

SM364TCSP83UI15 256KByte (32Kx64) Synchronous Secondary Cache SRAM Module

General Description

The SM364TCSP83UI15 is a high performance, 256 Kilobyte synchronous secondary cache SRAM module for use with Intel Triton Chipset. It is organized as 32K words by 64 bits, in a 160-pin, dual readout, leadless, double-in-line memory module (DIMM) package.

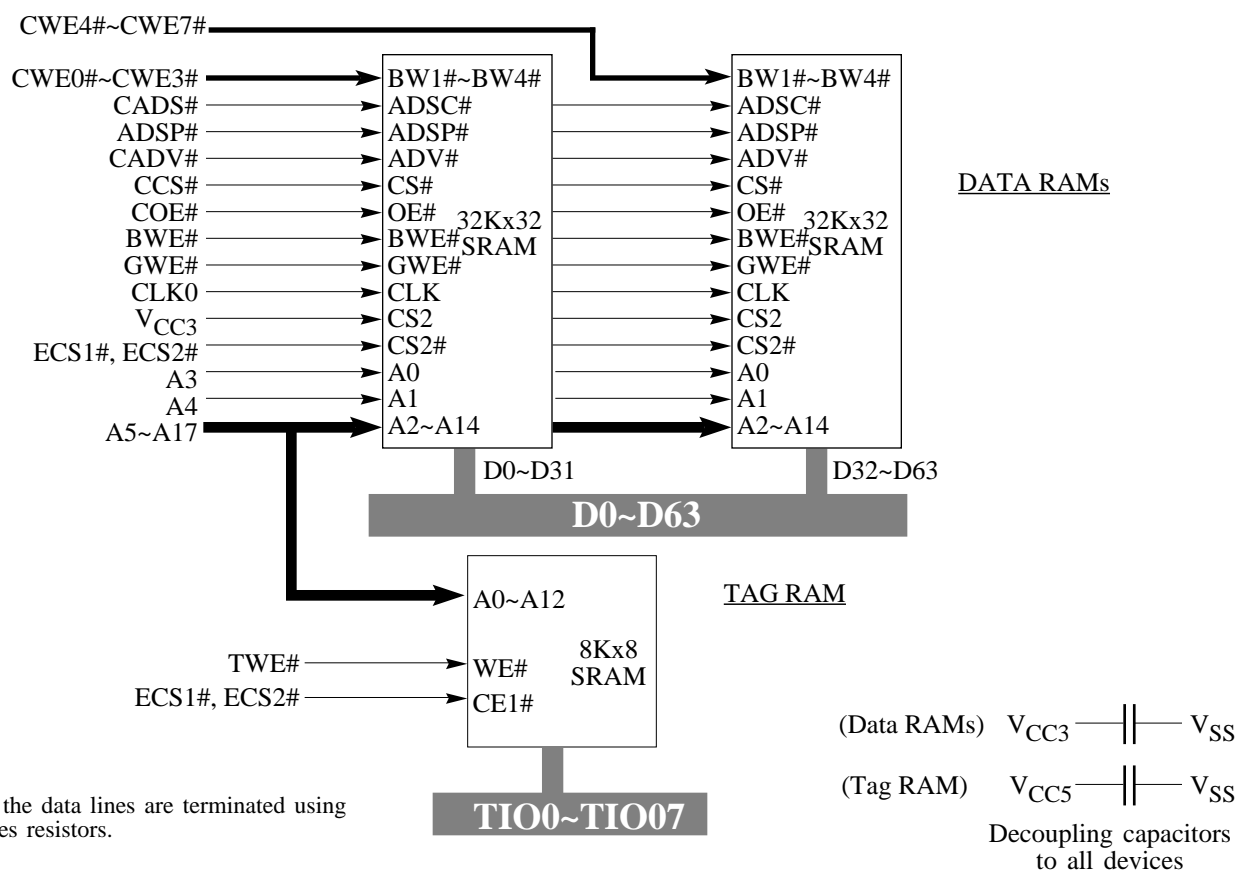
The module utilizes two CMOS 32Kx32 static RAMs for data and an 8Kx8 static RAM for tag in surface mount packages on an epoxy laminate substrate. Each device is accompanied by decoupling capacitors for improved noise immunity.

Control lines provided are such that byte write control is possible.

Features

- COAST 1.4/2.0 compliant
- High Density : 256KByte
- Fast Cycle Time of 15ns (max.)
- Low Power (typical) :
2.3W - Active
315mW - Standby (TTL/LVTTL)
134W - Standby (CMOS)
- TTL-compatible inputs and outputs
- Separate power and ground planes
- Dual power supplies : $5V \pm 10\%$
 $3.3V \pm 10\%$
- PCB footprint of less than 0.950 sq. in.

Functional Diagram





Pin Names

A3~A17 Addresses
D0~D63 Data Inputs/Outputs
TIO0~TIO7 Tag Inputs/Outputs
COE# Cache Data Output Enable Input
CCS# Cache Chip Enable
TWE# Tag Write Enable
CWE0#~CWE7# Cache Data Write Enable Inputs
ADSP# Processor Address Status Input
CADS# Cache Address Status Input
CADV# Burst Address Advance
BWE# Byte Write Enable
GWE# Global Write Enable
CLK0 Clock Input
ECS1#, ECS2# Expansion Chip Select Inputs

Pin Names (cont'd.)

PD0~PD3 Presence Detects
V_{CC5} Power Supply (5V)
V_{CC3} Power supply (3.3V)
GND Ground
NC No Connection

Presence Detect Table

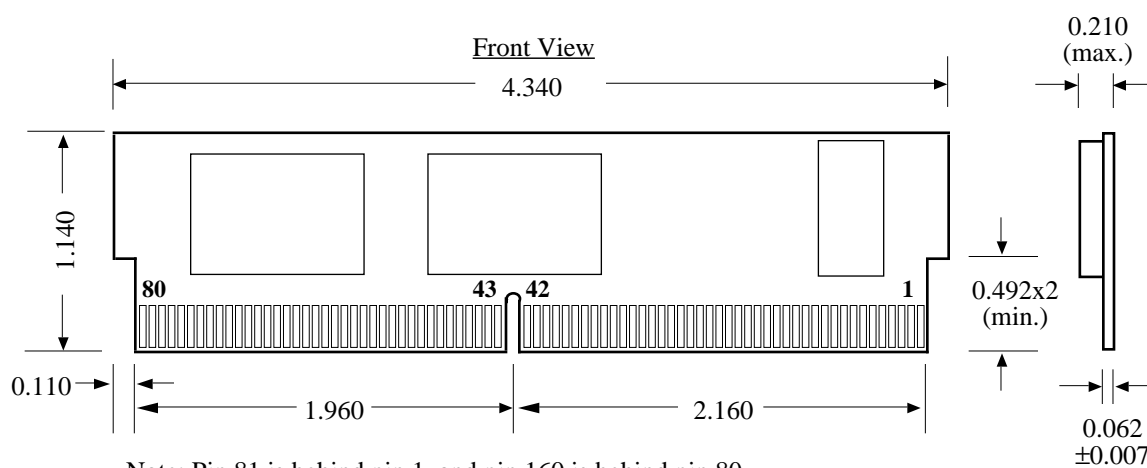
PD0	NC
PD1	NC
PD2	V _{SS}
PD3	NC

Pin Designation

Pin No.	Pin Name	Pin No.	Pin Name	Pin No.	Pin Name	Pin No.	Pin Name	Pin No.	Pin Name	Pin No.	Pin Name
1	GND	31	ECS1#	61	D28	91	COE#	121	D59	151	D13
2	T100	32	ECS2#	62	D26	92	CWE5#	122	D57	152	GND
3	TIO2	33	PD1	63	D24	93	CWE7#	123	GND	153	D11
4	TIO6	34	PD3	64	GND	94	CWE1#	124	D55	154	D9
5	TIO4	35	GND	65	D22	95	V _{CC5}	125	D53	155	D7
6	NC	36	NC	66	D20	96	CWE3#	126	D51	156	V _{CC5}
7	VCC3	37	GND	67	D18	97	NC	127	D49	157	D5
8	TWE#	38	D62	68	V _{CC3}	98	NC	128	GND	158	D3
9	CADS#	39	V _{CC3}	69	D16	99	GND	129	D47	159	D1
10	GND	40	D60	70	D14	100	NC	130	D45	160	GND
11	CWE4#	41	D58	71	D12	101	A4	131	D43		
12	CWE6#	42	D56	72	GND	102	A6	132	V _{CC5}		
13	CWE0#	43	GND	73	D10	103	A8	133	D41		
14	CWE2#	44	D54	74	D8	104	A10	134	D39		
15	VCC3	45	D52	75	D6	105	V _{CC5}	135	D37		
16	CCS#	46	D50	76	V _{CC3}	106	A17	136	GND		
17	GWE#	47	D48	77	D4	107	GND	137	D35		
18	BWE#	48	GND	78	D2	108	A9	138	D33		
19	GND	49	D46	79	D0	109	A14	139	D31		
20	A3	50	D44	80	GND	110	A15	140	V _{CC5}		
21	A7	51	D42	81	GND	111	NC	141	D29		
22	A5	52	V _{CC3}	82	TIO1	112	PD0	142	D27		
23	A11	53	D40	83	TIO7	113	PD2	143	D25		
24	A16	54	D38	84	TIO5	114	NC	144	GND		
25	VCC3	55	D36	85	TIO3	115	GND	145	D23		
26	NC	56	GND	86	NC	116	CLK0	146	D21		
27	GND	57	D34	87	V _{CC5}	117	GND	147	D19		
28	A12	58	D32	88	NC	118	D63	148	V _{CC5}		
29	A13	59	D30	89	CADV#	119	V _{CC5}	149	D17		
30	ADSP#	60	V _{CC3}	90	GND	120	D61	150	D15		

Physical Dimensions

160-pin DIMM

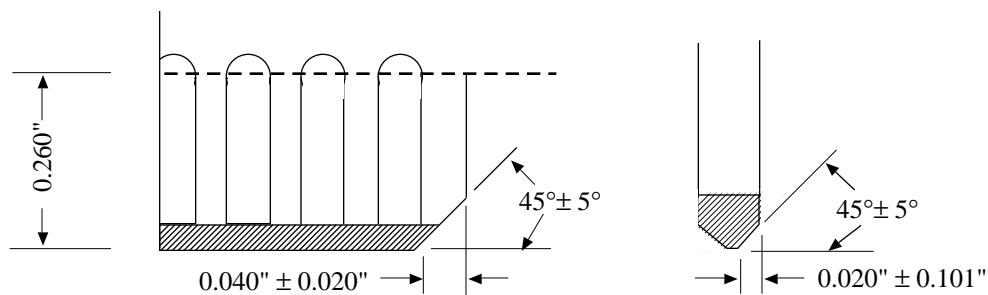


Note: Pin 81 is behind pin 1, and pin 160 is behind pin 80.

Mating Connectors :

Burndy : CELP2X80SC-30Z48/31Z48/32Z48/33Z48
 Foxconn : EG98001-R1/R2/R3/R4
 Molex : 87028-2021/2022/2023/2024

(All dimensions are in inches)



Connector Edge Bevel



SM364TCSP83UI15
August 1996
Rev 3

Ordering Information

SM 3 64 T C SP 8 3 U I 15
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

- ① **SMART Modular Technologies**
- ② **Product Category**
3 : SRAM SIMM / DIMM
- ③ **Module Data Bus Width**
64 : x64
- ④ **Module Address Depth**
T : 32K
- ⑤ **Device Data Width**
C : x32
- ⑥ **Device Feature / Customer**
S : Synchronous
P : Pipelined
- ⑦ **Tag Bits**
8 : 8 Bits
- ⑧ **Voltage / Power**
3 : 3.3V / Standard Power
- ⑨ **SRAM Device Manufacturer**
B = Toshiba
C = UMC
H = Hitachi
I = Mitsubishi
M = Micron
N = NEC
R = Sharp
S = Samsung
V = Sony
W = Winbond
X = Standard (Any Vendor, Regular Mechanicals)
- ⑩ **Module**
I : COASt 1.4/2.0 Compliant
- ⑪ **Cycle Time**
15 : 15ns

Note : "U" in the part number should be replaced by user specified option.



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