VDIC ASYNCHRONOUS STATIC RAM

VDSR8M32XS64XX2V12 USER MANUAL

Version : A1

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VDIC-SRAM

HIGH-SPEED 256K× 32bit

ASYNCHRONOUS STATIC RAM

1 Description

The VDSR8M32XS64XX2V12 is a high-speed highly integrated Static Random Access Memory containing 8.388.608bits.It is organized with two banks of 4Mbit.Each bank has 16-bit interface and is selected with specific #CS.It is particularly well suites for use in high reliability,high performance and high density system applications,such an solid state mass recorder,server or workstation.

The VDSR8M32XS64XX2V12 is available in 64-pin SOP package.

2 Features

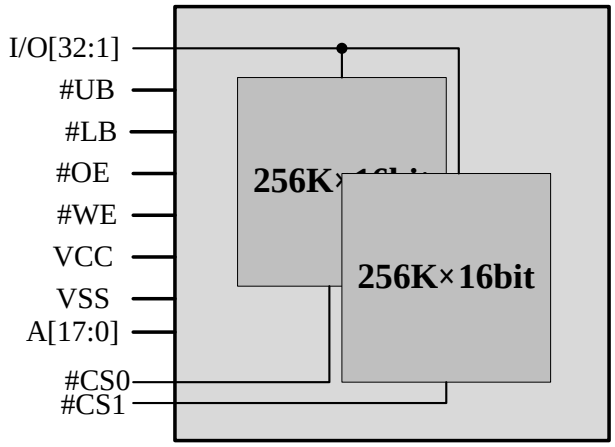
- Single 3.3V±0.3V power supply
- Fast Access time: 15ns
- Power Dissipation :

  Standy 30 mA

  Operating 260mA(Max)
- TTL Compatible Input and Outputs
- Fully Static Operation

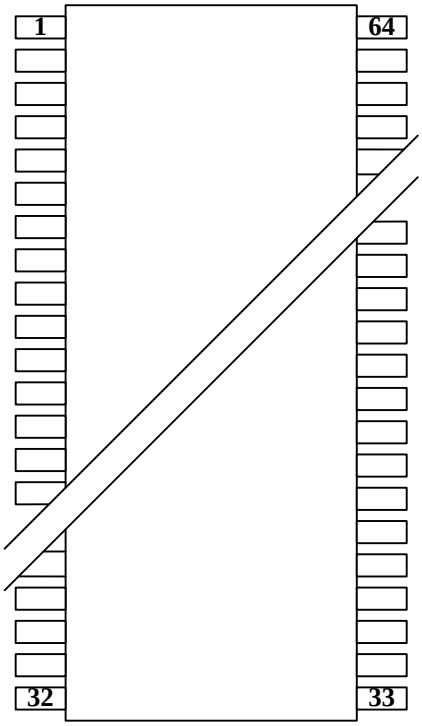
  No clock or Refresh required
- Three State Outputs
- Center Power / Ground Pin Configuration.
- Die control : #CS0, #CS1,chip select

3 Block Diagram



4 Pin Descriptions

Pin Id	Pin #		Pin Id
I/O19	1	64	**NC**
I/O18	2	63	**I/O29**
I/O17	3	62	**I/O30**
#CS1	4	61	**I/O31**
NC	5	60	**I/O32**
A0	6	59	**A17**
A1	7	58	**A16**
A2	8	57	**A15**
A3	9	56	**#OE**
A4	10	55	**#UB**
#CS0	11	54	**#LB**
I/O1	12	53	**I/O16**
I/O2	13	52	**I/O15**
I//O3	14	51	**I/O14**
I/O4	15	50	**I/O13**
VCC	16	49	**VSS**
VSS	17	48	**VCC**
I/O5	18	47	**I/O12**
I/O6	19	46	**I/O11**
I/O7	20	45	**I/O10**
I/O8	21	44	**I/O9**
#WE	22	43	**NC**
A5	23	42	**A14**
A6	24	41	**A13**
A7	25	40	**A12**
A8	26	39	**A11**
A9	27	38	**A10**
I/O24	28	37	**I/O25**
I/O23	29	36	**I/O26**
I/O22	30	35	**I/O27**
I/O21	31	34	**I/O28**
I/O20	32	33	**NC**



Pin	Name	Function
#CS0	Chip select	Disables or enables memory die1 operation
#CS1	Chip select	Disables or enables memory die2 operation
A0 ~ A17	Address	Row/column 18-bit addresses
#WE	Write enable	Enables write operation common to all dies
#OE	Output enable	Enables data output common to all dies
#UB	Upper byte select	Latches upper bytes addresses common to all dies
#LB	Lower byte select	Latches lower bytes addresses common to all dies
I/O1 ~ I/O32	Data input/output	Data inputs/outputs 32-bit wide bus
Vcc/Vss	Power supply/ground	Power and ground for the input/output buffers and core logic.
NC	No connection	This pin is recommended to be left No Connection on the device.

5 Command Operation

5.1 Absolute Maximum Ratings

Characteristics	Symbol	Maximum ratings	Unit
Voltage on V_{CC} supply relative to Vss	V_{CC}	-0.5 to +4.6	V
Voltage on any pin relative to Vss	V_{IN}	-0.5 to +V_{CC}+0.5	V
Power Dissipation	P_D	1.0	W
Operating Temperature Range	T_{OPR}	-55 to +125	℃
Storage Temperature Range	T_{STG}	-65 to +150	℃

5.2 Recommended DC Operating Conditions

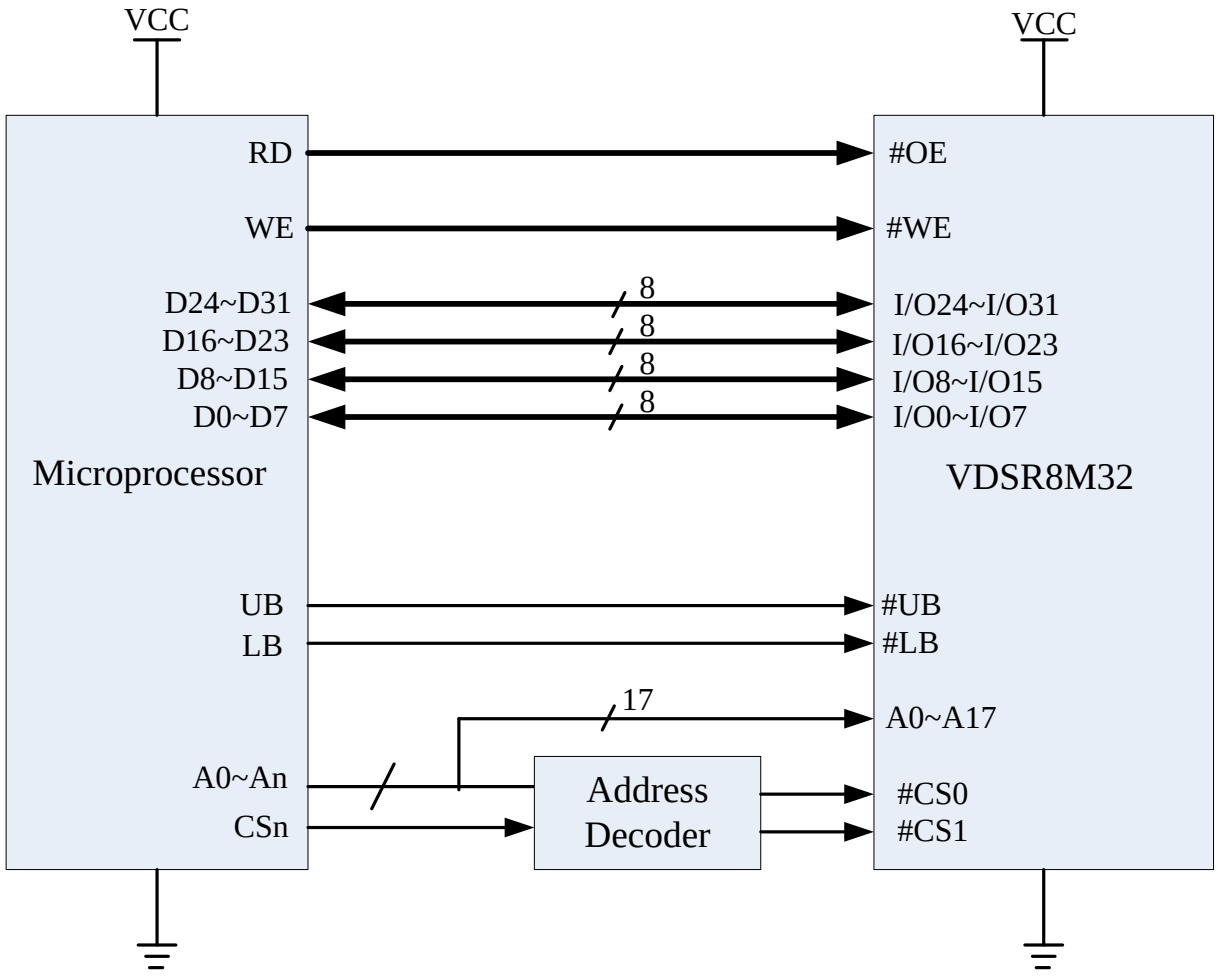
Parameter	Symbol	Min	Typ	Max	Unit
Supply voltage	V_{CC}	3.0	3.3	3.6	V
Input high voltage	V_{IH}	2.0	——	V_{CC}+0.5	V

Parameter	Symbol	Min	Typ	Max	Unit
Input low voltage	V_{IL}	-0.5	——	0.8	V

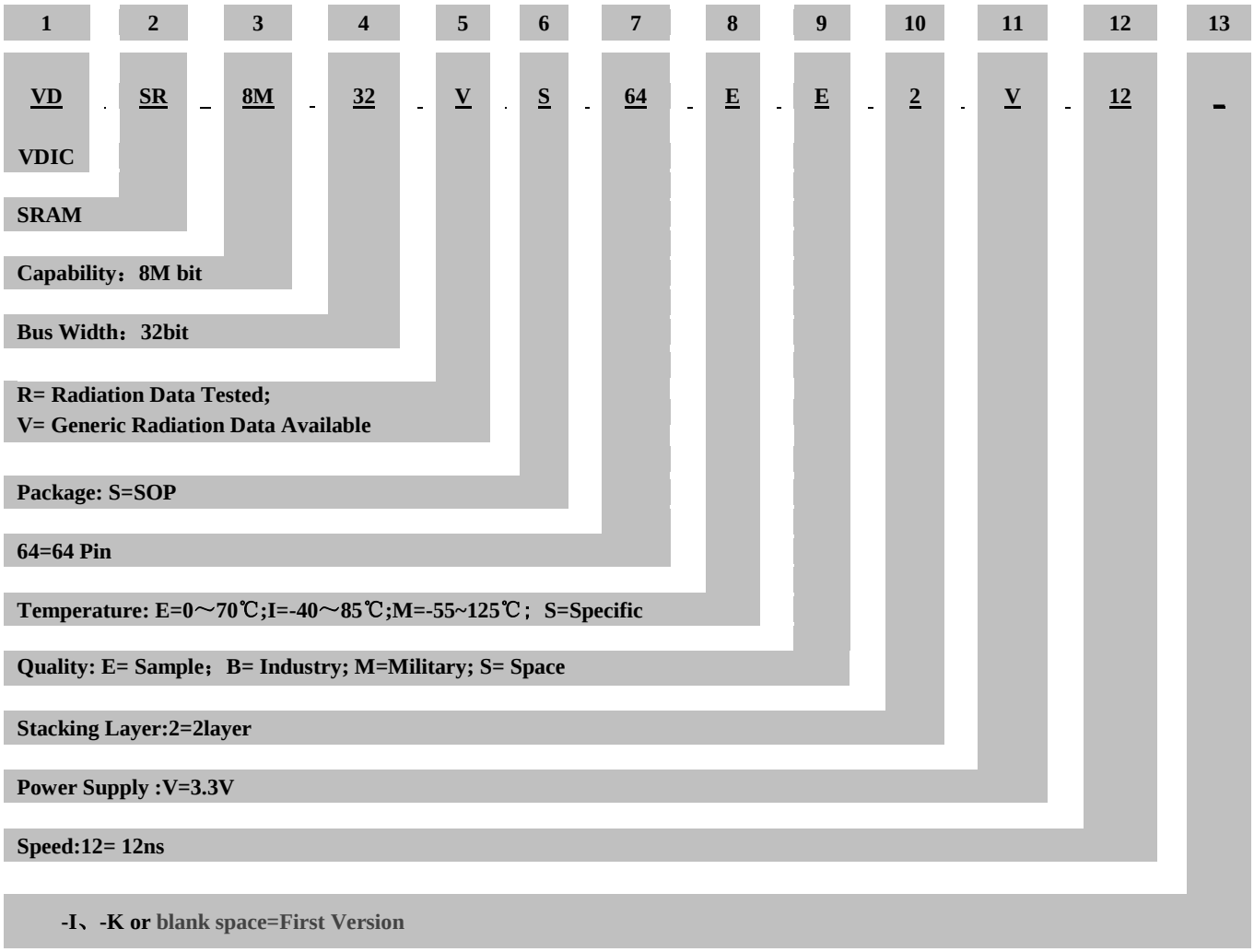
5.3 DC Characteristics

PARAMETERS	Symbol	TEST CONDITIONS	Min	Max	Unit
Output voltage low level	V_{OL}	V_{cc}=3.6V，I_{OL}=1mA	——	0.4	V
Output voltage high level	V_{OH}	V_{cc}=3.6V,I_{OH}=-0.5mA	2.4	——	V

6 Typical Application



7 Ordering Information

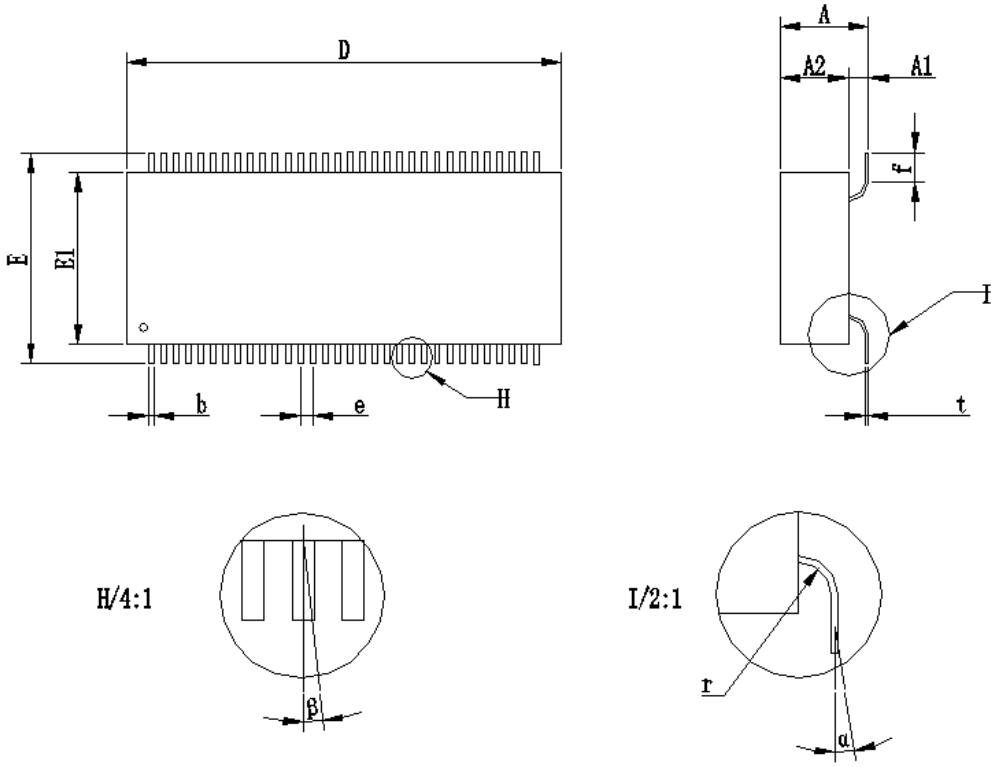


Part Number	Capacity (bit)	Bus Width (bit)	Radiation			Packaging	Temperature (℃)
			TID[1]	SEL[2]	SEU[3]		
VDSR8M32VS64EE2V12	8M	32	-	-	-	SOP64	0 ~ + 70
VDSR8M32VS64IB2V12	8M	32	-	-	-	SOP64	-40 ~ + 85
VDSR8M32VS64MB2V12	8M	32	-	-	-	SOP64	-55 ~ + 125

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

VDSR8M32VS64MM2V12	8M	32	-	-	-	SOP64	-55 ~ + 125
VDSR8M32RS64MS2V12	8M	32	100	99.8	0.7	SOP64	-55 ~ + 125

8 Package Dimensions



	Min	Max
A	5.20	5.70
A2	4.00	4.40
D	27.80	28.20
E	13.40	13.80
E1	10.80	11.20
f	2.0	
b	0.35	
e	0.80	
r	1.00	
t	0.20	
α	≤3°	

	Min	Max
β	≤3°	
NOTE：1. Unit：mm 2. A1= A - A2		

9 REVISION HISTORY

Revision	Date	Description of Change
A0	Nov 3,2015	First Created
A1	Apr 13,2018	Add or reduce chapters