



CYPRESS

PRELIMINARY

CYM74P435

512K Level II Extended Cache Module

Features

- 512K Cache Module with Extended Cache ability
- Synchronous configuration with presence and configuration detect pins
- 66 MHz operation
- Uses high-performance synchronous SRAMs
- 160-position Burndy DIMM CELP2X80SC3Z48 connector
- 3.3V compatible inputs/data outputs

Functional Description

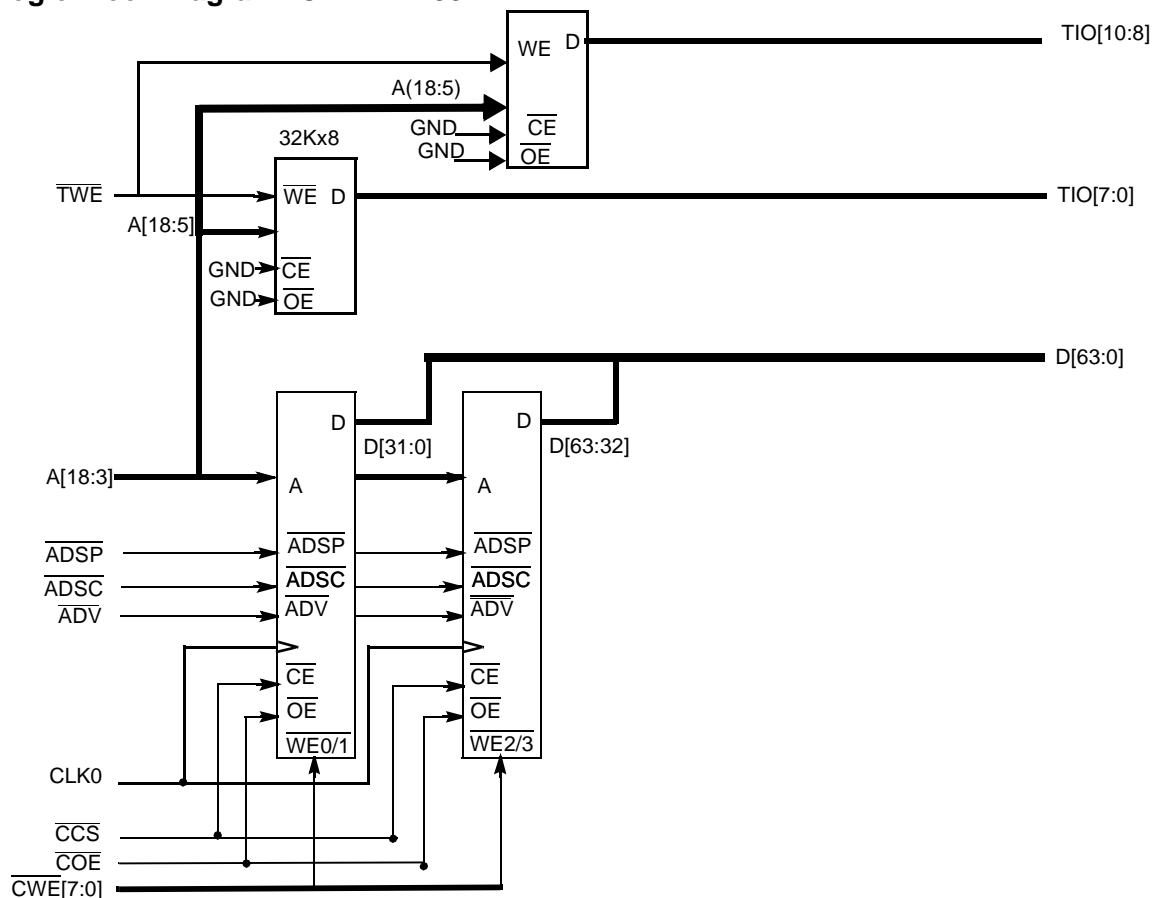
This family of secondary cache modules is designed for Intel P54C systems with the 82430FX (Triton) chipset.

The CYM74P435 is a 512-KB module, organized as 64K by 64-bits with two 32Kx8 tag RAMS that supports 3-1-1-1 read and 4-2-2-2 write cycles at CPU bus speeds up to 66 MHz.

The synchronous modules are available with low cost synchronous pipelined RAMs. The synchronous pipelined modules are based on a 64K x 32 RAM. Multiple ground pins and on-board decoupling capacitors ensure high performance with maximum noise immunity.

All components on the cache modules are surface mounted on a multi-layer epoxy laminate (FR-4) substrate. The contact pins are plated with 150 micro-inches of nickel covered by 10 micro-inches of gold flash.

Logic Block Diagram - CYM74P435



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Part Number	74P435-66
Cache Size	
Ram Type	512K
System Clock (MHz)	66
Data t_{CDV}	8.5 ns
Tag t_{AA}	15 ns

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
TIO ₉	86	6	TIO ₈
V _{CC}	87	7	NC
TIO ₁₀	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	NC
CAB ₃	97	17	NC
CALE	98	18	NC
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	NC
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
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

74B435-5

Pin Definitions

Common Signals	Description
V _{CC}	3.3V supply
GND	Ground
A[18:3]	Addresses from processor
$\overline{\text{COE}}$	Output Enable
$\overline{\text{CWE}}[7:0]$	Byte Write Enables
PD ₀ -PD ₄	Presence Detect output pins
D[63:0]	Data lines from processor
TIO[10:0]	Tag data bits
$\overline{\text{TWE}}$	Tag Write Enable signal
NC	Signal not connected on module
RSVD	Reserved
V _{CCQ}	3.3V Supply
$\overline{\text{ADSP}}$	Processor Address Strobe
$\overline{\text{ADSC}}$	Cache Controller Address Strobe
$\overline{\text{ADV}}$	Burst Address Advance
$\overline{\text{CCS}}$	Chip Select
CLK[1:0]	Clock signals, CLK1 not used on CYM74P435

Presence Detect Pins

	PD ₄	PD ₃	PD ₂	PD ₁	PD ₀
Synchronous Burst - CYM74P435	NC	GND	GND	NC	GND

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 $+70^{\circ}\text{C}$

3.3V Supply Voltage to Ground Potential -0.5V to $+5.25\text{V}$

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

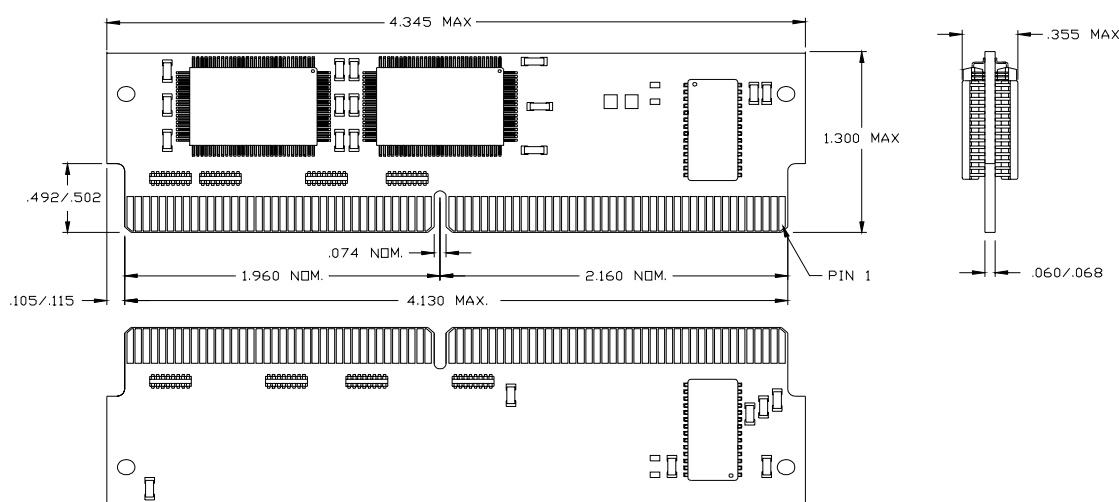
Range	Ambient Temperature	V_{CC}	V_{CCQ}
Commercial	0°C to $+70^{\circ}\text{C}$	$3.3\text{V} \pm 10\%$	$3.3\text{V}/2.5\text{V} \pm 10\%$

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		-0.3	0.8	V
V_{OH}	Output HIGH Voltage	$V_{CC} = \text{Min. } I_{OH} = -4 \text{ mA}$	2.4		V
V_{OL}	Output LOW Voltage	$V_{CC} = \text{Min. } I_{OL} = 8 \text{ mA}$		0.4	V
I_{CC} (74P435)	V_{CC} Operating Supply Current	$V_{CC} = \text{Max.}, I_{OUT} = 0 \text{ mA}, f = f_{MAX} = 1/t_{RC}$		1400	mA

Ordering Information

Speed (MHz)	Ordering Code	Package Name	Package Type	Description	Operating Range
66	CYM74P435CPM-66C	PM49	160-pin Dual Read-Out S(D)IMM	Sync pipelined 512 KB	Commercial

Package Diagrams
160-pin Dual Read-Out S(D)IMM PM49




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Document Title: CYM74P435 512 Level II Extended Cache Module Document Number: 38-05007				
REV.	ECN NO.	Issue Date	Orig. of Change	Description of Change
**	106010	05/07/01	MEG	New Spec