

# 256K Pentium™ -Compatible Cache Module

## Features

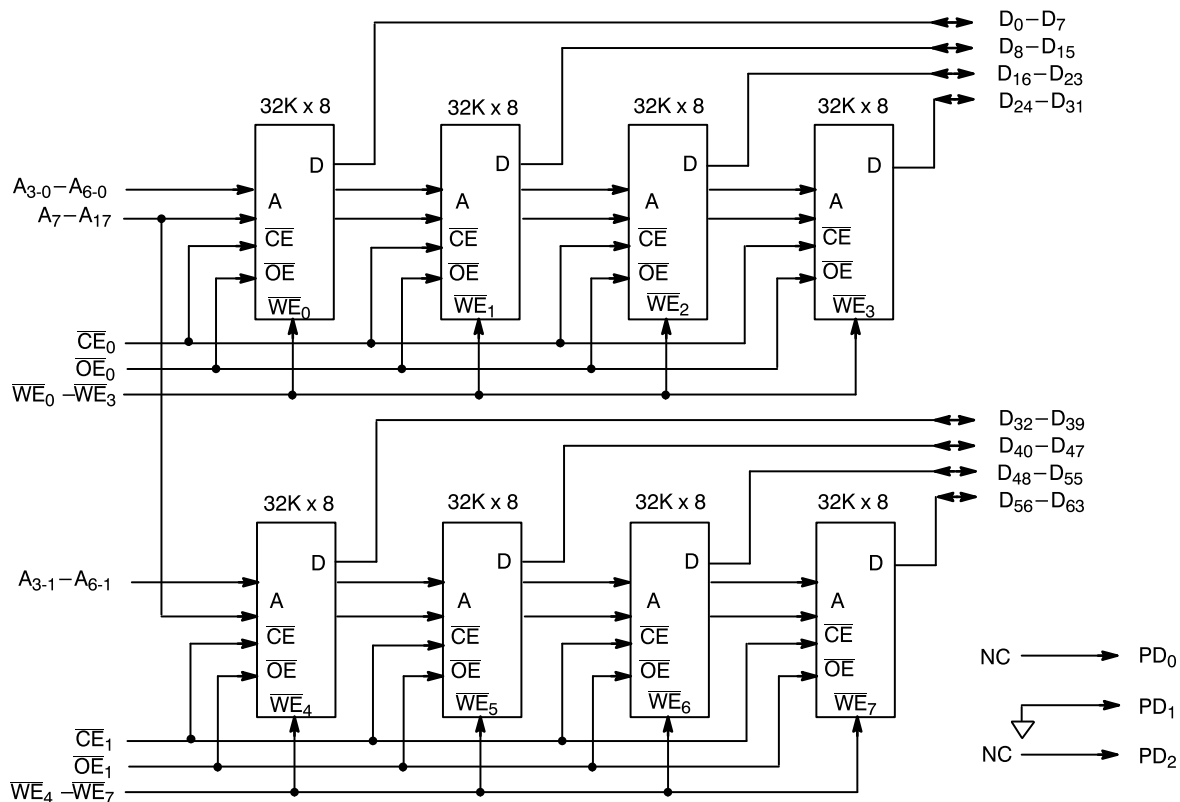
- **256-Kbyte secondary cache module organized as 32K by 64**
- **Ideal for Intel™ Pentium-based systems and systems with 64-bit data**
- **Operates with 60- and 66-MHz Pentium processors**
- **Uses cost-effective CMOS asynchronous SRAMs**
- **On-board decoupling capacitors offer improved noise immunity**
- **160-position Burndy Computerbus™ connector**
- **5V (±5%) power supply**
- **TTL-compatible inputs/outputs**

## Functional Description

The CYM7432 is a 256-Kbyte secondary cache module designed for Intel Pentium CPU-based systems. The 32K by 64 organization is designed using asynchronous CMOS SRAMs to provide a low-cost, low-power, and high-performance solution for CPU speeds up to 66 MHz. CYM7432-12 contains 12 ns SRAMs suitable for 66-MHz operations. For 60-MHz applications, CYM7432-15 with 15 ns SRAMs can be used. Multiple ground pins and on-board decoupling capacitors ensure maximum protection from noise.

All components on the cache module are surface mounted on a multi-layer epoxy laminate (FR-4) substrate. The package dimensions are 4.35" x 0.365" x 0.7". All inputs and outputs of the CYM7432 are TTL compatible and operate from a single 5V power supply. The contact pins are plated with 100 micro-inches of nickel covered by 5 micro-inches of gold flash.

## Logic Block Diagram



7432b-4

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**Pin Configuration**
**Dual Read-out SIMM  
Top View**

GND	81	1	GND
D <sub>63</sub>	82	2	D <sub>62</sub>
V <sub>CC</sub>	83	3	V <sub>CC</sub>
D <sub>61</sub>	84	4	D <sub>60</sub>
V <sub>CC</sub>	85	5	V <sub>CC</sub>
D <sub>59</sub>	86	6	D <sub>58</sub>
D <sub>57</sub>	87	7	D <sub>56</sub>
GND	88	8	GND
NC	89	9	NC
D <sub>55</sub>	90	10	D <sub>54</sub>
D <sub>53</sub>	91	11	D <sub>52</sub>
D <sub>51</sub>	92	12	D <sub>50</sub>
GND	93	13	GND
D <sub>49</sub>	94	14	D <sub>48</sub>
D <sub>47</sub>	95	15	D <sub>46</sub>
D <sub>45</sub>	96	16	D <sub>44</sub>
D <sub>43</sub>	97	17	D <sub>42</sub>
GND	98	18	GND
D <sub>41</sub>	99	19	D <sub>40</sub>
NC	100	20	NC
D <sub>39</sub>	101	21	D <sub>38</sub>
D <sub>37</sub>	102	22	D <sub>36</sub>
D <sub>35</sub>	103	23	D <sub>34</sub>
GND	104	24	GND
D <sub>33</sub>	105	25	D <sub>32</sub>
D <sub>31</sub>	106	26	D <sub>30</sub>
D <sub>29</sub>	107	27	D <sub>28</sub>
D <sub>27</sub>	108	28	D <sub>26</sub>
D <sub>25</sub>	109	29	D <sub>24</sub>
GND	110	30	GND
NC	111	31	NC
D <sub>23</sub>	112	32	D <sub>22</sub>
D <sub>21</sub>	113	33	D <sub>20</sub>
V <sub>CC</sub>	114	34	V <sub>CC</sub>
D <sub>19</sub>	115	35	D <sub>18</sub>
GND	116	36	GND
D <sub>17</sub>	117	37	D <sub>16</sub>
V <sub>CC</sub>	118	38	V <sub>CC</sub>
D <sub>15</sub>	119	39	D <sub>14</sub>
D <sub>13</sub>	120	40	D <sub>12</sub>
GND	121	41	GND
D <sub>11</sub>	122	42	D <sub>10</sub>
V <sub>CC</sub>	123	43	V <sub>CC</sub>
D <sub>9</sub>	124	44	D <sub>8</sub>
NC	125	45	NC
V <sub>CC</sub>	126	46	V <sub>CC</sub>
D <sub>7</sub>	127	47	D <sub>6</sub>
D <sub>5</sub>	128	48	D <sub>4</sub>
D <sub>3</sub>	129	49	D <sub>2</sub>
D <sub>1</sub>	130	50	D <sub>0</sub>
GND	131	51	GND
A <sub>3-1</sub>	132	52	A <sub>3-0</sub>
A <sub>4-1</sub>	133	53	A <sub>4-0</sub>
A <sub>5-1</sub>	134	54	A <sub>5-0</sub>
A <sub>6-1</sub>	135	55	A <sub>6-0</sub>
A <sub>7</sub>	136	56	A <sub>8</sub>
GND	137	57	GND
A <sub>9</sub>	138	58	A <sub>10</sub>
A <sub>11</sub>	139	59	A <sub>12</sub>
A <sub>13</sub>	140	60	A <sub>14</sub>
A <sub>15</sub>	141	61	A <sub>16</sub>
A <sub>17</sub>	142	62	A <sub>18</sub>
GND	143	63	GND
A <sub>19</sub>	144	64	PD <sub>0</sub>
PD <sub>1</sub>	145	65	PD <sub>2</sub>
NC	146	66	NC
NC	147	67	NC
GND	148	68	GND
WE <sub>7</sub>	149	69	WE <sub>6</sub>
WE <sub>5</sub>	150	70	WE <sub>4</sub>
WE <sub>3</sub>	151	71	WE <sub>2</sub>
WE <sub>1</sub>	152	72	WE <sub>0</sub>
GND	153	73	GND
NC	154	74	NC
CE <sub>1</sub>	155	75	CE <sub>0</sub>
NC	156	76	NC
OE <sub>1</sub>	157	77	OE <sub>0</sub>
V <sub>CC</sub>	158	78	V <sub>CC</sub>
NC	159	79	NC
GND	160	80	GND

7432b-5



PRELIMINARY

CYM7432

### Maximum Ratings

(Above which the useful life may be impaired. For user guidelines, not tested.)

Storage Temperature .....  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$

Ambient Temperature with  
Power Applied .....  $-0^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$

Supply Voltage to Ground Potential .....  $-0.5\text{V}$  to  $+7.0\text{V}$

DC Voltage Applied to Outputs  
in High Z State .....  $-0.5\text{V}$  to  $+7.0\text{V}$

DC Input Voltage .....  $-0.5\text{V}$  to  $+7.0\text{V}$

Output Current into Outputs (LOW) ..... 20 mA

### Operating Range

Range	Ambient Temperature	V <sub>CC</sub>
Commercial	$0^{\circ}\text{C}$ to $+70^{\circ}\text{C}$	$5\text{V} \pm 5\%$

### Electrical Characteristics Over the Operating Range

Parameter	Description	Test Conditions	CYM7432		Unit
			Min.	Max.	
V <sub>OH</sub>	Output HIGH Voltage	V <sub>CC</sub> = Min., I <sub>OH</sub> = $-4\text{ mA}$	2.4		V
V <sub>OL</sub>	Output LOW Voltage	V <sub>CC</sub> = Min., I <sub>OL</sub> = $8\text{ mA}$		0.4	V
V <sub>IH</sub>	Input HIGH Voltage		2.2	V <sub>CC</sub> +0.3	V
V <sub>IL</sub>	Input LOW Voltage		$-0.5$	0.8	V
I <sub>CC</sub>	V <sub>CC</sub> Operating Supply Current	V <sub>CC</sub> =Max., I <sub>OUT</sub> =0 mA, f=f <sub>MAX</sub> =1/t <sub>R</sub>		1450	mA

### Ordering Information

Operating Frequency (MHz)	Ordering Code	Package Name	Package Type	Operating Range
66	CYM7432PB-12C		160-Pin Dual-Readout SIMM	Commercial
60	CYM7432PB-15C		160-Pin Dual-Readout SIMM	Commercial

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### Package Diagram