S3JB-S3MB(LS)

SURFACE MOUNT GLASS PASSIVATED RECTIFIERS

REVERSE VOLTAGE – 600 to 1000 Volts FORWARD CURRENT – 3.0 Amperes

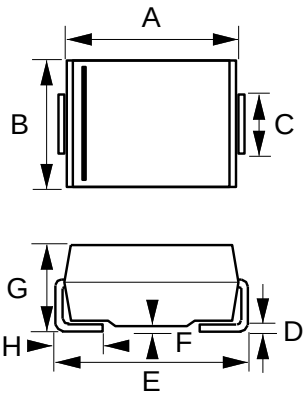
FEATURES

- Glass passivated chip
- For surface mounted applications
- Low reverse leakage current
- Low forward voltage drop
- High current capability
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

MECHANICAL DATA

- Package: Molded plastic
- Package Material molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl.) "Halogen-free".
- Polarity: Color band denotes cathode
- Weight: 0.102 grams (Approximated)

SMB



SMB		
DIM.	MIN.	MAX
A	4.06	4.57
B	3.30	3.94
C	1.96	2.21
D	0.15	0.31
E	5.21	5.59
F	0.05	0.20
G	2.01	2.50
H	0.76	1.52
All dimension in millimeter		

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

ABSOLUTE RATINGS

PARAMETER	SYMBOL	S3JB	S3KB	S3MB	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	600	800	1000	V
Maximum DC blocking voltage	V_{DC}	600	800	1000	V
Maximum average forward rectified current @ T_L=75°C	$I_{(AV)}$	3.0			A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load @T_J=25°C @T_J=125°C	I_{FSM}	120 100			A
Peak forward surge current 1ms single half sine-wave superimposed on rated load @T_J=25°C @T_J=125°C	I_{FSM}	240 200			A
I^2t rating for fusing (t = 8.3ms)	I^2t	42			A^2S
Typical junction capacitance (Note 4)	C_T	40			pF
Operation and storage temperature range	T_J ,T_{STG}	-55 to +150			°C

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS		SYMBOL	MAX.	UNIT
Forward voltage	I_F= 3.0A	T_J=25°C	V_F	1.15	V
Leakage current	V_R rated	T_J=25°C T_J=125°C	I_R	10 250	uA

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP.	UNIT
Typical thermal resistance (Note 5)	R_{thJA} R_{thJL} R_{thJC}	55 12 12	°C/W

DYNAMIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS	SYMBOL	TYP.	UNIT
Reverse recovery time	I_F= 0.5A, I_{rr}= 0.25A, I_R =1.0A	t_{rr}	2000	ns

Notes:

1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
5. Thermal resistance junction to ambient, lead and case.

RATING AND CHARACTERISTIC CURVES
S3JB-S3MB(LS)

FIG.1- FORWARD CURRENT DERATING CURVE

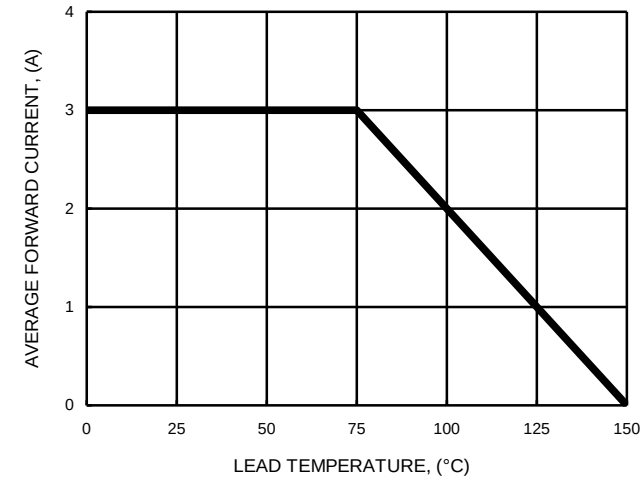


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

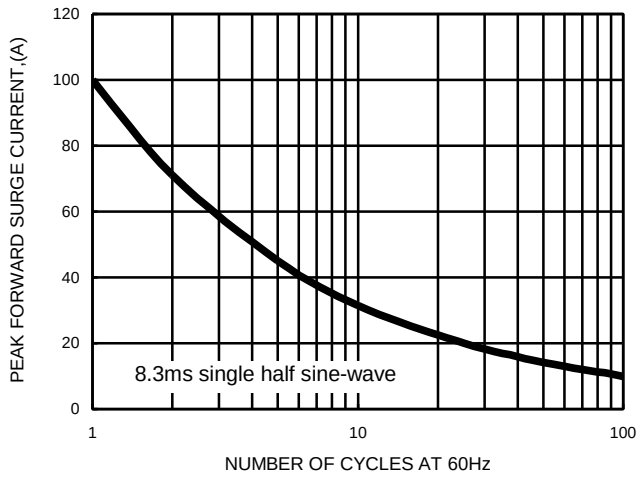


FIG.3- TYPICAL FORWARD CHARACTERISTICS

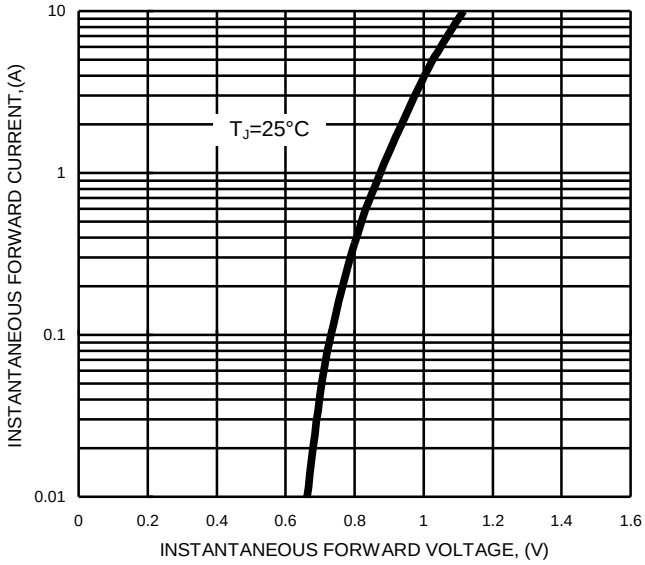


FIG.4- TYPICAL REVERSE CHARACTERISTICS

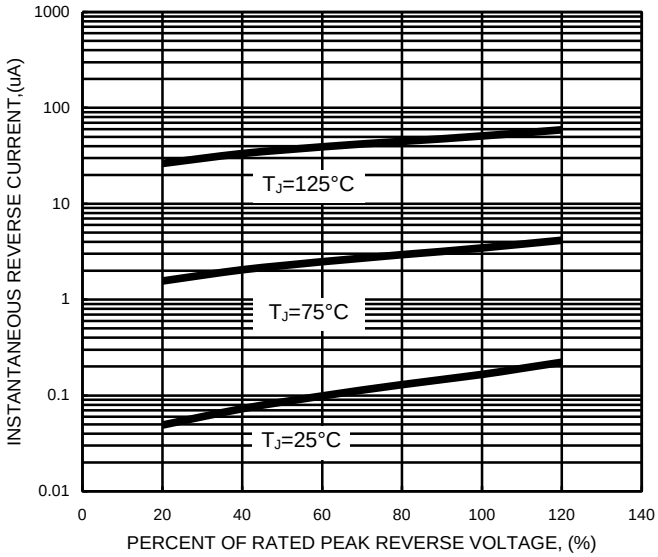
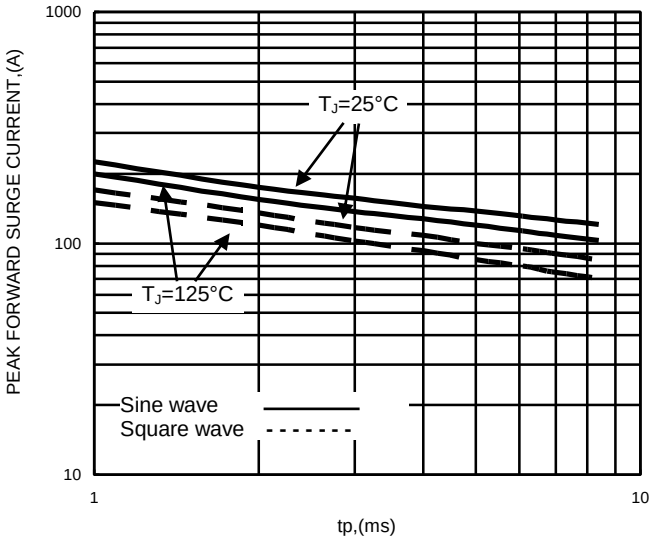


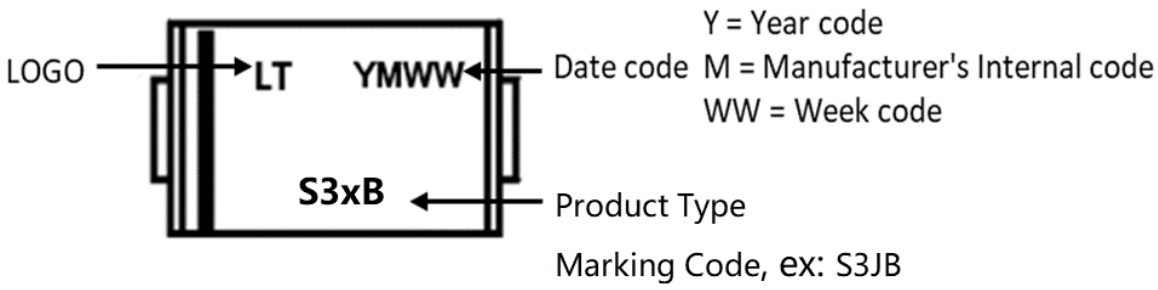
FIG.5- NON-REPETITIVE SURGE CURRENT



Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
S3JB_HF	SMB	3000pcs	Tape & Reel
S3KB_HF	SMB	3000pcs	Tape & Reel
S3MB_HF	SMB	3000pcs	Tape & Reel

Marking Information:



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