dense-pac microsystems, inc.

512 Megabit Synchronous DRAM

DPSD32MX16WY5

DESCRIPTION:

The *LP-Stack*™ series is a family of interchangeable memory modules. The 256 Megabit SDRAM is a member of this family which utilizes the new and innovative space saving TSOP stacking technology. The modules are constructed with 16 Meg x 16 SDRAMs.

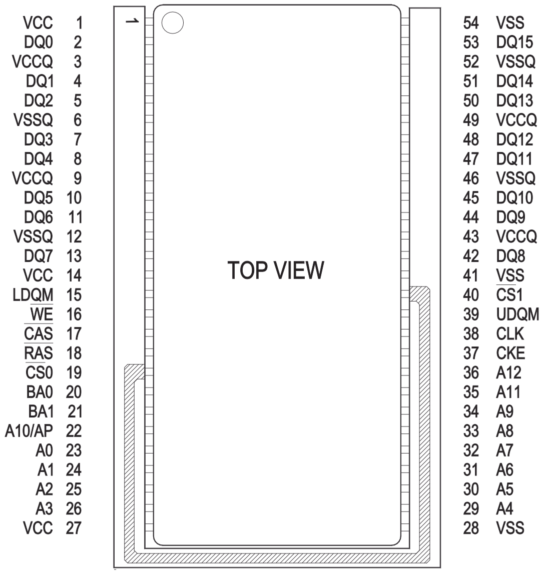
This 256 Megabit based *LP-Stack*™ module, the DPSD32MX16WY5 has been designed to fit in the same footprint as the 16 Meg x 16 SDRAM TSOP monolithic and 256 Megabit SDRAM based family of *LP-Stack*™ modules. This allows the memory board designer to upgrade the memory in their products without redesigning the memory board, thus saving time and money.

FEATURES:

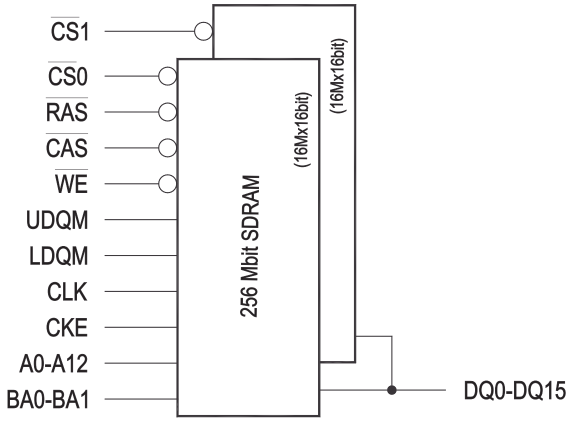
- Configuration Available: 32 Meg x 16 bit (with two Chip Selects)
- Clock Frequency: 66[1], 83[1], 100, 125[2], 133[2] MHz (max.)
- PC100 and PC133 Compatible
- 3.3V Supply
- LVTTL Compatible I/O
- Four Bank Operation
- Programmable Burst Type, Burst Length, and CAS Latency
- 8,192 Cycles / 64 ms
- Auto and Self Refresh
- Package: TSOP Leadless Stack

NOTES: [1] Available in Industrial Temperature Ranges Only.
[2] Available in Commercial Temperature Range Only.

PIN-OUT DIAGRAM



FUNCTIONAL BLOCK DIAGRAM



PIN NAMES

A0 - A12	Row Address: A0 - A12 Column Address: A0 - A8
BA0, BA1	Bank Select Address
DQ0 - DQ15	Data In / Data Out
$\overline{\text{CAS}}$	Column Address Strobes
$\overline{\text{RAS}}$	Row Address Enables
$\overline{\text{WE}}$	Data Write Enable
UDQM, LDQM	Upper & Lower Data Input/Output Mask
CKE	Clock Enable
CLK	System Clock
$\overline{\text{CS0}}$-$\overline{\text{CS1}}$	Chip Selects
V_{CC}/V_{SS}	Power Supply/Ground
V_{CCQ}/V_{SSQ}	Data Output Power/Ground

PART NUMBER DESCRIPTION

DP	SD	32M	X	16	W	Y5	-	DP	-	XX	XX	X	X
PREFIX	TYPE	MEMORY DEPTH	DESIG	MEMORY WIDTH	DESIG	PACKAGE		SUPPLIER		MEMORY	SPEED	CL	GRADE

Blank	Commercial Temperature
I [4]	Industrial Temperature [4]
2	CAS LATENCY 2
15 [1]	15ns (66MHz) [1]
12 [1]	12ns (83MHz) [1]
10	10ns (100MHz)
08 [2]	8ns (125MHz) [2]
75 [2]	7.5ns (133MHz) [2]
P1	PC100

MANUFACTURER CODE [3]

SUPPLIER CODE [3]

STACKABLE TSOP

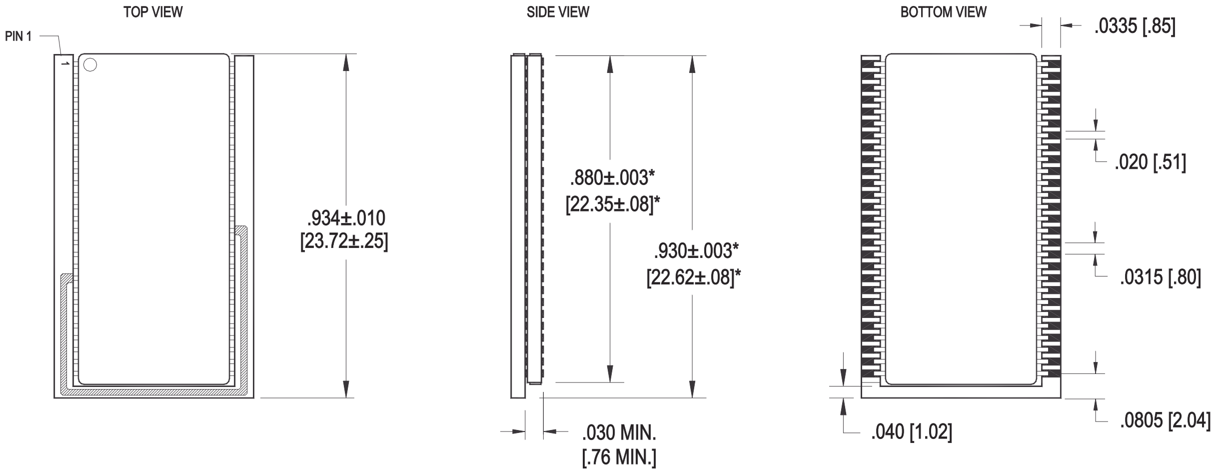
256 MEGABIT LVTTL BASED

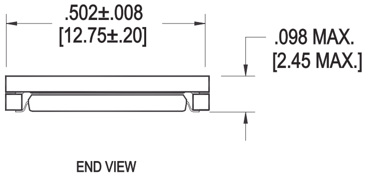
MEMORY MODULE WITHOUT SUPPORT LOGIC

SYNCHRONOUS DRAM

NOTES:
[1] Available in Industrial Temperature Ranges Only, see note 4.
[2] Available in Commercial Temperature Range Only.
[3] Contact your sales representative for supplier and manufacturer codes.
[4] All industrial temperature range parts are subject to availability of screened components.

MECHANICAL DRAWING





END VIEW

Standard TSOP pad layout is acceptable, however, when possible, the following pad layout is recommended for optimal manufacture and inspection. See Application Note 53A001-00 for further information.