



Intel® 82430FX PCIs et Level II Cache Module

Features

- Pin-compatible secondary cache module family that adheres to the Intel® COAST 1.2 specification
- Asynchronous (CYM74C430) configuration with presence and configuration detect pins
- Ideal for Intel P54C-based systems with the 82430FX (Triton™) chipset
- Operates at 50, 60, and 66 MHz
- Uses cost-effective CMOS asynchronous SRAMs.

- 160-position Burndy DIMM CELP2X80SC3Z48 connector
 - 3.3V compatible inputs/data outputs
- ### Functional Description

This secondary cache module is designed for Intel P54C systems with the 82430FX (Triton) chip set.

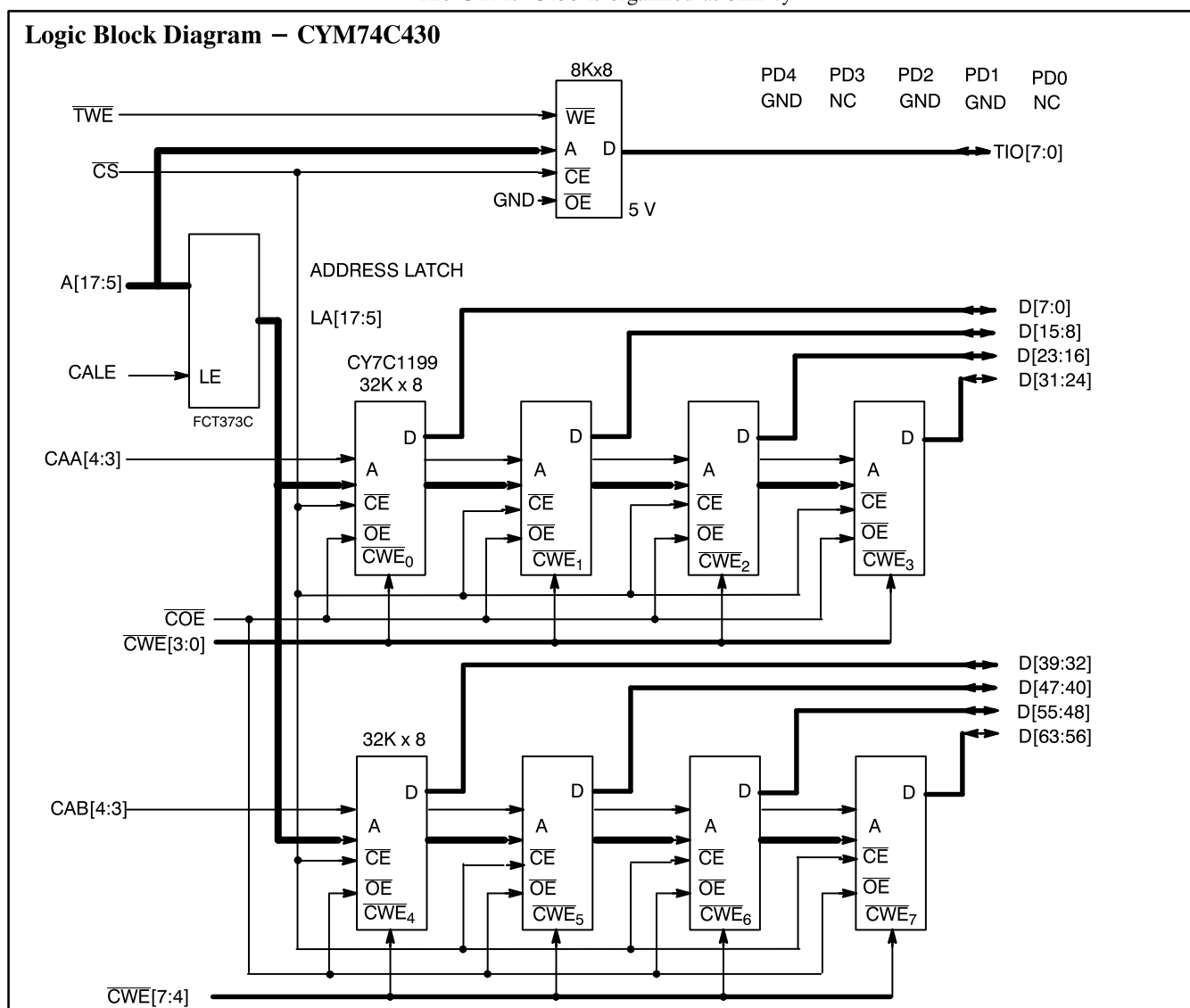
CYM74C430 is an asynchronous 256-Kbyte cache module that provides a low-cost, high-performance solution using 5V SRAMs with outputs clamped to 3.3V. The CYM74C430 is organized as 32K by

64 data with an 8Kx8 tag that supports 3-2-2-2 reads and 4-2-2-2 writes at 66 MHz.

Multiple ground pins and on-board decoupling capacitors ensure high performance with maximum noise immunity.

All components on the cache module are surface mounted on a multi-layer epoxy laminate (FR-4) substrate. All inputs and data outputs are (3.3V) TTL compatible. The contact pins of the module are plated with 150 micro-inches of nickel covered by 30 micro-inches of gold.

Logic Block Diagram – CYM74C430



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Pin Configuration
Dual Read-Out SIMM (DIMM)
Top View

GND	81	1	GND
TIO ₁	82	2	TIO ₀
TIO ₇	83	3	TIO ₂
TIO ₅	84	4	TIO ₆
TIO ₃	85	5	TIO ₄
RSVD	86	6	RSVD
V _{CC}	87	7	NC
RSVD	88	8	TWE
CAA ₄	89	9	CAA ₃
GND	90	10	GND
COE	91	11	CWE ₄
CWE ₅	92	12	CWE ₆
CWE ₇	93	13	CWE ₀
CWE ₁	94	14	CWE ₂
V _{CC}	95	15	NC
CWE ₃	96	16	CAB ₄
CAB ₃	97	17	NC (GWE)
CALE	98	18	NC (BWE)
GND	99	19	GND
RSVD	100	20	A ₃
A ₄	101	21	A ₇
A ₆	102	22	A ₅
A ₈	103	23	A ₁₁
A ₁₀	104	24	A ₁₆
V _{CC}	105	25	NC
A ₁₇	106	26	A ₁₈
GND	107	27	GND
A ₉	108	28	A ₁₂
A ₁₄	109	29	A ₁₃
A ₁₅	110	30	NC
RSVD	111	31	CS
PD ₀	112	32	NC (ECS2)
PD ₂	113	33	PD ₁
PD ₄	114	34	PD ₃
GND	115	35	GND
NC	116	36	NC
GND	117	37	GND
D ₆₃	118	38	D ₆₂
V _{CC}	119	39	NC
D ₆₁	120	40	D ₆₀
D ₅₉	121	41	D ₅₈
D ₅₇	122	42	D ₅₆
GND	123	43	GND
D ₅₅	124	44	D ₅₄
D ₅₃	125	45	D ₅₂
D ₅₁	126	46	D ₅₀
D ₄₉	127	47	D ₄₈
GND	128	48	GND
D ₄₇	129	49	D ₄₆
D ₄₅	130	50	D ₄₄
D ₄₃	131	51	D ₄₂
V _{CC}	132	52	NC
D ₄₁	133	53	D ₄₀
D ₃₉	134	54	D ₃₈
D ₃₇	135	55	D ₃₆
GND	136	56	GND
D ₃₅	137	57	D ₃₄
D ₃₃	138	58	D ₃₂
D ₃₁	139	59	D ₃₀
V _{CC}	140	60	NC
D ₂₉	141	61	D ₂₈
D ₂₇	142	62	D ₂₆
D ₂₅	143	63	D ₂₄
GND	144	64	GND
D ₂₃	145	65	D ₂₂
D ₂₁	146	66	D ₂₀
D ₁₉	147	67	D ₁₈
V _{CC}	148	68	NC
D ₁₇	149	69	D ₁₆
D ₁₅	150	70	D ₁₄
D ₁₃	151	71	D ₁₂
GND	152	72	GND
D ₁₁	153	73	D ₁₀
D ₉	154	74	D ₈
D ₇	155	75	D ₆
V _{CC}	156	76	NC
D ₅	157	77	D ₄
D ₃	158	78	D ₂
D ₁	159	79	D ₀
GND	160	80	GND

Pin Definitions

Signal Name	Description
V _{CC}	5V Supply
GND	Ground
A[18:3]	Addresses from processor
CAA[4:3]	Lower two address bits for bank 0
CAB[4:3]	Lower two address bits for bank 1
\overline{CS}	Chip Select
\overline{COE}	Output Enable
\overline{CWE} [7:0]	Byte Write Enables
CALE	Latch Enable
PD ₀ –PD ₄	Presence Detect output pins
D[63:0]	Data lines from processor
TIO[7:0]	Tag data bits
\overline{TWE}	Tag Write Enable signal
NC	Signal not connected on module
RSVD	Reserved

Presence Detect Pins

MODULE	PD ₄	PD ₃	PD ₂	PD ₁	PD ₀
CYM74C430	GND	NC	GND	GND	NC

Selection Guide

	CYM74C430–50	CYM74C430–60	CYM74C430–65
Cache Size	256 KB		
System Clock (MHz)	50	60	66
RAM Type	Asynchronous 5V with outputs clamped to 3.3V		
Data RAM t _{AA}	20 ns	17 ns	15 ns
Tag RAM t _{AA}	30 ns	20 ns	15 ns

**Maximum Ratings**

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

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

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

5V Supply Voltage to Ground Potential -0.5V to $+5.25\text{V}$

DC Voltage Applied to Outputs
in High Z State -0.5V to $+4.6\text{V}$

DC Input Voltage -0.5V to $+4.6\text{V}$

Output Current into Outputs (LOW) 20 mA

Operating Range

Range	Ambient Temperature	V _{CC}
Commercial	0°C to $+70^{\circ}\text{C}$	$5\text{V} \pm 5\%$

Electrical Characteristics Over the Operating Range

Parameter	Description	Test Condition	Min.	Max.	Unit
V _{IH}	Input HIGH Voltage		2.2	V _{CC} + 0.3	V
V _{IL}	Input LOW Voltage		-0.5	0.8	V
V _{OH}	Output HIGH Voltage	V _{CC} =Min. I _{OH} = -4 mA	2.4		V
V _{OL}	Output LOW Voltage	V _{CC} =Min. I _{OL} = 8 mA		0.4	V
I _{CC}	V _{CC} Operating Supply Current	V _{CC} =Max., I _{OUT} =0 mA, f=f _{MAX} =1/t _{RC}		1600	mA

Ordering Information

Speed (MHz)	Ordering Code	Package Name	Package Type	Description	Operating Range
50	CYM74C430PM-50C	PM37	160-Pin Dual-Readout SIMM	Async 256 KB	Commercial
60	CYM74C430PM-60C	PM37	160-Pin Dual-Readout SIMM	Async 256 KB	Commercial
66	CYM74C430PM-66C	PM37	160-Pin Dual-Readout SIMM	Async 256 KB	Commercial

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Package Diagram**160-Pin Dual-Readout SIMM PM37**