

**SURFACE MOUNT  
GLASS PASSIVATED RECTIFIERS**

**REVERSE VOLTAGE – 50 to 1000 Volts  
FORWARD CURRENT – 3.0 Amperes**

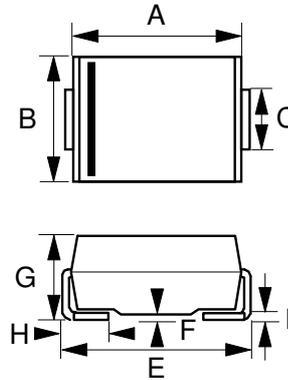
**FEATURES**

- Glass passivated chip
- For surface mounted applications
- Low reverse leakage current
- Low forward voltage drop
- High current capability

**MECHANICAL DATA**

- Case: Molded plastic
- Case 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	S3AB	S3BB	S3DB	S3GB	S3JB	S3KB	S3MB	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum average forward rectified current @ $T_L=75^\circ\text{C}$	$I_{(AV)}$	3.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	@ $T_J=25^\circ\text{C}$	120							A
	@ $T_J=125^\circ\text{C}$	100							A
Peak forward surge current 1ms single half sine-wave superimposed on rated load	@ $T_J=25^\circ\text{C}$	240							A
	@ $T_J=125^\circ\text{C}$	200							A
$I^2 t$ rating for fusing ( $t = 8.3\text{ms}$ )	$I^2 t$	42							$\text{A}^2\text{S}$
Typical junction capacitance (Note1)	$C_J$	40							pF
Operation and storage temperature range	$T_J, T_{STG}$	-55 to +150							$^\circ\text{C}$

**STATIC ELECTRICAL CHARACTERISTICS**

PARAMETER	TEST CONDITIONS	SYMBOL	MAX.	UNIT
Forward voltage	$I_F = 3.0\text{A}$ $T_J = 25^\circ\text{C}$	$V_F$	1.15	V
Leakage current	$V_R$ rated $T_J = 25^\circ\text{C}$	$I_R$	10	$\mu\text{A}$
			250	

**THERMAL CHARACTERISTICS**

PARAMETER	SYMBOL	TYP.	UNIT
Typical thermal resistance (Note2)	$R_{thJA}$	55	$^\circ\text{C/W}$
	$R_{thJL}$	12	
	$R_{thJC}$	12	

**DYNAMIC ELECTRICAL CHARACTERISTICS**

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

**Note :**

- (1) Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
- (2) Thermal resistance junction to ambient, lead and case.

REV. 10, Dec.-2016, KSDB03

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# RATING AND CHARACTERISTIC CURVES S3AB thru S3MB



FIG.1- FORWARD CURRENT DERATING CURVE

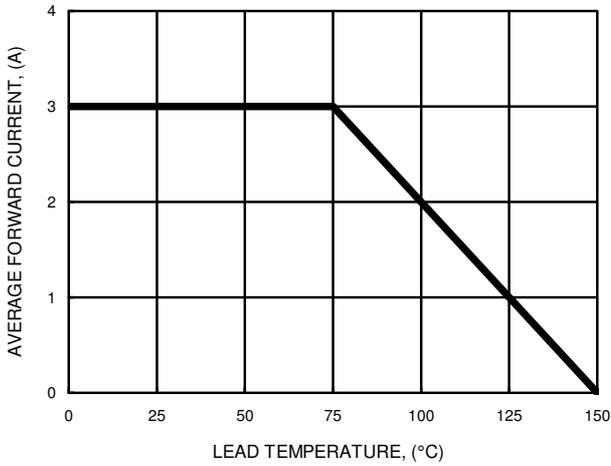


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

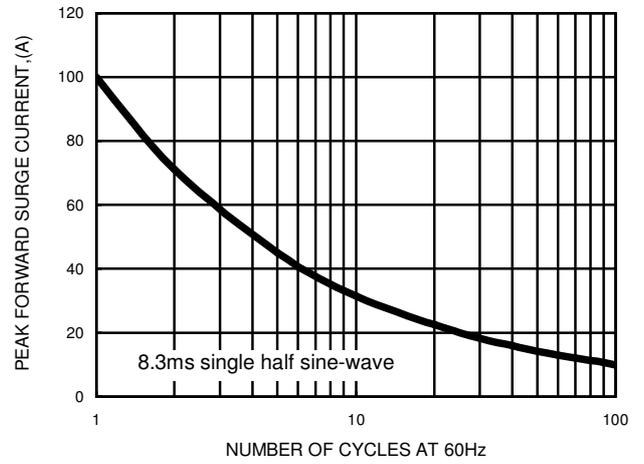


FIG.3- TYPICAL FORWARD CHARACTERISTICS

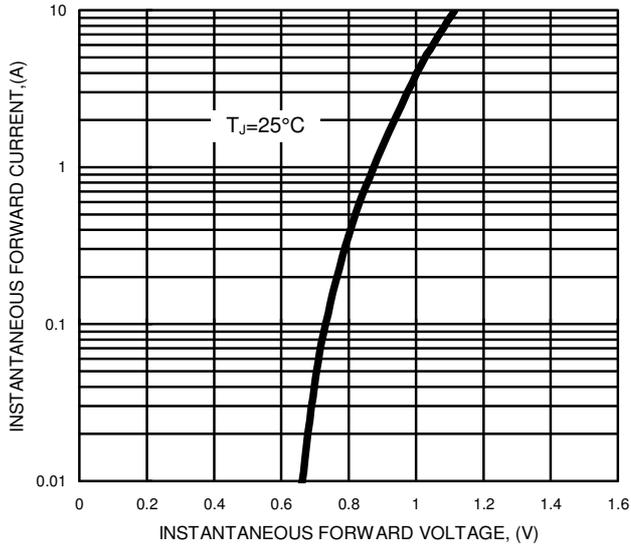


FIG.4- TYPICAL REVERSE CHARACTERISTICS

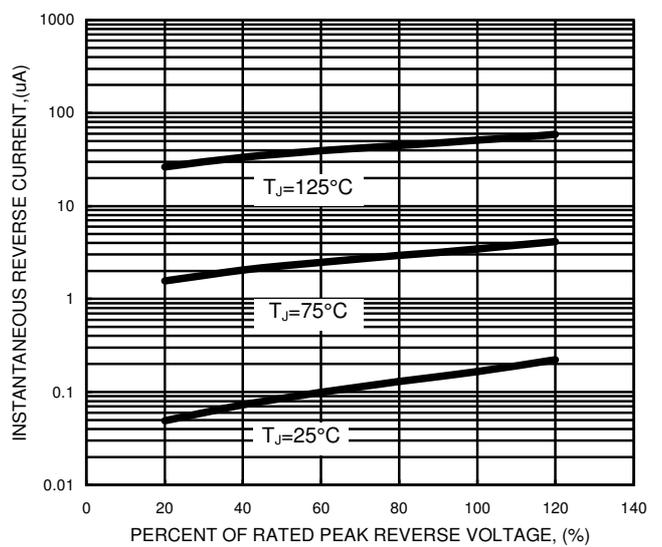
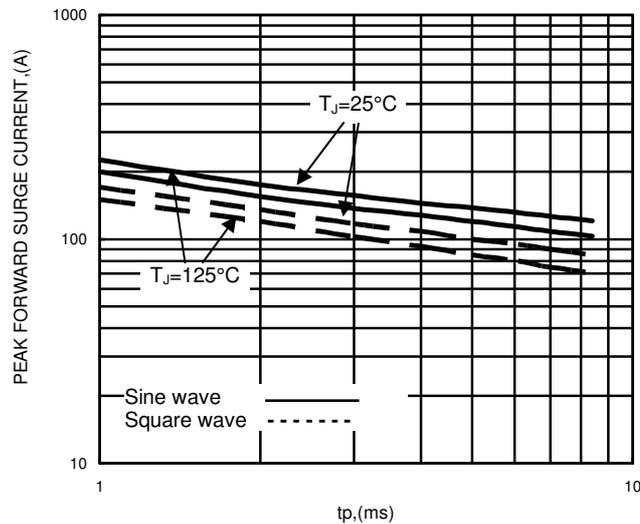


FIG.5- NON-REPETITIVE SURGE CURRENT



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