S3AB THRU S3MB

Reverse Voltage - 50 to 1000 Volts Forward Current - 3.0 Ampere

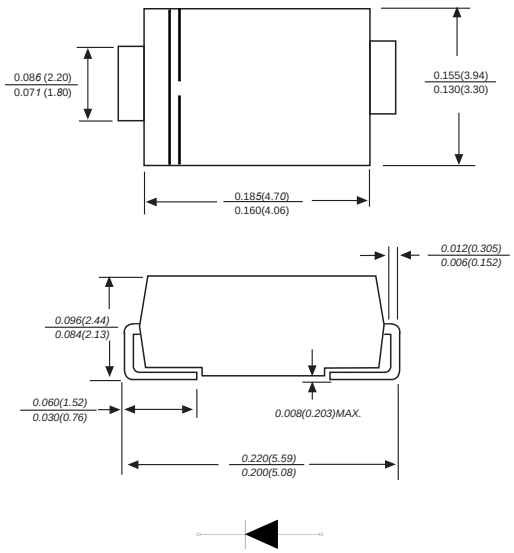
SURFACE MOUNT GENERAL RECTIFIER

Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Idea for printed circuit board
- Open Junction chip
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed 250℃/10 seconds at terminals

DO-214AA/SMB

RoHS COMPLIANT



Dimensions in inches and (millimeters)

Mechanical Data

Case : JEDEC SMB molded plastic body
Terminals : Solderable per MIL-STD-750,Method 2026
Polarity : Polarity symbol marking on body Mounting Position : Any
Weight : 0.003ounce, 0.093grams

Maximum Ratings And Electrical Characteristics

Ratings at 25℃ ambient temperature unless otherwise specified.
Single phase half-wave 60Hz,resistive or inductive load,for capacitive load current derate by 20%.

Parameter	SYMBOLS	S3AB	S3BB	S3DB	S3GB	S3JB	S3KB	S3MB	UNITS
Marking Code		MDD S3AB	MDD S3BB	MDD S3DB	MDD S3GB	MDD S3JB	MDD S3KB	MDD S3MB	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current at TL=110℃	$I_{(AV)}$	3.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed onrated load (JEDEC Method)	I_{FSM}	100							A
Maximum instantaneous forward voltage at 3.0A	V_F	1.10							V
Maximum DC reverse current T_A=25℃ at rated DCblocking voltage T_A=125℃	I_R	5.0 100.0							μA
Typical junction capacitance (NOTE 1)	C_J	60.0							pF
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	50.0							℃/W
Operating junction and storage temperature range	T_J,T_{STG}	-55 to +150							℃

Note:1.Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2.P.C.B. mounted with 0.2x0.2"(5.0x5.0mm) copper pad areas

Typical Characterisitics

FIG. 1- FORWARD CURRENT DERATING CURVE

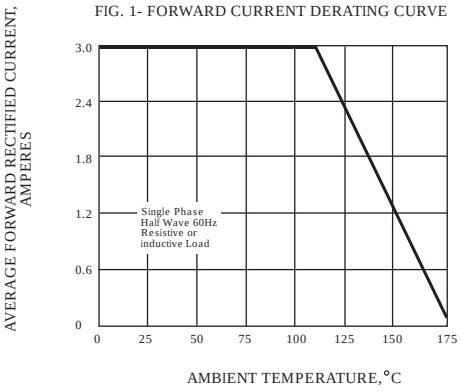


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

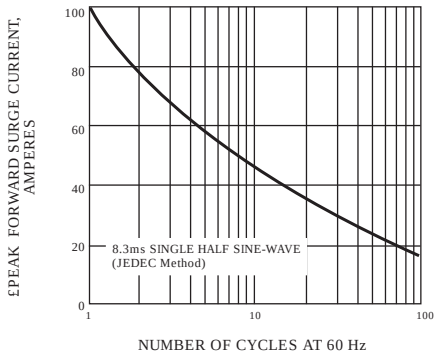


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

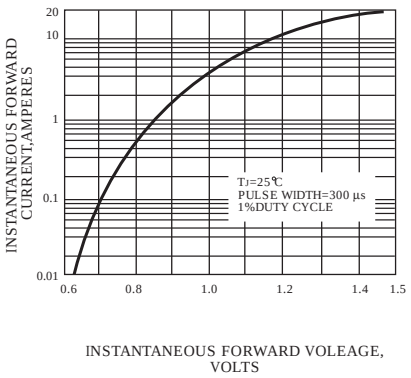


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

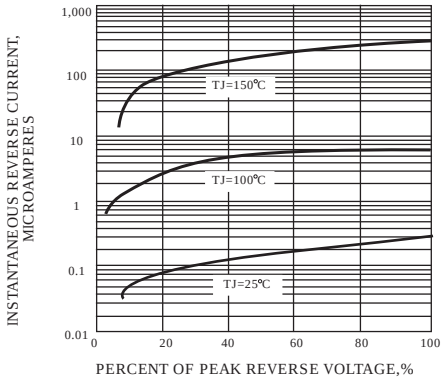


FIG. 5-TYPICAL JUNCTION CAPACITANCE

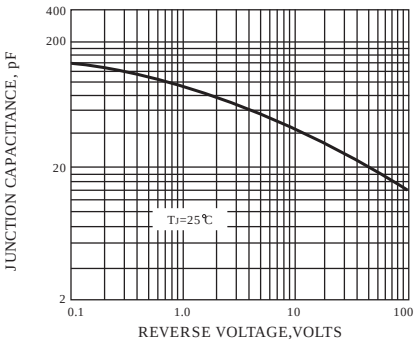
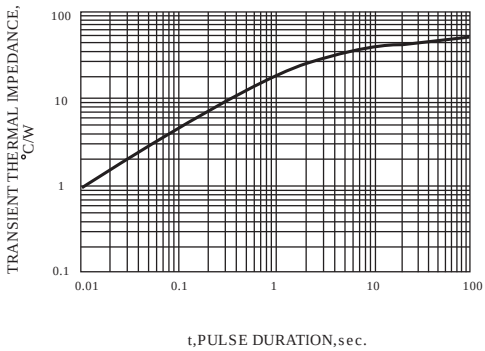
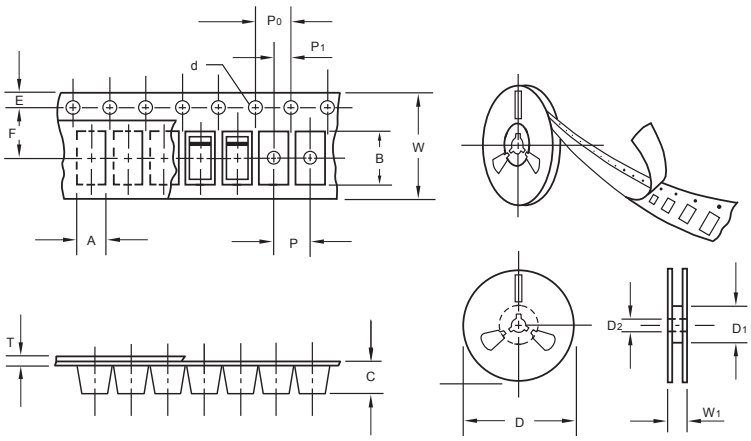


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The curve above is for reference only.

Packing information



unit:mm

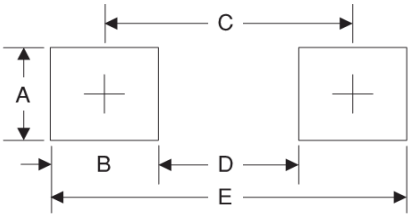
Item	Symbol	Tolerance	SMB
Carrier width	A	0.1	3.81
Carrier length	B	0.1	5.41
Carrier depth	C	0.1	2.42
Sprocket hole	d	0.05	1 5.0
13" Reel outside diameter	D	2.0	330.00
13" Reel inner diameter	D_1	min	50.00
Feed hole diameter	D_2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	5.55
Punch hole pitch	P	0.1	8.00
Sprocket hole pitch	P_0	0.1	4.00
Embossment center	P_1	0.1	2.00
Overall tape thickness	T	0.1	0.30
Tape width	W	0.3	12.00
Reel width	W_1	1.0	12.30

Note:Devices are packed in accor dance with EIA standar RS-481-A and specifications listed above.

Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (mm)	BOX (pcs)	INNER BOX (mm)	REEL DIA, (mm)	CARTON SIZE (mm)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SMB	13"	3,000	4.0	6,000	190*190*41	330	365*365*360	48,000	14.0

Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	2.8	0.110
B	2.4	0.094
C	4.6	0.181
D	2.2	0.086
E	7.0	0.276

Important Notice and Disclaimer

Microdiode Electronics (Jiangsu) reserves the right to make changes to this document and its products and specifications at any time without notice. Customers should obtain and confirm the latest product information and specifications before final design,purchase or use.

Microdiode Electronics (Jiangsu) makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, not does Microdiode Electronics (Jiangsu) assume any liability for application assistance or customer product design. Microdiode Electronics (Jiangsu) does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application.

No license is granted by implication or otherwise under any intellectual property rights of Microdiode Electronics (Jiangsu).

Microdiode Electronics (Jiangsu) products are not authorized for use as critical components in life support devices or systems without express written approval of Microdiode Electronics (Jiangsu).