VDIC
EEPROM MEMORY

VDEE2M08XS40XX2C250-II
USER MANUAL

Version : A0

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VDIC-EEPROM

5.0V 256K × 8bit

1 Description

The VDEE2M08XS40XX2C250-II is a 256K × 8bit. Electrically Erasable and Programmable CMOS ROM.It is organized as two dies of 1Mbit. Each die has 8-bit interface and is selected with specific #CEn. All other signals are common to the four 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 VDEE2M08XS40XX2C250-II is packaged in a 40 pins SOP.

2 Features

- Single 5.0V supply: 4.5 V to 5.5V
- Access time: 150 ns (max)
- Power dissipation
  - Active: 80 mW/MHz, (typ)
  - Standby: 440 μW (max)
- On-chip latches: address, data, #CEn, #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
- 10^4erase/write cycles (in page mode)
- 10 years data retention
- Software data protection
- Write protection by #RES pin

3 Block Diagram

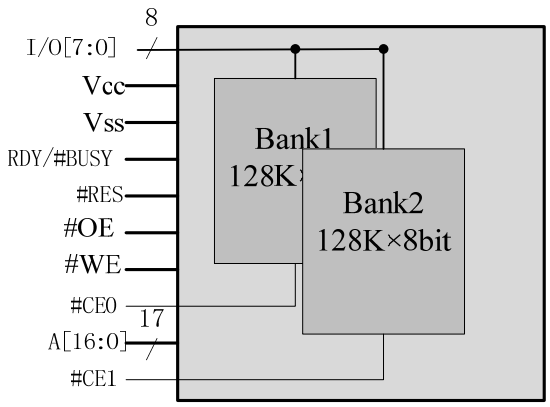

Figure 1 Block diagram

4 Pin Descriptions

Pin Id	Pin #		Pin Id
VSS	1	40	**NC**
NC	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**
NC	19	22	**NC**
NC	20	21	**NC**

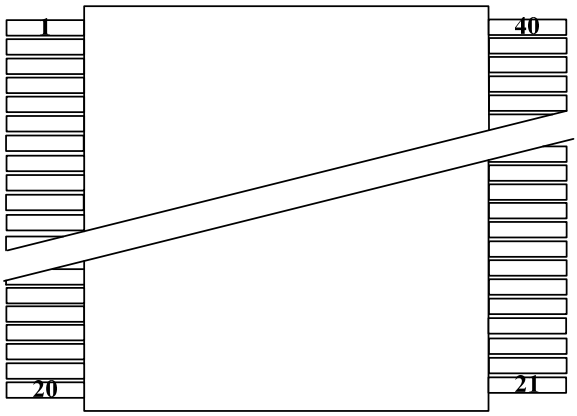

Figure 2 Pin configuration

Table 1 Pin description

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 (Die1)	Die Enable Input .When #CEn is Low, the command input cycle becomes valid. When #CEn is High, all inputs are ignored.
#CE1 (Die2)	
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 Specifictions

5.1 Absolute Maximum Ratings

Table 2 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	℃
Storage temperature range	T_{STG}	-65 to +150	℃
Power Dissipation	P_D	0.5	W

5.2 Recommended DC Operating Conditions

Table 3 Recommended DC operating condition

Parameter	Symbol	Min	Typ	Max	Unit
Supply voltage	V_{CC}	4.5	5.0	5.5	V
	V_{SS}	0	0	0	V
Input voltage	V_{IL}	-0.3	-	0.8	V
	V_{IH}	2.2	-	V_{CC}+0.3	V
	V_H	V_{CC}-0.5	-	V_{CC}+1.0	V

5.3 DC Characteristics (V_{CC} = 4.5 V to 5.5 V)

Table 4 DC characteristics

Parameter	Symbol	Test conditions	min.	max.	Unit
Output voltage low level	VOL	Vcc=4.5V，I_{OL} = 2.1mA	—	0.4	V
Output voltage high level	VOH	Vcc=4.5V，I_{OH}= -400uA	2.4	—	V

6 Typical Application

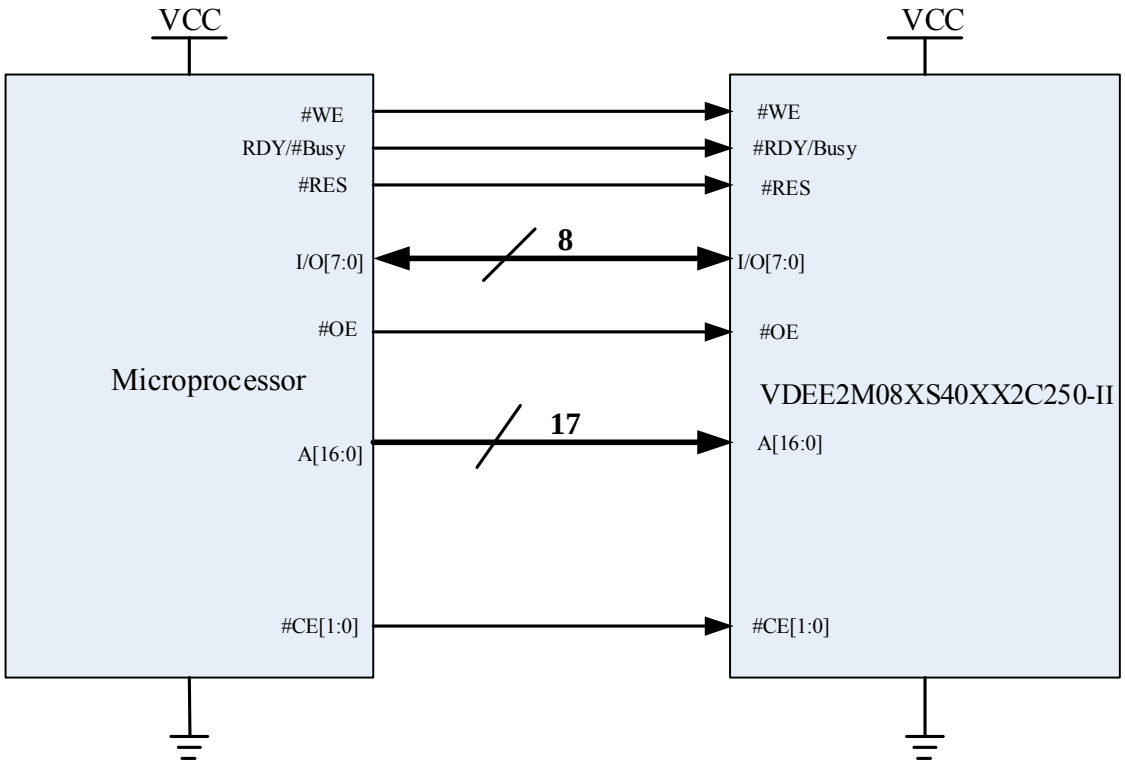

Figure 3 Typical application

7 Ordering Information

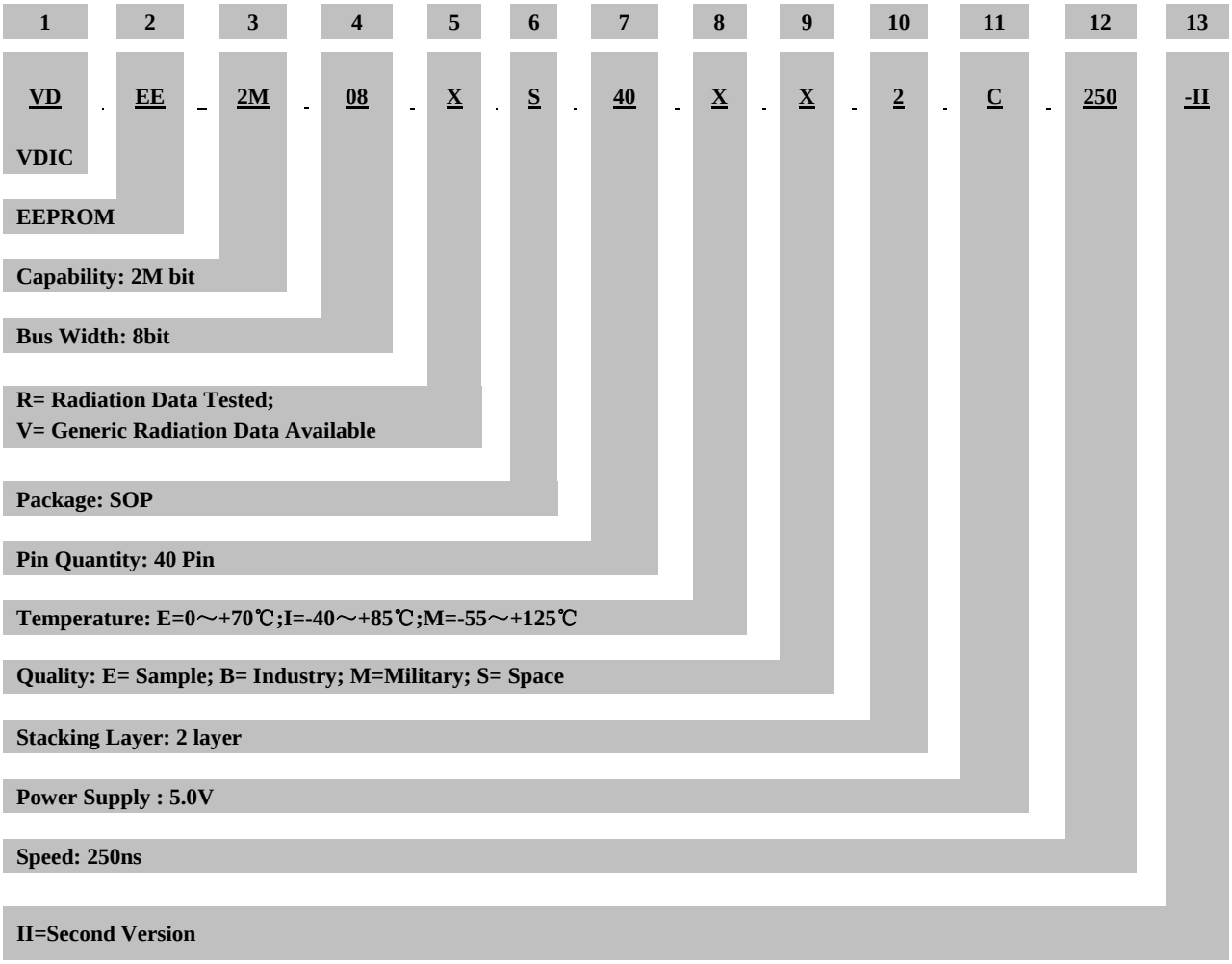

Table 5 Ordering information

Part Number	Capacity (bit)	Bus Width (bit)	Radiation			Packaging	Temperature (℃)
			TID[1]	SEL[2]	SEU[3]		
VDEE2M08VS40EE2C250-II	2M	8	-	-	-	SOP40	0 ~ + 70
VDEE2M08VS40IB2C250-II	2M	8	-	-	-	SOP40	-40 ~ + 85
VDEE2M08VS40MM2C250-II	2M	8	-	-	-	SOP40	-55 ~ + 125
VDEE2M08RS40MS2C250-II	2M	8	TBD	TBD	TBD	SOP40	-55 ~ + 125

[1] TID: Total Dose（Krads(Si)）
[2] SEL: LET Threshold（Mev.cm2/mg）
[3] SEU:SEU Threshold （Mev.cm2/mg）

8 Package Dimensions

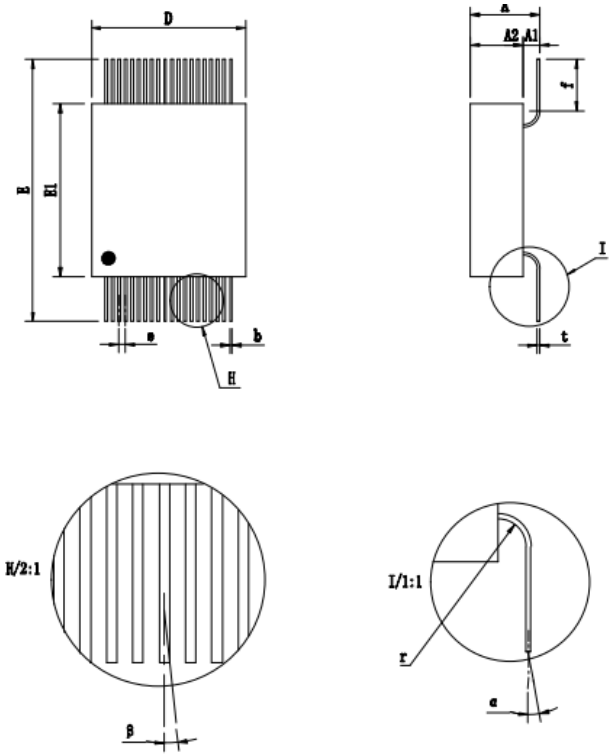

Figure 4 Package dimensions

Table 6 Dimensions information

	Min	Max
A	5.20	5.70
A2	4.00	4.40
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	≤3°	
β	≤3°	
NOTE: 1.Uint: mm 2. A1= A - A2		

9 REVISION HISTORY

Table 7 Revision history

Revision	Date	Description of Change
A0	Mar 27th,2020	First Created