

VDIC EEPROM

VDEE8M08XS40XX8V250 USER MANUAL

Version : A5

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VDIC-EEPROM

3.3V 1M×8bit

1 Description

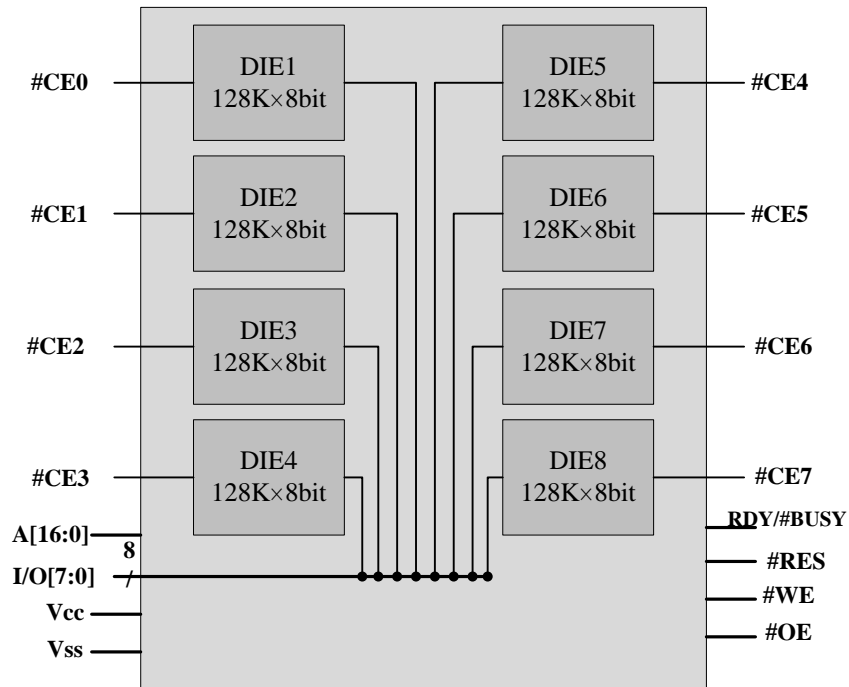
The VDEE8M08XS40XX8V250 is a 1M×8bit Electrically Erasable and Programmable CMOS ROM. It is organized as eight dies of 1Mbit. Each die has 8-bit interface and is selected with specific #CE. All other signals are common to the eight EEPROM 1Mbit. The device is manufactured using well known SIP technology. It is particularly well suited for use in high reliability, high performance and high density system applications.

The VDEE8M08XS40XX8V250 is packaged in a 40 pins SOP.

2 Features

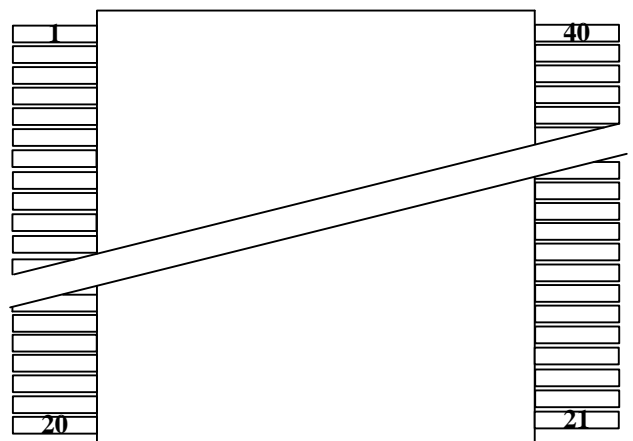
- Single 3.3V Power supply: 2.7 V to 3.6V
- Access time: 250 ns (max)
- Power dissipation
 - Active: 160 mW/MHz, (typ)
 - Standby: 880 μW (max)
- On-chip latches: address, data, #CE, #OE, #WE
- Automatic byte write: 10 ms (max)
- Automatic page write (128 bytes): 10 ms (max)
- Data polling and RDY/#Busy
- Data protection circuit on power on/off
- Conforms to JEDEC byte-wide standard
- Reliable CMOS with MNOS cell technology
- 10⁴erase/write cycles (in page mode)
- 10 years data retention
- Software data protection
- Write protection by #RES pin

3 Block Diagram



4 Pin Descriptions

Pin Id	Pin #		Pin Id
VSS	1	40	#CE2
#CE7	2	39	#CE1
A11	3	38	#OE
A9	4	37	A10
A8	5	36	#CE0
A13	6	35	I/O7
#WE	7	34	I/O6
#RES	8	33	I/O5
A15	9	32	I/O4
VCC	10	31	I/O3
RDY/#BUSY	11	30	VSS
A16	12	29	I/O2
A14	13	28	I/O1
A12	14	27	I/O0
A7	15	26	A0
A6	16	25	A1
A5	17	24	A2
A4	18	23	A3
#CE5	19	22	#CE3
#CE6	20	21	#CE4



Name	Function
A0~A16	Address Input..
I/O0- I/O7	Data Input/Output Ports. 8 bi-directional ports are used to read data from or write data into the EEPROM.
#CE0 (Die1)	Die Enable Input .When #CE _n is Low, the command input cycle becomes valid. When #CE _n is High, all inputs are ignored.
#CE1 (Die2)	
#CE2 (Die3)	
#CE3 (Die4)	
#CE4 (Die5)	
#CE5 (Die6)	
#CE6 (Die7)	
#CE7 (Die8)	
RDY/#BUSY	Ready busy.
#RES	Reset input.
#OE	Output enable.
#WE	Write Enable Input. Enables write operation.
VCC	Power supply, connect to 3.3V
VSS	Ground

5 Command Operation

5.1 Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Supply voltage relative to V _{SS}	V _{CC}	-0.6 to +7.0	V
Input voltage relative to V _{SS}	V _{in}	-0.5 to +7.0	V
Operating temperature range	T _{OPR}	-55 to +125	°C
Storage temperature range	T _{STG}	-65 to +150	°C
Power Dissipation	P _D	1	W

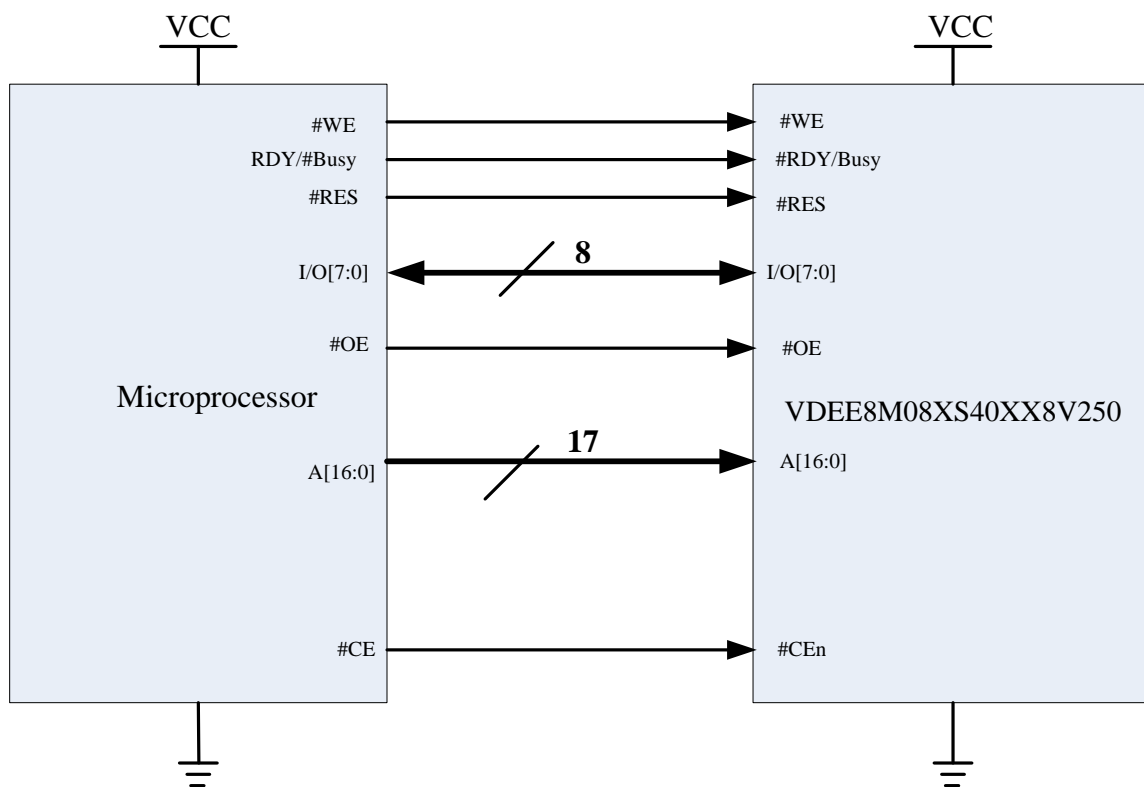
5.2 Recommended DC Operating Conditions

Parameter	Symbol	Min	Typ	Max	Unit
Supply voltage	V _{CC}	2.7	3.3	3.6	V
	V _{SS}	0	0	0	V
Input voltage	V _{IL}	-0.3	-	0.8	V
	V _{IH}	1.9	-	V _{CC} +0.3	V
	V _H	V _{CC} -0.5	-	V _{CC} +1.0	V

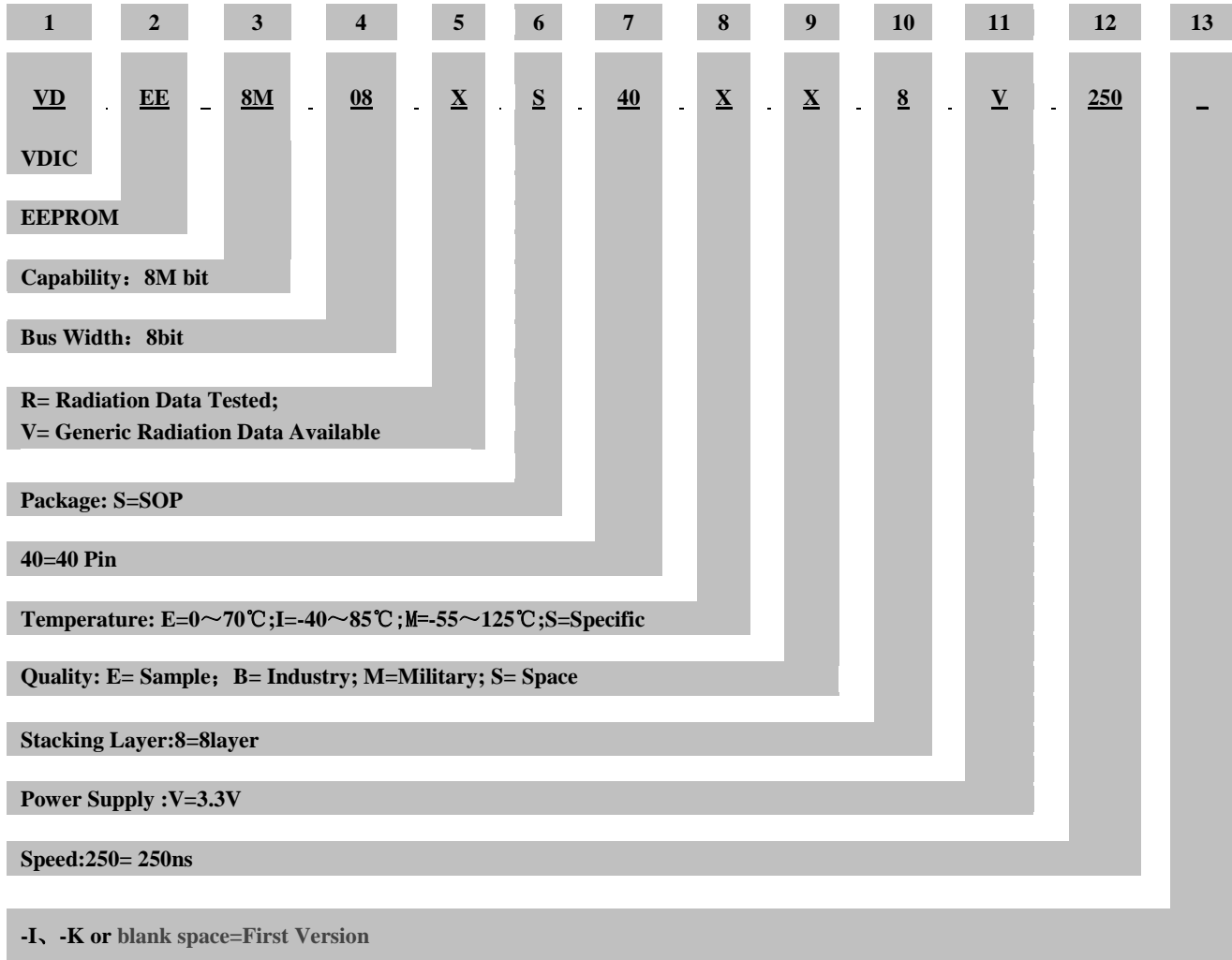
5.3 DC Characteristics ($V_{CC}=2.7\text{ V to }3.6\text{ V}$)

Parameter	Symbol	Test conditions	min.	max.	Unit
Output voltage low level	VOL	$V_{CC}=2.7\text{V}$, $I_{OL} = 2.1\text{mA}$	—	0.4	V
Output voltage high level	VOH	$V_{CC}=2.7\text{V}$, $I_{OH} = -400\mu\text{A}$	2.16	—	V

6 Typical Application



7 Ordering Information



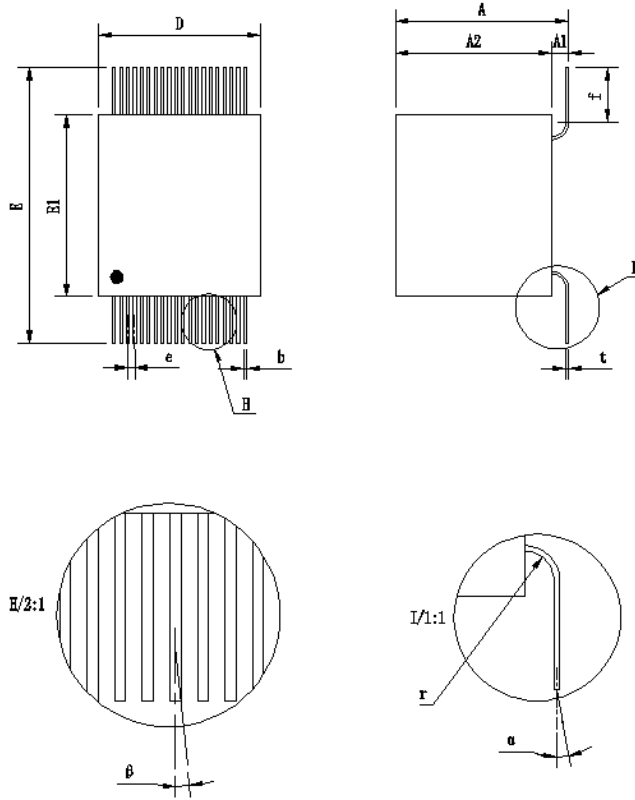
Part Number	Capacity (bit)	Bus Width (bit)	Radiation			Packaging	Temperature (°C)
			TID ¹	SEL ²	SEU ³		
VDEE8M08VS40EE8V250	8M	8	-	-	-	SOP40	0 ~ + 70
VDEE8M08VS40IB8V250	8M	8	-	-	-	SOP40	-40 ~ + 85
VDEE8M08VS40MB8V250	8M	8	-	-	-	SOP40	-55 ~ + 125
VDEE8M08VS40MM8V250	8M	8	-	-	-	SOP40	-55 ~ + 125
VDEE8M08RS40MS8V250	8M	8	30	99.8	25	SOP40	-55 ~ + 125

¹ TID: Total Dose (Krad(Si))

² SEL: LET Threshold (Mev.cm²/mg)

³ SEU:SEU Threshold (Mev.cm²/mg)

8 Package Dimensions



	Min	Max
A	12.30	12.80
A2	11.10	11.50
D	11.50	11.90
E	19.80	20.20
E1	13.00	13.40
f	3.98	
b	0.25	
e	0.50	
r	1.0	
t	0.20	
α	≤3°	
β	≤3°	
NOTE : 1.U int : mm		
2. A1= A - A2		

9 REVISION HISTORY

Revision	Date	Description of Change
A0	Nov 3,2015	First Created
A1	Mar 14,2016	Modified the PIN DESCRIPTIONS
A2	Aug 23,2016	Modified the ORDERING INFORMATION
A3	Jan 9,2017	Modified the PACKAGE DIMENSIONS
A4	Oct.25,2017	Changed company's name to Zhuhai Orbita Aerospace Science & Technology Co., Ltd
A5	Mar 16,2018	Add or reduce chapters