432, 3433, 3372

### SPECIFICATION

RIGHT ANGLE HEADER

**.025 (.64) ROUND SOLDER PIN**

### ISSUE

8

### ISSUE DATE AND CHANGE RECORD REV. CH.

AUG. 4, 1979
Scotchflex Header Specification

UL File No. E68080, Guide RTRT2
CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .100" (2.54 mm) by .100" (2.54 mm) grid.

Specifications:

Physical:
- Insulator Material: Glass reinforced polyester
- Flammability rating: UL 94V-0
- Color: Gray
- Marking: Raised figures; 3M logo, part identification number, and orientation triangle
- Contact Material: Phosphor Bronze
- Plating: 0.000030” (.762 μm) gold per Mil-G-45204 Type II, class 0 over 0.000050” (1.27 μm) nickel

Electrical:
- Current Rating: 1 A
- Insulation Resistance: $> 1 \times 10^{9} \Omega$
- Withstanding Voltage: 1000V_{RMS}

Environmental:
- Temperature Rating: $-67^\circ F$ to $+221^\circ C$ ($-55^\circ C$ to $+105^\circ C$)
NOTES:
1. ACCEPTS NO. 2.56 ROUND HEAD SCREW (FRONT MOUNTING). NO. 4 THREAD COUNTERSUNK SCREW (REAR MOUNTING) NO. 4 SELF-TAPPING SCREW. PANEL HOLE DIAMETER SHOULD BE INCREASED TO .116 (2.95) WHEN USING NO. 4 SELF-TAPPING SCREW.

2. NO SLOT ON 3446 SERIES.

3. THIS NOTCH NON-EXISTENT ON 3446 AND 3314 SERIES.

REV. 1
CH.
CH.

ISSUE DATE AND CHANGE RECORD
NOV. 9, 1979

RIGHT ANGLE HEADER SPECIFICATION
3M PART NO. 3446, 3314, 3408, 3428, 3429, 3431, 3432, 3433, 3372
Scotchflex Header Specification

UL File No. E68080, Guide RTRT2
CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .100” (2.54 mm) by .100” (2.54 mm) grid.

Specifications:

Physical:
- Insulator Material: Glass reinforced polyester
- Flammability rating: UL 94V-0
- Color: Gray
- Marking: Raised figures; 3M logo, part identification number, and orientation triangle
- Contact Material: Phosphor Bronze
- Plating: 0.000030” (.762 μm) gold per Mil-G-45204 Type II, class 0 over 0.000050” (1.27 μm) nickel

Electrical:
- Current Rating: 1 A
- Insulation Resistance: > 1 × 10^9Ω @ 500 vdc
- Withstanding Voltage: 1000VRMS @ Sea Level

Environmental:
- Temperature Rating: −67°F to +221°F (−55°C to +105°C)
NOTES:

1. ACCEPTS NO. 2-56 HEX HD SCREW OR NO. 1-72 RD HD SCREW FOR FRONT MOUNTING ONLY. REAR MOUNTING NOT ADVISED.
2. ALTERNATE – SLOT (DOTTED LINES).
3. DOUBLE SLOT ON 3496 SERIES.
SCOTCHFLEX HEADER SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between socket connectors and wrap panels having a .100" (2.54 mm) by .100" (2.54 mm) grid.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Phosphor Bronze

CONTACT PLATING 0.000030" (.762 µm) gold per Mil-G-45204 Type II, class 0 over 0.000050" (1.27 µm) nickel

MARKING Raised figures; 3M logo, part identification number, and orientation triangle

ELECTRICAL

CURRENT RATING 1 A

INSULATION RESISTANCE > 1 x 10^9Ω

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_RMS

ENVIRONMENTAL

TEMPERATURE RATING -67°F to 221°F (-55°C to +105°C)
### Notes:

1. Accepts any No. 2 screw; can be front- or rear-mounted.
2. .41 (10.4) max. dim. to edge of P.C.B. for bussing.
3. Alternate - slot (dotted lines).
4. Double slot on 3496 series.

<table>
<thead>
<tr>
<th>Contact Quantity</th>
<th>3M Part Number</th>
<th>Dim &quot;A&quot;</th>
<th>Dim &quot;B&quot;</th>
<th>Dim &quot;C&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>3491-3005</td>
<td>.95</td>
<td>.78</td>
<td>.71</td>
</tr>
<tr>
<td>20</td>
<td>3492-3005</td>
<td>1.45</td>
<td>1.28</td>
<td>1.21</td>
</tr>
<tr>
<td>26</td>
<td>3493-3005</td>
<td>1.75</td>
<td>1.58</td>
<td>1.51</td>
</tr>
<tr>
<td>34</td>
<td>3494-3005</td>
<td>2.15</td>
<td>1.98</td>
<td>1.91</td>
</tr>
<tr>
<td>40</td>
<td>3495-3005</td>
<td>2.45</td>
<td>2.28</td>
<td>2.21</td>
</tr>
<tr>
<td>50</td>
<td>3496-3005</td>
<td>2.95</td>
<td>2.78</td>
<td>2.71</td>
</tr>
</tbody>
</table>

**Specifications**

- **Right Angle Header**
- **.025 (.64) Square Wrap Post**
SCOTCHFLEX HEADER SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between socket connectors and wrap panels having a .100" (2.54 mm) by .100" (2.54 mm) grid.

SPECIFICATIONS:

PHYSICAL

<table>
<thead>
<tr>
<th>INSULATOR MATERIAL</th>
<th>Glass reinforced polyester</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLOR</td>
<td>Gray</td>
</tr>
<tr>
<td>CONTACT MATERIAL</td>
<td>Phosphor Bronze</td>
</tr>
<tr>
<td>CONTACT PLATING</td>
<td>0.000030&quot; (.762 μm) gold per</td>
</tr>
<tr>
<td></td>
<td>Mil-G-45204 Type II, class 0 over 0.000050&quot;</td>
</tr>
<tr>
<td></td>
<td>(1.27 μm) nickel</td>
</tr>
<tr>
<td>MARKING</td>
<td>Raised figures; 3M logo, part identification number, and orientation triangle</td>
</tr>
</tbody>
</table>

ELECTRICAL

| CURRENT RATING     | 1 A                                          |
| INSULATION RESISTANCE | > 1 x 10^9 Ω   |
| DIELECTRIC WITHSTANDING VOLTAGE | 1000 V_RMS |

ENVIRONMENTAL

-67°F to +221°F (-55°C to +105°C)
3M Part Number | P.C.B. Thickness | "E" ± .010 (.25)
--- | --- | ---
-2002 | .062 (1.57) | .092 (2.34)
-2003 | .094-.125 (2.39-3.18) | .155 (3.94)

**VOTES:**

1. ACCEPTS NO. 2-56 HEX HD SCREW OR NO. 1-72 RD HD SCREW FOR FRONT MOUNTING ONLY. REAR MOUNTING NOT ADVISED.

2. DOUBLE SLOT ON 3496 SERIES.

**USED ON**

|------------------|----------------|---------|---------|---------|---------|
| 10               | 3491-          | .95 (24.1) | .78 (19.8) | .71 (18.0) | .70 (17.8)
| 20               | 3492-          | 1.45 (36.8) | 1.28 (32.5) | 1.21 (30.7) | 1.20 (30.5)
| 26               | 3493-          | 1.75 (44.5) | 1.58 (40.1) | 1.51 (38.4) | 1.50 (38.1)
| 34               | 3494-          | 2.15 (54.6) | 1.98 (50.3) | 1.91 (48.5) | 1.90 (48.3)
| 40               | 3495-          | 2.45 (62.2) | 2.28 (57.9) | 2.21 (56.1) | 2.20 (56.9)
| 50               | 3496-          | 2.95 (74.9) | 2.78 (70.6) | 2.71 (68.8) | 2.70 (68.6)

**SPECIFICATION**

STRAIGHT HEADER

.025 (.64) ROUND SOLDER PIN

**FEBRUARY 8, 1977**

**REV.**

**CH.**

**STRAIGHT HEADER**

.025 (.64) ROUND SOLDER PIN

**SCALE**

A

**ISO-METHOD A**

**DATE AND CHANGE RECORD**

**TITLE**
SCOTCHFLEX HEADER SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .100" (2.54 mm) by .100" (2.54 mm) grid.

SPECIFICATIONS:

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>SPECIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PHYSICAL</strong></td>
<td><strong>INSULATOR MATERIAL</strong> Glass reinforced polyester</td>
</tr>
<tr>
<td></td>
<td>U.L. flammability rating 94V-0</td>
</tr>
<tr>
<td>COLOR</td>
<td>Gray</td>
</tr>
<tr>
<td>CONTACT MATERIAL</td>
<td>Phosphor Bronze</td>
</tr>
<tr>
<td>CONTACT PLATING</td>
<td>0.000030&quot; (.762 μm) gold per Mil-G-45204 Type II, class 0 over 0.000050&quot; (1.27 μm) nickel</td>
</tr>
<tr>
<td>MARKING</td>
<td>Raised figures; 3M logo, part identification number, and orientation triangle</td>
</tr>
<tr>
<td><strong>ELECTRICAL</strong></td>
<td></td>
</tr>
<tr>
<td>CURRENT RATING</td>
<td>1 A</td>
</tr>
<tr>
<td>INSULATION RESISTANCE</td>
<td>&gt; 1 x 10⁹Ω</td>
</tr>
<tr>
<td>DIELECTRIC WITHSTANDING VOLTAGE</td>
<td>1000 V_{RMS}</td>
</tr>
<tr>
<td><strong>ENVIRONMENTAL</strong></td>
<td><strong>TEMPERATURE RATING</strong></td>
</tr>
</tbody>
</table>
**3M Part Number** | **P.C.B. Thickness** | **DIM. “E” ± .010 (.25)**
--- | --- | ---
-1002 | .062 (1.57) | .092 (2.34)
-1003 | .094-.125 (2.39-3.18) | .155 (3.94)

<table>
<thead>
<tr>
<th>Intact Quantity</th>
<th>3M Part Number</th>
<th>Dim “A”</th>
<th>Dim “B”</th>
<th>Dim “C”</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>3491-</td>
<td>.95 (24.1)</td>
<td>.78 (19.8)</td>
<td>.71 (18.0)</td>
</tr>
<tr>
<td>20</td>
<td>3492-</td>
<td>1.45 (36.8)</td>
<td>1.28 (32.5)</td>
<td>1.21 (30.7)</td>
</tr>
<tr>
<td>26</td>
<td>3493-</td>
<td>1.75 (44.5)</td>
<td>1.58 (40.1)</td>
<td>1.51 (38.4)</td>
</tr>
<tr>
<td>34</td>
<td>3494-</td>
<td>2.15 (54.6)</td>
<td>1.98 (50.3)</td>
<td>1.91 (48.5)</td>
</tr>
<tr>
<td>40</td>
<td>3495-</td>
<td>2.45 (62.2)</td>
<td>2.28 (57.9)</td>
<td>2.21 (56.1)</td>
</tr>
<tr>
<td>50</td>
<td>3496-</td>
<td>2.95 (74.9)</td>
<td>2.78 (70.6)</td>
<td>2.71 (68.8)</td>
</tr>
</tbody>
</table>

**Recommended P.C. Board Hole Pattern**
(Shown for Mounting Side of Board)

**Notes:**
1. Accepts any No. 2 Screw; can be front- or rear-mounted.
2. .41 (10.4) max. dim. to edge of P.C.B. for busssing.
3. Double slot on 3496 series.

**Specifications**
- .025 (.64) round solder pin
SCOTCHFLEX HEADER SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .100" (2.54 mm) by .100" (2.54 mm) grid.

SPECIFICATIONS:

**PHYSICAL**
- INSULATOR MATERIAL: Glass reinforced polyester
  - U.L. flammability rating 94V-0
- COLOR: Gray
- CONTACT MATERIAL: Phosphor Bronze
- CONTACT PLATING: 0.000030" (.762 μm) gold per Mil-G-45204 Type II, class 0 over 0.000050" (1.27 μm) nickel
- MARKING: Raised figures; 3M logo, part identification number, and orientation triangle

**ELECTRICAL**
- CURRENT RATING: 1 A
- INSULATION RESISTANCE: > 1 x 10⁹Ω
- DIELECTRIC WITHSTANDING VOLTAGE: 1000 V_RMS

**ENVIRONMENTAL**
- TEMPERATURE RATING: -67°F to +221°F (-55°C to +105°C)

2025
NOTES:
1 ACCEPTS NO. 2.56 RD HD SCREW FOR FRONT MOUNTING ONLY. REAR MOUNTING NOT ADVISED.
**SCOTCHFLEX HEADER SPECIFICATION**

**SCOPE:** This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .125" (3.18 mm) by .250" (6.35 mm) grid.

**SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>PHYSICAL</th>
<th>INSULATOR MATERIAL</th>
<th>Glass reinforced polyester</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>COLOR</td>
<td>Gray</td>
</tr>
<tr>
<td></td>
<td>CONTACT MATERIAL</td>
<td>Phosphor Bronze</td>
</tr>
<tr>
<td></td>
<td>CONTACT PLATING</td>
<td>0.000030&quot; (.762 μm) gold per</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mil-G-45204 Type II, class 0 over</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.000050&quot; (1.27 μm) nickel</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ELECTRICAL</th>
<th>CURRENT RATING</th>
<th>1 A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>INSULATION RESISTANCE</td>
<td>&gt; 1 x 10^9 Ω</td>
</tr>
<tr>
<td></td>
<td>DIELECTRIC WITHSTANDING VOLTAGE</td>
<td>1000 V_{RMS}</td>
</tr>
</tbody>
</table>

| ENVIRONMENTAL | TEMPERATURE RATING  | -67°F to +221°C (-55°C to +105°C) |

2028
3M PART NUMBER | P.C.B. THICKNESS | DIM. “D”
--- | --- | ---
3466-2002 | .062 (1.57) | ±.010 (±.25)
3466-2003 | .094 - .125 (2.39 - 3.18) | .092 (2.34)

**NOTES:**
1. ACCEPTS NO. 2-56 RD HD SCREW FOR FRONT MOUNTING ONLY. REAR MOUNTING NOT ADVISED.

**RECOMMENDED P.C. BOARD HOLE PATTERN**
(SHOWN FOR MOUNTING SIDE OF BOARD)

**IMPORTANT NOTICE TO PURCHASER:** All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, express or implied:

Seller’s and manufacturer’s only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. Before using, user shall determine the suitability of the product for his intended use, and user assumes all risk and liability whatsoever in connection therewith. No statement or recommendation not contained herein shall have any force effect until in an agreement signed by officers of seller and manufacturer.

**SCALE**
- **INCH (mm):** 0 ±.01 ±.005 DR.
- **mm:** ±.3 ±.13 APP.

**A 2030**
SCOTCHFLEX HEADER SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a 0.125" (3.18mm) by 0.250" (6.35mm) grid.

SPECIFICATIONS:

<table>
<thead>
<tr>
<th>PHYSICAL</th>
<th>ELECTRICAL</th>
<th>ENVIRONMENTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSULATOR MATERIAL</td>
<td>Glass reinforced polyester</td>
<td>-67°F to +221°C (-55°C to +105°C)</td>
</tr>
<tr>
<td>COLOR</td>
<td>Gray</td>
<td></td>
</tr>
<tr>
<td>CONTACT MATERIAL</td>
<td>Phosphor Bronze</td>
<td></td>
</tr>
<tr>
<td>CONTACT PLATING</td>
<td>0.000030&quot; (.762 μm), gold per Mil-G-45204 Type II, class 0 over 0.000050&quot; (1.27 μm) nickel</td>
<td></td>
</tr>
<tr>
<td>MARKING</td>
<td>Raised figures; 3M logo, part identification number, and orientation triangle</td>
<td></td>
</tr>
<tr>
<td>CURRENT RATING</td>
<td>1 A</td>
<td></td>
</tr>
<tr>
<td>INSULATION RESISTANCE</td>
<td>&gt; 1 x 10^9Ω</td>
<td></td>
</tr>
<tr>
<td>DIELECTRIC WITHSTANDING VOLTAGE</td>
<td>1000 V_{RMS}</td>
<td></td>
</tr>
</tbody>
</table>
NOTES:
1. ACCEPTS ANY NO. 2 SCREW; CAN BE FRONT-OR REAR-MOUNTED.
2. .41 (10.4) MAX. DIM. TO EDGE OF P.C.B. FOR BUSSING.

<table>
<thead>
<tr>
<th>3M PART NUMBER</th>
<th>P.C.B. THICKNESS</th>
<th>DIM &quot;D&quot; ± .010 (± .25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3466-1002</td>
<td>.062 (1.57)</td>
<td>.092 (2.34)</td>
</tr>
<tr>
<td>3466-1003</td>
<td>.094-.125 (2.39-3.18)</td>
<td>.155 (3.94)</td>
</tr>
</tbody>
</table>

RECOMMENDED P.C. BOARD HOLE PATTERN
(SHOWN FOR MOUNTING SIDE OF BOARD)

SPECIFICATION
RIGHT ANGLE HEADER
.025 (.64) ROUND SOLDER PIN

OCTOBER 18, 1977
3

ISSUE DATE AND CHANGE RECORD

ISSUE

REVISION CH.

3M COMPANY
ELECTRONIC PRODUCTS DIVISION
St. Paul
Minnesota

8861-6
SCOTCHFLEX HEADER SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .125" (3.18mm) by .250" (6.35mm) grid.

SPECIFICATIONS:

| PHYSICAL       | INSULATOR MATERIAL     | Glass reinforced polyester |
|                |                        | U.L. flammability rating 94V-0 |
| COLOR          | Gray                   |
| CONTACT MATERIAL | Phosphor Bronze       |
| CONTACT PLATING | 0.000030" (.762 µm) gold per |
|                | Mil-G-45204 Type II, class 0 over |
|                | 0.000050" (1.27 µm) nickel |
| MARKING        | Raised figures; 3M logo, part identification number, and orientation triangle |

| ELECTRICAL     | CURRENT RATING 1 A    |
|                | INSULATION RESISTANCE $> 1 \times 10^9 \Omega$ |
|                | DIELECTRIC WITHSTANDING VOLTAGE 1000 V$_{\text{RMS}}$ |
| ENVIRONMENTAL  | TEMPERATURE RATING $-67^\circ\text{F to} +221^\circ\text{F} (-55^\circ\text{C to} +105^\circ\text{C})$ |

2031
NOTES:
1 ACCEPTS NO. 2-56 FLAT HD SCREW FOR FRONT MOUNTING ONLY. REAR MOUNTING NOT ADVISED.
2 ALTERNATE – SLOT (DOTTED LINES).
SCOTCHFLEX HEADER SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between socket connectors and wrap panels having a .150" (3.81mm) by .150 (3.81mm) grid.

SPECIFICATIONS:

**PHYSICAL**

- **INSULATOR MATERIAL**: Glass reinforced polyester
- **COLOR**: Gray
- **CONTACT MATERIAL**: Phosphor Bronze
- **CONTACT PLATING**: 0.000030" (.762 μm) gold per Mil-G-45204 Type II, class 0 over 0.000050" (1.27 μm) nickel
- **MARKING**: Raised figures; 3M logo, part identification number, and orientation triangle

**ELECTRICAL**

- **CURRENT RATING**: 1 A
- **INSULATION RESISTANCE**: > 1 x 10³Ω
- **DIELECTRIC WITHSTANDING VOLTAGE**: 1000 V<sub>RMS</sub>

**ENVIRONMENTAL**

- **TEMPERATURE RATING**: -67°F to 221°F (-55°C to +105°C)

2032
NOTE:
1 ACCEPTS NO. 2-56 FLAT HD SCREW FOR FRONT MOUNTING ONLY. REAR MOUNTING NOT ADVISED.
## SCOTCHFLEX HEADER SPECIFICATION

**SCOPE:** This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .150" (3.81mm) by .150" (3.81mm grid).

**SPECIFICATIONS:**

| **PHYSICAL** | **INSULATOR MATERIAL** | Glass reinforced polyester  
|              | U.L. flammability rating | 94V-0  
| COLOR       | Gray                      |                      
| CONTACT MATERIAL | Phosphor Bronze       |                      
| CONTACT PLATING | 0.000030" (.762 µm) gold per |  
|               | Mil-G-45204 Type II, class 0 over |  
|               | 0.000050" (1.27 µm) nickel |  
| MARKING     | Raised figures; 3M logo, part identification number, and orientation triangle |  |

| **ELECTRICAL** | **CURRENT RATING** | 1 A  
|                | **INSULATION RESISTANCE** | > 1 x 10^8Ω  
|                | **DIELECTRIC WITHSTANDING VOLTAGE** | 1000 V_{RMS}  

| **ENVIRONMENTAL** | **TEMPERATURE RATING** | -67°F to +221°C (-55°C to +105°C) |
3M PART NUMBER | P.C.B. THICKNESS | DIM. "D" ± .010 (± .25)
---|---|---
3467-1002 | .062 (1.57) | .092 (2.34)
3467-1003 | .094 - .125 (2.39 - 3.18) | .155 (3.94)

NOTES:
1. ACCEPTS ANY NO. 2 SCREW; CAN BE FRONT- OR REAR-MOUNTED.
2. .41 (10.4) MAX. DIM. TO EDGE OF P.C.B. FOR BUSSING.
SCOTCHFLEX HEADER SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .150" (3.81mm) by .150" (3.81mm) grid.

SPECIFICATIONS:

<table>
<thead>
<tr>
<th>PHYSICAL</th>
<th>INSULATOR MATERIAL: Glass reinforced polyester</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>U.L. flammability rating 94V-0</td>
</tr>
<tr>
<td>COLOR</td>
<td>Gray</td>
</tr>
<tr>
<td>CONTACT MATERIAL</td>
<td>Phosphor Bronze</td>
</tr>
<tr>
<td>CONTACT PLATING</td>
<td>0.000030&quot; (.762 μm) gold per</td>
</tr>
<tr>
<td></td>
<td>Mil-G-45204 Type II, class 0 over</td>
</tr>
<tr>
<td></td>
<td>0.000050&quot; (1.27 μm) nickel</td>
</tr>
<tr>
<td>MARKING</td>
<td>Raised figures, 3M logo, part identification</td>
</tr>
<tr>
<td></td>
<td>number, and orientation triangle</td>
</tr>
</tbody>
</table>

| ELECTRICAL         | CURRENT RATING: 1 A                          |
|                    | INSULATION RESISTANCE: > 1 X 10^9Ω           |
|                    | DIELECTRIC WITHSTANDING VOLTAGE: 1000 VRMS   |

| ENVIRONMENTAL      | TEMPERATURE RATING: -67°F to 221°F (-55°C to |
|                    | +105°C)                                       |

2035
**DELTA CONNECTOR SPECIFICATION**

**3M PART NO. 3483, 3503**

**USED ON**

**CONTACT**

**3M PART NUMBER**

<table>
<thead>
<tr>
<th>CONTACT QUANTITY</th>
<th>3M PART NUMBER</th>
<th>DIM. “A”</th>
<th>DIM. “B”</th>
<th>DIM. “C”</th>
<th>DIM. “D”</th>
<th>DIM. “E”</th>
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<tbody>
<tr>
<td>25</td>
<td>3483-1000</td>
<td>2.09 (53.1)</td>
<td>1.51 (38.4)</td>
<td>1.85 (47.0)</td>
<td>1.53 (38.9)</td>
<td>1.38 (35.1)</td>
</tr>
<tr>
<td>37</td>
<td>3503-1000</td>
<td>2.74 (69.6)</td>
<td>2.16 (54.8)</td>
<td>2.50 (63.5)</td>
<td>2.18 (55.4)</td>
<td>2.03 (51.6)</td>
</tr>
</tbody>
</table>

**IMPORTANT NOTICE TO PURCHASER:** All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, express or implied:

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**SCALE**

- **INCH**
  - .00
  - .01
  - .006
  - .1
  - .3
  - .13
- **MM**
  - .00
  - .01
  - .006
  - .1
  - .13

**ISSUE DATE AND CHANGE RECORD**

**SEPTEMBER 19, 1979**

**REV. CH.**

**4**
Scotchflex Delta Specification

UL File No. E68080, Guide RTRT2
CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition socket having .054" (1.37 mm) x .112" (2.84 mm) contact spacing transition between round conductor flat cable on .054" (1.37 mm) centers and a plug connector having similar spacing.

Specifications:

Physical:
- Insulator Material: Glass reinforced polyester
- Flammability rating: UL 94V-0
- Color: Gray
- Marking: Raised figures; 3M logo, part identification number, contact position numbers
- Shell Material: Steel
- Plating: Yellow chromate over clear cadmium per QQ-P-416 Type II Class 2
- Contact Material: Beryllium Copper
  - Plating: 0.000030" (.762 μm) gold per Mil-G-45204 Type II, class 0, over 0.000050" (1.27 μm) nickel
  - Wire accommodation: 26 AWG solid 28 AWG stranded
- Insertion Force: .8 lb (3.6N) per contact typical
- Withdrawal Force: .7 lb (3.1N) per contact typical

Electrical:
- Current Rating: 1 A
- Insulation Resistance: > 1 × 10^9 Ω @ 500 vdc
- Withstanding Voltage: 1000V RMS @ sea level

Environmental:
- Temperature Rating: -67°F to +221°F (-55°C to +105°C)
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DELTA CONNECTOR SPECIFICATION
3M PART NO. 3482, 3502

<table>
<thead>
<tr>
<th>CONTACT QUANTITY</th>
<th>3M PART NUMBER</th>
<th>DIM. &quot;A&quot;</th>
<th>DIM. &quot;B&quot;</th>
<th>DIM. &quot;C&quot;</th>
<th>DIM. &quot;D&quot;</th>
<th>DIM. &quot;E&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>3482-1000</td>
<td>2.09 (53.1)</td>
<td>1.58 (40.1)</td>
<td>1.85 (47.0)</td>
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<td>1.38 (35.1)</td>
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<td>2.23 (56.7)</td>
<td>2.50 (63.5)</td>
<td>2.18 (55.4)</td>
<td>2.03 (51.6)</td>
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SEPTEMBER 19, 1979

Electronic Products Division
3M

DELTA CONNECTOR SPECIFICATION
3M PART NO. 3482, 3502

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BARRELL

SEPTEMBER 19, 1979

ISSUE DATE AND CHANGE RECORD

REV.  CH.

2027
Scotchflex Delta Specification

UL File No. E68080, Guide RTRT2
CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition plug having .054" (1.37 mm) x .112" (2.84 mm) contact spacing transition between round conductor flat cable on .054" (1.37 mm) centers and a socket connector having similar spacing.

Specifications:

Physical:
Insulator Material: Glass reinforced polyester
Flammability rating: UL 94V-0
Color: Gray
Marking: Raised figures; 3M logo, part identification number, contact position numbers.

Shell Material: Steel
Plating: Yellow chromate over clear cadmium per QQ-P-416 Type II Class 2
Contact Material: Beryllium Copper

Plating: 0.000030" (.762 μm) gold per Mil-G-45204 Type II, class 0, over 0.000050" (1.27 μm) nickel.

Wire accommodation: 26 AWG solid
28 AWG stranded

Insertion Force: .8 lb (3.6N) per contact typical
Withdrawal Force: .7 lb (3.1N) per contact typical

Electrical:
Current Rating: 1 A
Insulation Resistance: > 1 \times 10^9 \Omega @ 500 \text{vdc}
Withstanding Voltage: 1000V_{RMS} @ sea level

Environmental:
Temperature Rating: \(-67^\circ\text{F} \text{ to } +221^\circ\text{F (} -55^\circ\text{C} \text{ to } +105^\circ\text{C})\)
SCOTCHFLEX DELTA RIBBON CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multi-position plug having .085" (2.16 mm) contact spacing transition between round conductor flat cable on .0425" (1.080 mm) centers and a socket connector having similar spacing.

SPECIFICATIONS:

<table>
<thead>
<tr>
<th>Category</th>
<th>Requirements</th>
</tr>
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<tbody>
<tr>
<td><strong>PHYSICAL</strong></td>
<td></td>
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<tr>
<td>INSULATOR MATERIAL</td>
<td>Glass reinforced polyester</td>
</tr>
<tr>
<td>U.L. flammability rating</td>
<td>94V-0</td>
</tr>
<tr>
<td>COLOR</td>
<td>Gray</td>
</tr>
<tr>
<td>CONTACT MATERIAL</td>
<td>Beryllium Copper</td>
</tr>
<tr>
<td>CONTACT PLATING</td>
<td>0.000030 (1.27 μm) min. gold per Mil-G-45204 Type II on mating interface, gold flash overall, 0.000100 (2.54 min.) nickel underplate.</td>
</tr>
<tr>
<td>MARKING</td>
<td>Raised figures; 3M logo, part identification number and contact position numbers.</td>
</tr>
<tr>
<td>WIRE ACCOMMODATION</td>
<td>26 AWG solid</td>
</tr>
<tr>
<td>INSERTION FORCE</td>
<td>1 lb. per contact typical</td>
</tr>
<tr>
<td>WITHDRAWAL FORCE</td>
<td>1 lb. per contact typical</td>
</tr>
<tr>
<td><strong>ELECTRICAL</strong></td>
<td></td>
</tr>
<tr>
<td>CURRENT RATING</td>
<td>1 A</td>
</tr>
<tr>
<td>INSULATION RESISTANCE</td>
<td>&gt; 1 x 10^9 Ω</td>
</tr>
<tr>
<td>DIELECTRIC WITHSTANDING VOLTAGE</td>
<td>1000 V&lt;sub&gt;RMS&lt;/sub&gt;</td>
</tr>
<tr>
<td>TEMPERATURE RATING</td>
<td>-67°F to +221°F (-55°C to +105°C)</td>
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</tbody>
</table>

2046
SCOTCHFLEX DELTA RIBBON CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multi-position plug having .085" (2.16 mm) contact spacing transition between round conductor flat cable on .0425" (1.080 mm) centers and a socket connector having similar spacing.

SPECIFICATIONS:

<table>
<thead>
<tr>
<th>PHYSICAL</th>
<th>INSULATOR MATERIAL</th>
<th>Glass reinforced polyester U.L. flammability rating 94V-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLOR</td>
<td>Gray</td>
<td></td>
</tr>
</tbody>
</table>

| CONTACT MATERIAL | Beryllium Copper |
| CONTACT PLATING  | 0.000030 (1.27 μm) min. gold per Mil-G-45204 Type II on mating interface, gold flash overall, 0.000100 (2.54 mm) min. nickel underplate |
| MARKING         | Raised figures; 3M logo, part identification number and contact position numbers. |

| WIRE ACCOMMODATION | 26 AWG solid |
|                    | 28 AWG stranded |
| INSERTION FORCE    | 1b. ( ) per contact typical |
| WITHDRAWAL FORCE   | 1b. ( ) per contact typical |

ELECTRICAL

| CURRENT RATING | 1 A |
| INSULATION RESISTANCE | > 1 x 10^9Ω |
| DIELECTRIC WITHSTANDING VOLTAGE | 1000 V RMS |

ENVIRONMENTAL

| TEMPERATURE RATING | -67°F to +221°F (-55°C to +105°C) |

2047
SCOTCHFLEX DELTA RIBBON CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multiposition socket having .085" (2.16 mm) contact spacing transition between round conductor flat cable on .0425" (1.080 mm) centers and a plug connector having similar spacing.

SPECIFICATIONS:

**PHYSICAL**

- **INSULATOR MATERIAL**: Glass reinforced polyester
- **COLOR**: Gray

- **CONTACT MATERIAL**: Beryllium Copper

- **CONTACT PLATING**: 0.000030 (1.27 μm) min. gold per Mil-G-45204 Type II on mating interface, gold flash overall, 0.000100 (2.54 μm) min. nickel underplate.

- **MARKING**: Raised figures; 3M logo, part identification number and contact position numbers.

- **WIRE ACCOMMODATION**:
  - 26 AWG solid
  - 28 AWG stranded

- **INSERTION FORCE**: 1 lb. ( ) per contact typical

- **WITHDRAWAL FORCE**: 1 lb. ( ) per contact typical

**ELECTRICAL**

- **CURRENT RATING**: 1 A

- **INSULATION RESISTANCE**: >1 x 10^9 Ω

- **DIELECTRIC WITHSTANDING VOLTAGE**: 1000 V RMS

**ENVIRONMENTAL**

- **TEMPERATURE RATING**: -67°F to +221°F (-55°C to +105°C)

2048
I. IDENTIFICATION

NO 3564

"U" CONTACT

TYP.

STRAIN RELIEF FLANGE

DIM. A

DIM. B

.050 (1.27) REF.

.050 (1.27) TYP.

.085 (2.16) REF.

.60 (15.2)

.82 (20.8)

DIMENSIONS:

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<th>DIM &quot;B&quot;</th>
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<td>3572-1001</td>
<td>1.58</td>
<td>1.20</td>
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<td>(40.13)</td>
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<td>(79.0)</td>
<td>(69.3)</td>
</tr>
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</table>

USED ON OCTOBER 3, 1979

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DELTA RIBBON SPECIFICATION
3M PART NO. 3564-1001
Scotchflex Delta
Ribbon Specification

Scope: This specification details the requirements for a multiposition socket, having .085” (2.16 mm) contact spacing, transition between round conductor flat cable on .050” (1.27 mm) centers and a plug connector having similar spacing.

Specifications:

Physical:
Insulator Material: Glass reinforced polyester
Flammability rating: UL 94V-0
Color: Gray
Marking: Raised figures; 3M logo, part identification number.
Contact Material: Beryllium Copper
Plating: 0.000030” (0.762 μm) min. gold on wiper per Mil-G-45204 Type II, class 0, grade C, gold flash on wire terminal over 0.000100” (2.54 μm) min. nickel per QQ-N-290, Type VII class 1 throughout
Wire accommodation: 28 AWG solid or stranded
Insertion Force: .24 lb (1.1N) per contact typical
Withdrawal Force: .15 lb (0.7N) per contact typical

Electrical:
Current Rating: 1 A
Insulation Resistance: > 1 x 10^9 Ω @ 500 vdc
Withstanding Voltage: 1000VRMS@ sea level

Environmental:
Temperature Rating: -67°F to +221°F (-55°C to +105°C)
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DELTA RIBBON SPECIFICATION
3M PART NO. 3564-1002

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<td>2.35 (68.07)</td>
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Scotchflex Delta Ribbon Specification

Scope: This specification details the requirements for a multiposition plug, having .085" (2.16 mm) contact spacing, transition between round conductor flat cable on .050" (1.27 mm) centers and a socket connector having similar spacing.

Specifications:

Physical:
- Insulator Material: Glass reinforced polyester
- Flammability rating: UL 94V-0
- Color: Gray
- Marking: Raised figures; 3M logo, part identification number.

Contact Material: Beryllium Copper
- Plating: 0.000030" (.762 μm) min. gold on wiper per Mil-G-45204 Type II, class 0, grade C, gold flash on wire terminal over 0.000100" (2.54 μm) min nickel per QQ-N-290 Type VII, Class 1 throughout
- Wire accommodation: 28 AWG solid or stranded
- Insertion Force: .24 lb (1.1N) per contact typical
- Withdrawal Force: .15 lb (0.7N) per contact typical

Electrical:
- Current Rating: 1 A
- Insulation Resistance: $> 1 \times 10^9 \Omega$ @ 500 vdc
- Withstanding Voltage: $1000 \text{VRMS} @ \text{sea level}$

Environmental:
- Temperature Rating: $-67^\circ F$ to $+221^\circ F (-55^\circ C$ to $+105^\circ C)$
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**DELTA RIBBON SPECIFICATION**

**3M PART NO. 3565-1000**
Scotchflex Delta
Ribbon Specification

Scope: This specification details the requirements for a multiposition plug, having .085" (2.16 mm) contact spacing, transition between round conductor flat cable on .0425" (1.080 mm) centers and a socket connector having similar spacing.

Specifications:

Physical:
- Insulator Material: Glass reinforced polyester
- Flammability rating: UL 94V-0
- Color: Gray
- Marking: Raised figures; 3M logo, part identification number.

Contact Material: Beryllium Copper
- Plating: 0.000030" (.762 μm) min. gold on wiper per Mil-G-45204 Type II, class 0, grade C, gold flash on wire terminal over
- 0.000100" (2.54 μm) min nickel per QQ-N-290, Type VII, class 1, throughout

Wire accommodation: 28 AWG solid or stranded

Insertion Force: .24 lb (1.1N) per contact typical

Withdrawal Force: .15 lb (0.7N) per contact typical

Electrical:
- Current Rating: 1 A typical
- Insulation Resistance: > 1 × 10^9Ω @ 500vdc
- Withstanding Voltage: 1000VRMS @ sea level

Environmental:
- Temperature Rating: -67°F to +221°F (-55°C to +105°C)
Scotchflex Plug Specification

UL File No. E68080, Guide RTRT2
CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition plug transition between round conductor flat cable on .050" (1.27 mm) centers and socket connectors having a .100" (2.54 mm) by .100" (2.54 mm) grid.

Specifications:

Physical:
- Insulator Material: Glass reinforced polyester
- Flammability rating: UL 94V-0
- Color: Gray
- Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Beryllium Copper
- Plating: 0.000030" (.762 µm) gold per Mil-G-45204 Type II, class 0, over 0.000100" (2.54 µm) nickel
- Wire accommodation: 26 AWG solid or stranded
- 28 AWG solid or stranded
- 30 AWG solid

Insertion Force: .5 lb (2.2N) per contact typical
Withdrawal Force: .5 lb (2.2N) per contact typical

Electrical:
- Current Rating: 1 A
- Insulation Resistance: > 1 × 10⁹Ω @ 500 vdc
- Withstanding Voltage: 1000V RMS @ sea level

Environmental:
- Temperature Rating: -67°F to +221°F (-55°C to +105°C)
All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and is made in lieu of all warranties, expressed or implied.
SCOPE: This specification details the requirements for a multiposition transition between discrete conductors on .100" (2.54 mm) centers and a printed circuit board.

SPECIFICATIONS:

**PHYSICAL**

- **INSULATOR MATERIAL**: Glass reinforced polyester
  
  U.L. flammability rating 94V-0

- **COLOR**: Gray

- **CONTACT MATERIAL**: Beryllium Copper

- **CONTACT PLATING**: Au/Ni - 0.000020" (.508 μm) gold per Mil-G-45204 Type II, class 00 over 0.000050" (1.27 μm) nickel

- **WIRE ACCOMMODATION**: 30 AWG solid

**ELECTRICAL**

- **CURRENT RATING**: 1 A

- **INSULATION RESISTANCE**: $> 1 \times 10^9 \Omega$

- **DIELECTRIC WITHSTANDING VOLTAGE**: 1000 V\textsubscript{RMS}

**ENVIRONMENTAL**

- **TEMPERATURE RATING**: -67°F to +221°F (-55°C to +105°C)
.042 (1.07) DIA. HOLE  
8 PLACES

.10 (2.5) MIN. TO ADJACENT GROUP OF HOLES

7 SPACES @ .100 ± .002  
(2.54 ± .05)  
TOL. NONCUMULATIVE

MIN. TO ADJACENT GROUP OF HOLES

.20 (5.1) MIN. TO ADJACENT GROUP OF POSTS

.180 (4.57)

MIN. AREA REQUIRED FOR CONNECTOR

.50 (12.7) MAX.

.80 (20.3) MAX.

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and is made in lieu of all warranties, expressed or implied.
3M PART NO. 3370

POS. 1

I.C. SIDE

PART NO. 3370

.33
(8)

.165
(4.19)

3M PART NO. 3370

I.C. SIDE

PART NO. 3370

.450
(11.43)

.30
(8)

.100
(2.54)

REF.

.80
(20.3)

MAX.

USED ON

TOLERANCE UNLESS NOTED

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ISO-METHOD A

3M
ELECTRONIC PRODUCTS
St. Paul
Minnesota

BREADBOARD
SOCKET
SPECIFICATION

JUNE 28, 1977

ISSUE

ISSUE DATE AND CHANGE RECORD

REV. CH.

1

2052

All statements, technical information and recommenda-
tions contained here are based on tests we believe to be 
reliable, but the accuracy or completeness thereof is not 
guaranteed, and is made in lieu of all warranties, 
expressed or implied.

DR. G. A.
APP. RKR

2052
SCOTCHFLEX BREADBOARD DUAL SOCKET SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between integrated circuit packages on .100" (2.54 mm) x .300" (7.62 mm) centers and breadboard plug strips.

SPECIFICATIONS:

<table>
<thead>
<tr>
<th>PHYSICAL</th>
<th>ELECTRICAL</th>
<th>ENVIRONMENTAL</th>
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</thead>
<tbody>
<tr>
<td>INSULATOR MATERIAL</td>
<td>CURRENT RATING</td>
<td>TEMPERATURE RATING</td>
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<tr>
<td>Glass reinforced polyester</td>
<td>.5 A</td>
<td>-67°F to +221°F (-55°C to +105°C)</td>
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<td>U.L. flammability rating 94V-O</td>
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<tr>
<td>COLOR</td>
<td>INSULATION RESISTANCE</td>
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</tr>
<tr>
<td>Gray</td>
<td>&gt; 1 x 10⁹ Ω</td>
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<tr>
<td>CONTACT MATERIAL</td>
<td>DIELECTRIC WITHSTANDING VOLTAGE</td>
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</tr>
<tr>
<td>Beryllium Copper</td>
<td>1000 V_RMS</td>
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<tr>
<td>CONTACT PLATING</td>
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<tr>
<td>0.000020&quot; (.508 μm) min. tin</td>
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<tr>
<td>WIRE ACCOMMODATION</td>
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<td></td>
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<tr>
<td>30 AWG solid</td>
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2052
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SCOTCHFLEX BREADBOARD SOLDER STRIP SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between discrete conductors on .100" (2.54 mm) centers or a breadboard socket connector and a printed circuit board.

SPECIFICATIONS:

PHYSICAL
- INSULATOR MATERIAL: Glass reinforced polyester
- U.L. flammability rating: 94V-0
- COLOR: Gray
- CONTACT MATERIAL: Beryllium Copper
- CONTACT PLATING: 0.00020" (.508 μm) min. tin
- WIRE ACCOMMODATION: 30 AWG solid

ELECTRICAL
- CURRENT RATING: .5 A
- INSULATION RESISTANCE: > 1 x 10^9 Ω
- DIELECTRIC WITHSTANDING VOLTAGE: 1000 V RMS

ENVIRONMENTAL
- TEMPERATURE RATING: -67°F to +221°F (-55°C to +105°C)
MIN. TO ADJACENT GROUP OF HOLES

7 SPACES @ .100 ± .002 (2.54 ± .05) TOL. NONCUMULATIVE

.10 (2.5) MIN. TO ADJACENT GROUP OF HOLES

.042 ± .001 (1.07 ± .03) DIA. HOLE 8 PLACES

.50 (12.7) MAX.

.80 (20.3) MAX.

.20 (5.1) MIN. TO ADJACENT GROUP OF POSTS

.180 (4.57) MIN. AREA REQUIRED FOR CONNECTOR

TOLERANCE UNLESS NOTED

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TOLERANCE UNLESS NOTED

<table>
<thead>
<tr>
<th>INCH (mm)</th>
<th>SCALE</th>
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<td>.000</td>
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<td>DR.</td>
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<td>±.3</td>
<td>.00</td>
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<tr>
<td>±.13</td>
<td>APP.</td>
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</table>

JANUARY 2, 1979

Electronic Products Division

3M

BREADBOARD PLUG STRIP SPECIFICATION

2059
SCOPE: This specification details the requirements for a multiposition transition between discrete conductors on .100" (2.54 mm) centers or a bread-board socket connector and a printed circuit board.

SPECIFICATIONS:

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
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<tbody>
<tr>
<td><strong>PHYSICAL</strong></td>
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<tr>
<td>INSULATOR MATERIAL</td>
<td>Glass reinforced polyester</td>
</tr>
<tr>
<td></td>
<td>U.L. flammability rating 94V-0</td>
</tr>
<tr>
<td>COLOR</td>
<td>Gray</td>
</tr>
<tr>
<td>CONTACT MATERIAL</td>
<td>Beryllium Copper</td>
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<tr>
<td>CONTACT PLATING</td>
<td>0.000020 &quot; (.508 µm) min. tin</td>
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<tr>
<td>WIRE ACCOMMODATION</td>
<td>30 AWG solid</td>
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<tr>
<td><strong>ELECTRICAL</strong></td>
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<tr>
<td>CURRENT RATING</td>
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<tr>
<td>INSULATION RESISTANCE</td>
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<tr>
<td>DIELECTRIC WITHSTANDING VOLTAGE</td>
<td>1000 V RMS</td>
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<tr>
<td><strong>ENVIRONMENTAL</strong></td>
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<tr>
<td>TEMPERATURE RATING</td>
<td>-67°F to +221°F (-55°C to +105°C)</td>
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</tbody>
</table>
.10 (2.5) MIN. TO ADJACENT GROUP OF HOLES

7 SPACES @ .100 ± .002 (2.54 ± .05) TOL. NONCUMULATIVE

.180 (4.57)

.20 (5.1) MIN. TO ADJACENT GROUP OF POSTS

.30 (7.6) MIN. TO ADJACENT GROUP OF POSTS

MIN. AREA REQUIRED FOR CONNECTOR

.042 ± .001 (1.07 ± .03) DIA. HOLE 8 PLACES

.50 (12.7) MAX.

80 (20.3) MAX.

MIN. TO ADJACENT GROUP OF POSTS

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TOLERANCE UNLESS NOTED

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Electronic Products Division

3M

PCB HOLE PATTERN SPECIFICATION

2059A

JANUARY 2, 1979
MATERIAL – NICKEL PLATED STEEL MUSIC WIRE
[.043 (1.09) DIA.]
MATERIAL – NICKEL PLATED STEEL MUSIC WIRE
[.043 (1.09) DIA.]

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<td>GULAR</td>
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3M PART NO. 3448-2

ISO-METHOD A

ISO-METHOD A

3M PART NO. 3450

JANUARY 18, 1977

ISSUE DATE AND CHANGE RECORD

REV. CH.

STRAIN RELIEF SPECIFICATION

3M COMPANY

ELECTRONIC PRODUCTS DIVISION

St. Paul

Minnesota

DR. G. H. Olson

APP. S. L. O. A.

SCALE

3001

3001
3M PART NO. 3448-3

MATERIAL — NICKEL PLATED STEEL MUSIC WIRE [.031 (.79) DIA.]

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<td>mm</td>
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3M COMPANY
ELECTRONIC PRODUCTS DIVISION
St. Paul
Minnesota

STRAIN RELIEF SPECIFICATION

ISO-METHOD A

APP. 3024
NOTES:
1. MATERIAL – NICKEL PLATED STEEL MUSIC WIRE (.043 (1.09) DIA.)
2. MATERIAL – GRAY EXTRUDED POLYVINYL CHLORIDE
NOTES:

1. MATERIAL: NICKEL-PLATED STEEL MUSIC WIRE, 19 GA. (.043 (1.09) DIA.).

2. MATERIAL: GRAY EXTRUDED POLYVINYL CHLORIDE.
NOTE: MATERIAL — GRAY EPOXY COATED STEEL
[.010 (.25) THK.]
NOTE: MATERIAL – RED EPOXY COATED STEEL
[.010 (.25) THK.]
### Used on

<table>
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<tr>
<th>3M PART NUMBER</th>
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<th>DIM. &quot;B&quot;</th>
<th>DIM. &quot;C&quot;</th>
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<tr>
<td>3485-1000</td>
<td>3482-1000</td>
<td>2.20 (55.9)</td>
<td>1.85 (47.0)</td>
<td>1.72 (43.7)</td>
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<tr>
<td></td>
<td>3483-1000</td>
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<tr>
<td>3485-4000</td>
<td>3502-1000</td>
<td>2.84 (72.1)</td>
<td>2.50 (63.5)</td>
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<tr>
<td></td>
<td>3503-1000</td>
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</table>

**NOTE:** MATERIAL: GRAY POLYPROPYLENE (U.L. FLAMMABILITY RATING 94V-0)

---

**ROUND JACKETED CABLE STRAIN RELIEF**

---

**JUNCTION SHELL SPECIFICATION**

---

**ISSUE**

**ISSUE DATE AND CHANGE RECORD**

**REV.**

**CH.**

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**JANUARY 18, 1977**

---

**3M COMPANY**

**St. Paul**

**Minnesota**

---

**SCALE**

---

**3008**
3M PART NO. 3435
USED WITH 3M PART NOS: 3399, 3407, 3414, 3417, 3421, 3424, 3425, 3471, 3327, 3473, 3385, 3421, 3424, 3425, 3471

NOTES:
MATERIAL – GRAY POLYESTER [.032 (.81) THK.]
MARKING – RAISED FIGURES

DETAIL “A”

3M PART NO. 3439
USED WITH 3M PART NOS: 3461, 3462, 3463, 3464

NOTES:
MATERIAL – GRAY POLYESTER [.027 (.69) THK.]
MARKING – RAISED FIGURES

DETAIL “A”

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NOTES: 1. MATERIAL – GRAY POLYVINYL CHLORIDE (.06 THK.)
2. MATERIAL – URETHANE FOAM TAPE (1/32” THK.)
<table>
<thead>
<tr>
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<td>3324</td>
<td>2.25 (mm)</td>
<td>3448-27</td>
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<td>3448-10</td>
<td>3325</td>
<td>.75 (mm)</td>
<td>3448-28</td>
<td>3501</td>
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<td>3448-11</td>
<td>3326</td>
<td>1.25 (mm)</td>
<td>3448-29</td>
<td>3310</td>
<td>1.80 (mm)</td>
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<td>3448-12</td>
<td>3328</td>
<td>1.53 (mm)</td>
<td>3448-30</td>
<td>3318</td>
<td>2.10 (mm)</td>
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<td>3448-13</td>
<td>3329</td>
<td>1.95 (mm)</td>
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<td>3448-14</td>
<td>3331</td>
<td>2.75 (mm)</td>
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<td>3448-16</td>
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<td>3448-17</td>
<td>3307</td>
<td>2.57 (mm)</td>
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**NOTES:**
1. MATERIAL: NICKEL PLATED STEEL MUSIC WIRE [.043 (1.09) DIA.]
2. MATERIAL: GRAY EXTRUDED POLYVINYL CHLORIDE
IMPORTANT NOTICE TO PURCHASER: All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, express or implied:

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<td>mm</td>
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<td>±.13</td>
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MATERIAL: GLASS REINFORCED GRAY POLYESTER
U.L. FLAMMABILITY RATING 94V-0.

<table>
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<td>3670</td>
<td>1.18 (29.9)</td>
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<td>3396</td>
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<tr>
<td>50</td>
<td>50</td>
<td>3404</td>
<td>2.68 (68.1)</td>
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</table>

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### NOTES:

1. ALL INKING TO BE ON MATTE SURFACE OF MATERIAL.
2. MATERIAL: .003 (.081) THICK PLASTIC FILM, MATTE FINISH ONE SIDE.
   FLAMMABILITY: UL 94VTF-O
3. MATERIAL: DOUBLE COATED TAPE.

---

### TOLERANCE UNLESS NOTED

<table>
<thead>
<tr>
<th>SCALE</th>
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<th>(mm)</th>
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<td>± .01</td>
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<tr>
<td>mm</td>
<td>± .3</td>
<td>± .13</td>
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### ISSUE AND CHANGE RECORD

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</table>
NOTES: MATERIAL – GRAY NYLON
NOTES:
1. STAINLESS STEEL .015 THK.
2. GRAY GLASS FILLED POLYESTER

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NOTES
MATERIAL: GRAY POLYCARBONATE

<table>
<thead>
<tr>
<th>3M Part Number</th>
<th>DIM. &quot;A&quot; (in)</th>
<th>DIM. &quot;B&quot; (in)</th>
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<td>3448-20</td>
<td>2.97</td>
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MAY 15, 1979

3M PART NOS. 3448-15, 3448-20

STRAIN RELIEF
SPECIFICATION

Electronic Products Division

3M

ISO-METHOD A

SCALE A

3022
3M PART NO. 3412

MATERIAL: CLEAR VINYL

SECT. AA

- .14 ± .03
  (3.6 ± .8)

- .27 ± .03
  (6.9 ± .8)

- .6 ± .15
  (15 ± 3.8)

- 2.70 ± .15
  (68.6 ± 3.8)

- 2.5
  (63.5)

3M PART NO. 3488, 3489

3M COMPANY
St. Paul
Minnesota

USED ON

DUST COVER SPECIFICATION

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<td>DEGREE</td>
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ISO-METHOD A

SCALE

DR. G.H. Olson

APP. A

FEBRUARY 8, 1977

ISSUE DATE AND CHANGE RECORD

REV. CH.

1

3023
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MATERIAL: GRAY NYLON

3M PART NO. 3372, 3408, 3428, 3429, 3431, 3432, 3433, 3446, 3322, 3324, 3325, 3326, 3328, 3329, 3331

3M PART NO. 3518

OCTOBER 4, 1979

TOLERANCE UNLESS NOTED

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</tr>
<tr>
<td>mm</td>
<td>± .3</td>
<td>± .13</td>
</tr>
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</table>

DR. Gary L. Olson

APP. B. P. F.

3024
I DIM. "A"

.24 (6.10)

DIM. "A"

.56 ± .015 (14.2 ± .38)

.63 (16.0)

.15 (3.8)

NOTES:
1 MATERIAL: GRAY POLYESTER. FLAMMABILITY RATING, UL 94 V0

3M Part Number | Used On | DIM. "A"
---|---|---
3448-3010 | 3473 | .68 (17.3)
3448-3014 | 3385 | .88 (22.4)
3448-3016 | 3452 | .98 (24.9)
3448-3020 | 3421 | 1.18 (30.0)
3448-3026 | 3399 | 1.48 (37.6)
3448-3034 | 3414 | 1.88 (47.8)
3448-3040 | 3417 | 2.18 (55.4)
3448-3050 | 3425 | 2.68 (68.1)
3448-3060 | 3334 | 3.18 (80.8)

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USED ON

Electronic Products Division

STRAIN RELIEF SPECIFICATION

DEC. 18, 1978

3

3M

ISSUE | ISSUE DATE AND CHANGE RECORD | REV | CH
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TOLERANCE UNLESS NOTED

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<tr>
<td>mm</td>
<td>± .3</td>
<td>± .13</td>
<td></td>
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</table>
NOTES:
1 MATERIAL: GRAY THERMOPLASTIC, U.L. FLAMMABILITY RATING 94V-0
2 MOUNTING PIN: STAINLESS STEEL 1/16" DIA. X 1/4" LONG

| Retains Sockets | 3M Part Number | DIM. "A" | DIM. "B"
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Without Strain Relief</td>
<td>3505-2</td>
<td>.62 (15.7)</td>
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<td>With Strain Relief</td>
<td>3505-3</td>
<td>.72 (18.3)</td>
<td>.52 (13.2)</td>
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NOTE 1

NOTE:
1. ACCEPTS .025 ± .001 SQUARE POST

MATERIAL: GRAY POLYCARBONATE
U.L. FLAMMABILITY RATING 94 V-1

USED ON: 3M PART NO. 3525

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NOTE: 1. MATERIAL—GRAY POLYPROPYLENE
   FLAMMABILITY RATING UL 94V-0
   2. TOTAL ASSEMBLED HEIGHT WITH
   3M PART NO. 3525-1000 IS 1.54 (60.24)

USED ON: 3525-1000

APRIL 1, 1979

ISSUE DATE AND CHANGE RECORD

REV.

CH.

Electronic Products Division

JUNCTION SHELL SPECIFICATION
3M PART NO. 3485-5000

TOLERANCE UNLESS NOTED

<table>
<thead>
<tr>
<th>INCH (mm)</th>
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<tbody>
<tr>
<td>.0</td>
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</table>

<table>
<thead>
<tr>
<th>INCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>± .1</td>
</tr>
<tr>
<td>± .01</td>
</tr>
<tr>
<td>± .005</td>
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</table>

<table>
<thead>
<tr>
<th>mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>± .3</td>
</tr>
<tr>
<td>± .13</td>
</tr>
</tbody>
</table>

Scale

A

3028

Signed: [Signature]
MATERIAL: GRAY GLASS REINFORCED POLYESTER
U.L. FLAMMABILITY RATING 94V-0
NOTES:
1. Mat'l: Aluminum
2. Plating Per MIL-C-5541-B Class 3 Clear.

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INCH TOLERANCE UNLESS NOTED

<table>
<thead>
<tr>
<th>INCH (mm)</th>
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<th>.000</th>
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</thead>
<tbody>
<tr>
<td>.203 (5.15)</td>
<td>.375 (9.52)</td>
<td></td>
</tr>
<tr>
<td>.375 (.952)</td>
<td>.203 (.515)</td>
<td></td>
</tr>
<tr>
<td>.18 (-.005) DIA. HOLES (.457) (4 PLACES)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>.50 (12.7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8-32 TAPPED HOLES (4 PLACES)</td>
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<td></td>
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</table>

MOUNTING HOLES (4 PLACES)

<table>
<thead>
<tr>
<th>DIM A</th>
<th>DIM B</th>
<th>DIM C</th>
<th>DIM D</th>
<th>DIM E</th>
</tr>
</thead>
<tbody>
<tr>
<td>3504-1</td>
<td>2.44 (61.9)</td>
<td>1.50 (38.1)</td>
<td>2.04 (51.8)</td>
<td>.20 (5.0)</td>
</tr>
<tr>
<td>3504-2</td>
<td>3.50 (88.9)</td>
<td>2.50 (63.5)</td>
<td>3.10 (78.7)</td>
<td>.20 (5.0)</td>
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<tr>
<td>3504-3</td>
<td>4.25 (107.9)</td>
<td>3.25 (82.5)</td>
<td>3.87 (98.2)</td>
<td>.19 (4.8)</td>
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</tbody>
</table>

USED ON Sept. 17, 1979

3M PART NO. 3504

Electronic Products Division

3M

3031
3M PART NUMBER | DIM. "A"
---|---
3448-32 | 1.33 (33.78)
3448-24 | 1.76 (44.70)
3448-23 | 2.27 (57.66)
3448-26 | 2.86 (72.6)

MATERIAL: GRAY POLYCARBONATE

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MAY 15, 1979

3032
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NOTES:
1. SHELL—GLASS FILLED POLYESTHER, UL FLAMMABILITY RATING 94V-0
2. HARDWARE—ZINC PLATED STEEL
   A. #6-32 x 13/6" PAN HEAD MACHINE SCREW
   B. #6-32 HEX NUT

USED ON

March 14, 1980

JUNCTION SHELL SPECIFICATION
3485-2500
NOTES:
1 MATERIAL: ZINC CHROMATE PLATING
2 MOUNTING PIN: STAINLESS STEEL
1/16" DIA. X 1/4" LONG

3M PART NUMBER
3314, 3372, 3408, 3428, 3429,
3431, 3432, 3433, 3446

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TOLERANCE UNLESS NOTED

<table>
<thead>
<tr>
<th>TOLERANCE</th>
<th>INCH (mm)</th>
<th>SCALE</th>
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<tbody>
<tr>
<td>INCH</td>
<td>±.1 ±.01 ±.005</td>
<td>DR.</td>
</tr>
<tr>
<td>mm</td>
<td>±.3 ±.13</td>
<td>APP.</td>
</tr>
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3M PART NO. 3505-4

NOV. 9, 1979

EJECTOR
SPECIFICATION

Electronic Products Division

3M