

VDIC EEPROM

VDEE1M08XS40XX1V250 USER MANUAL

Version : A5

Document NO.: ORBITA/SIP-VDEE1M08XS40XX1V250-USM-01

Zhuhai Orbita Aerospace Science & Technology Co. , Ltd.

Add: Orbita Tech Park, NO.1 Baisha Road, Tangjia Dong ` an,

Zhuhai, Guangdong, China 519080

Tel: +86-756-3391979 Fax: +86-756-3391980

Contents

1	DESCRIPTION.....	1
2	FEATURES.....	1
3	BLOCK DIAGRAM.....	2
4	PIN DESCRIPTIONS	2
5	ELECTRICAL SPECIFICATIONS.....	3
5.1	ABSOLUTE MAXIMUM RATINGS	3
5.2	RECOMMENDED DC OPERATING CONDITIONS	3
5.3	DC CHARACTERISTICS (VCC = 2.7 V to 3.6 V).....	3
6	TYPICAL APPLICATION	4
7	ORDERING INFORMATION	5
8	PACKAGE DIMENSIONS	6
9	REVISION HISTORY	7

VDIC-EEPROM

3.3V 128K × 8bit

1 Description

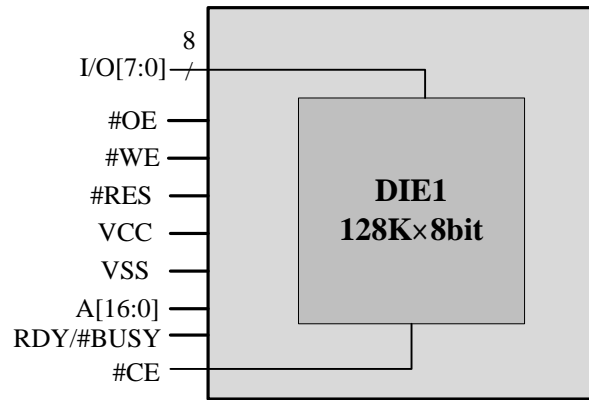
The VDEE1M08XS40XX1V250 is a 1,31,072 words of 8-bit. Electrically Erasable and Programmable CMOS ROM . It is organized with one bank of 1Mbit . This module operates at high speed, low power consumption and high reliability by employing advanced MNOS memory technology and CMOS process and circuitry technology. It is particularly well suited for use in high reliability, high performance and high density system applications.

The VDEE1M08XS40XX1V250 is packaged in a 40 pins SOP.

2 Features

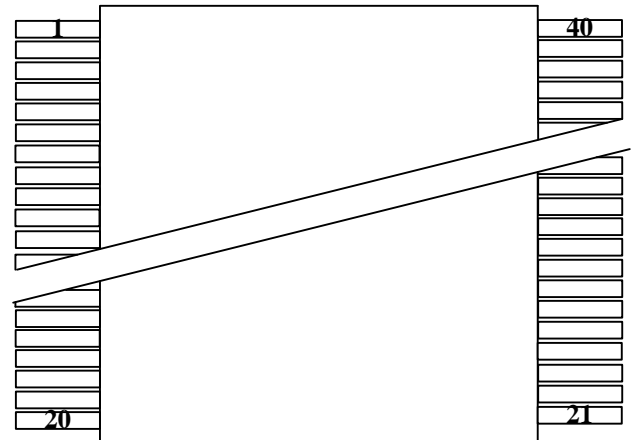
- Single 3.3 V supply: 2.7 V to 3.6 V
- Access time: 250 ns (max)
- Power dissipation
 - Active: 20 mW/MHz, (typ)
 - Standby: 110 μ W (max)
- On-chip latches: address, data, # CE0, #OE, #WE
- Automatic byte write: 15 ms (max)
- Automatic page write (128 bytes): 15 ms (max)
- Data polling and RDY/#Busy
- 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	NC
NC	2	39	NC
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
NC	19	22	NC
NC	20	21	NC



Name	Function
A0~A16	Address Input..
I/O0- I/O7	Data Input/Output Ports. 8 bit-directional ports are used to read data from or write data into the EEPROM.

#CE0	Die Enable Input .When #CE0 is Low, the command input cycle becomes valid. When #CE0 is High, input are ignored.
RDY/#BUSY	Ready busy.
#RES	Reset input.
#OE	Output enable.
#WE	Write Enable Input. Enables write operation.
VCC	Power supply
VSS	Ground
NC	No connection This pin is recommended to be left No Connection on the device.

5 Electrical Specifications

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

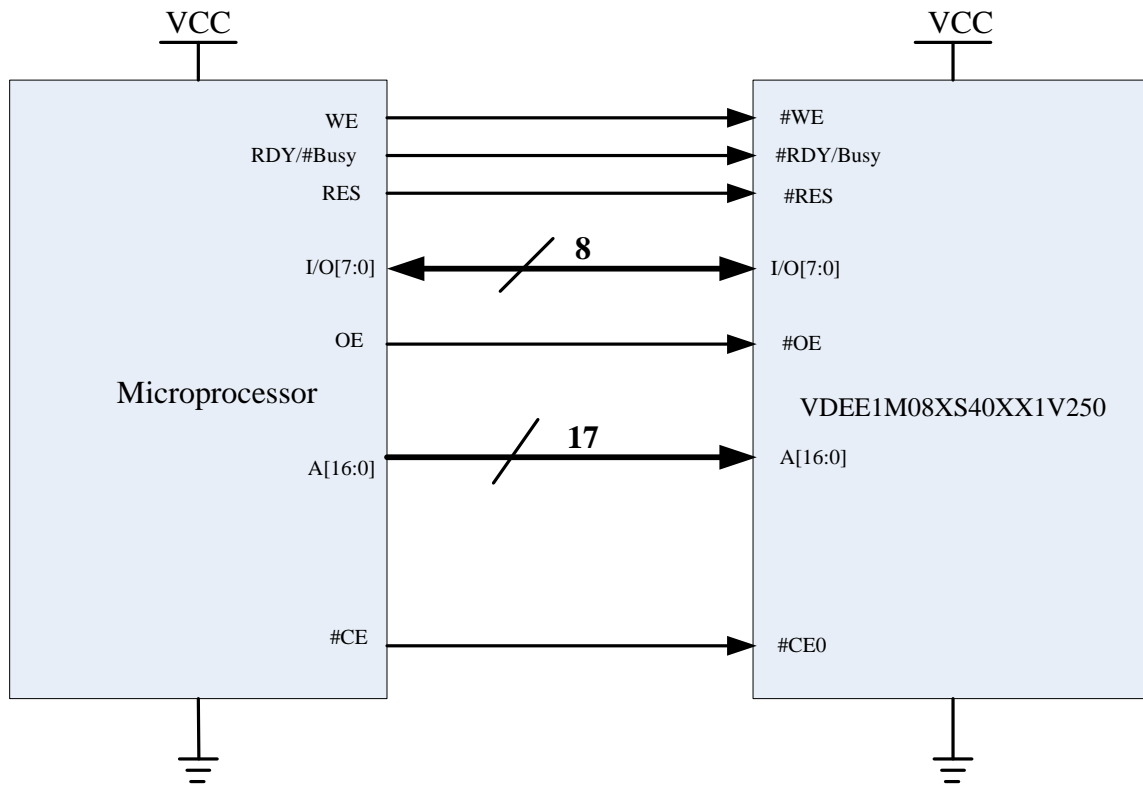
5.2 Recommended DC Operating Conditions

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

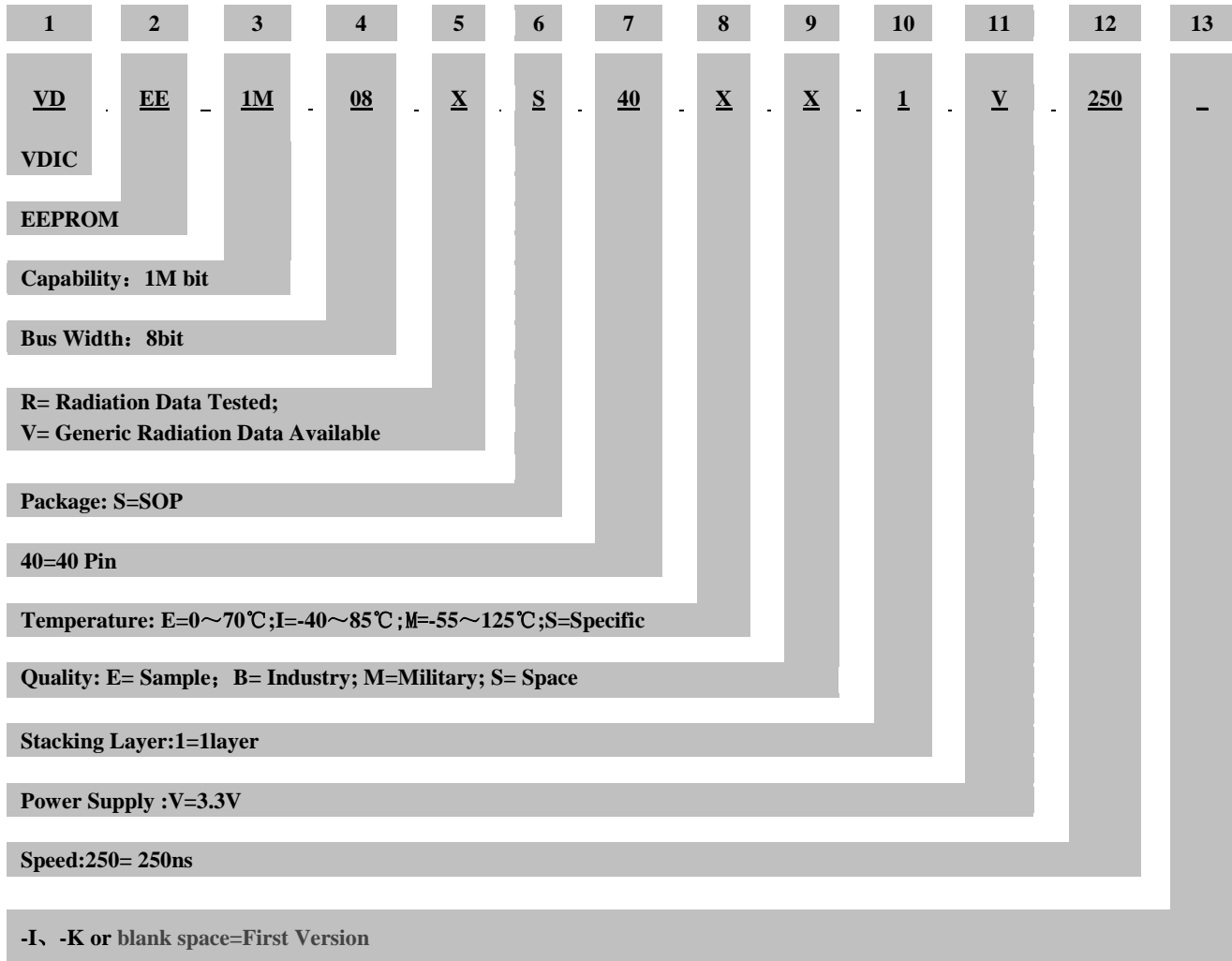
5.3 DC Characteristics (VCC = 2.7 V to 3.6 V)

Parameter	Symbol	Test conditions	min.	max.	Unit
Output voltage low level	VOL	V _{CC} =2.7V , I _{OL} = 2.1mA	—	0.4	V
Output voltage high level	VOH	V _{CC} =2.7V , I _{OH} = -400uA	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		
VDEE1M08VS40EE1V250	1M	8	-	-	-	SOP40	0 ~ + 70
VDEE1M08VS40IB1V250	1M	8	-	-	-	SOP40	-40 ~ + 85
VDEE1M08VS40MB1V250	1M	8	-	-	-	SOP40	-55 ~ + 125
VDEE1M08VS40MM1V250	1M	8	-	-	-	SOP40	-55 ~ + 125

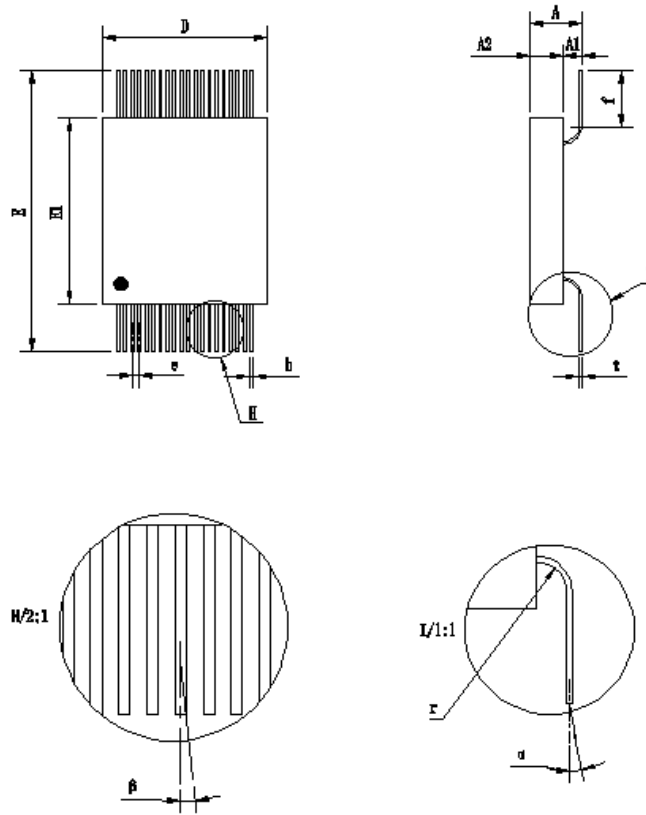
¹ TID: Total Dose (Krad(Si))

² SEL: LET Threshold (Mev.cm²/mg)

³ SEU:SEU Threshold (Mev.cm²/mg)

VDEE1M08RS40MS1V250	1M	8	30	99.8	25	SOP40	-55 ~ + 125
---------------------	----	---	----	------	----	-------	-------------

8 Package Dimensions



	Min	Max
A	3.70	4.40
A2	2.50	3.10
D	11.50	11.90
E	19.80	20.20
E1	13.00	13.40
f	3.98	
b	0.25	
e	0.5	
r	1.0	
t	0.2	
α	$\leq 3^\circ$	
β	$\leq 3^\circ$	
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