

## 3DPO64M08VS2299



## GENERAL DESCRIPTION

The 3DPO64M08VS2299 is a 64 Mb high density Programmable Read Only Memory, which provide an easy to use, integrated four chip containing 16 Mb each.

The 3DPO64M08VS2299 can operate in either serial or byte wide mode. It is a non-volatile one time programmable (OTP) memory designed to store configuration bitstream of FPGA devices.

The memory is guaranteed 20 years life data retention and is also used as processors Boot and Program PROM in a variety of high performance and high reliability computer boards.

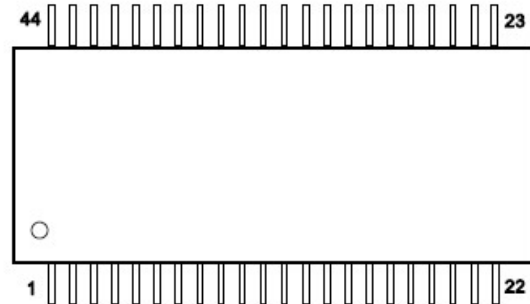
The module packaged in a SOP 44 is available for Commercial, Industrial or Military temperature range. It is also available with screening options up to space grade level.

## KEY FEATURES

- 64 Mb memory density
- One Time Programmable (OTP) ROM
- Single 3.3 V voltage operation
- Simple interface for FPGA configuration
- Dual configuration modes:
  - Serial (up to 33 Mb/s)
  - Parallel (up to 264 Mb/s @ 33 MHz)
- Programmable reset polarity
- Chaining capability for storing longer or multiple bitstream
- Data Retention: 20 Years
- Space qualified product
- Radiation tolerance:
  - TID > 50 krad (Si) per spec 1019.5
  - Latch-up and SEU immune to LET> 120 MeV/cm<sup>2</sup>/mg

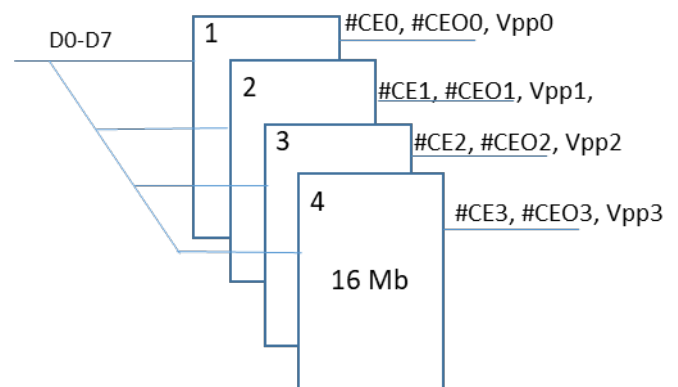
## PIN ASSIGNMENT (top view)

SOP 44 Pitch 0.80 mm



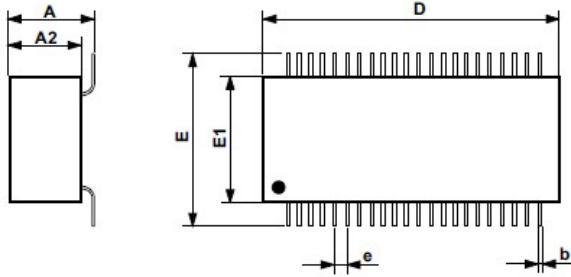
1	RESET/#OE	16	#CE1	31	D5
2	DNU	17	Vcc	32	D4
3	DNU	18	Vss	33	D3
4	#CE2	19	DNU	34	D2
5	#CE0	20	DNU	35	D1
6	Vcc	21	#CEO3	36	D0
7	Vss	22	#CEO1	37	Vcc
8	#CEO0	23	Vpp1	38	Vss
9	#CEO2	24	Vpp3	39	Vpp0
10	DNU	25	DNU	40	Vpp2
11	DNU	26	DNU	41	DNU
12	BUSY	27	Vss	42	DNU
13	DNU	28	Vcc	43	Vss
14	DNU	29	D7	44	CLK
15	#CE3	30	D6		

## FUNCTIONAL BLOCK DIAGRAM



All other signals are common to all memories

## MECHANICAL DRAWING



Dimensions (mm)

	Min	Max
A	5.60	6.30
A2	4.50	4.90
D	19.80	20.20
E	13.40	13.80
E1	10.85	11.05
b	0.35	
e	0.80	

Max. weight: 4.20 g

## DC Operating Conditions and Characteristics

Parameter	Symbol	Min	Max	Unit
Supply Voltage core	$V_{CC}$	3.0	3.6	V
Input logic High Voltage	$V_{IH}$	2.0	$V_{CC}$	V
Input logic Low Voltage	$V_{IL}$	-0.0	0.8	V

## Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Supply voltage relative to $V_{SS}$	$V_{CC}$	-0.5 to +7.0	V
Programming voltage relative to $V_{SS}$	$V_{PP}$	-0.5 to +12.5	V
Storage temperature	$T_{STG}$	-65 to +150	°C

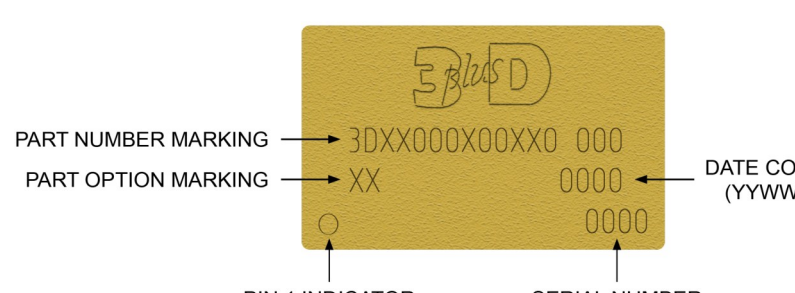
## DC Characteristics

Parameter	Symbol	Value	Unit
Active mode current ( $V_{CC}$ )	$I_{CCA}$	103	mA
Standby Current ( $V_{CC}$ )	$I_{CCS}$	6	mA

**Note:** Permanent device damage may occur if "Absolute maximum ratings" are exceeded. Functional operation should be restricted to recommended operating condition.

Exposure to higher than recommended voltage for extended periods of time could affect device reliability.

## MODULE MARKING



**3DPO64M08VS2299** X X

Temperature Range ———

**C** = (0°C to +70°C)  
**I** = (-40°C to +85°C)  
**M** = (-55°C to +125°C)  
**S** = Specific

Quality Level ———

**N** = Commercial Grade  
**B** = Industrial Grade  
**S** = Space Grade

## 3D PLUS SALES OFFICES

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