LITE-ON SEMICONDUCTOR

S3AB thru S3MB

SURFACE MOUNT GLASS PASSIVATED RECTIFIERS

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

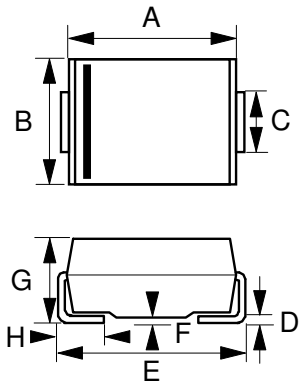
FEATURES

- 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°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 (Note1)	C_J	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 (Note2)	$RthJ_A$ / $RthJ_L$ / $RthJ_C$	55 / 12 / 12	°C/W

DYNAMIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS	SYMBOL	TYP.	UNIT
Reverse recovery time	IF= 0.5A, Irr= 0.25A, IR =1.0A	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

RATING AND CHARACTERISTIC CURVES
S3AB thru S3MB

LITEON

FIG.1- FORWARD CURRENT DERATING CURVE

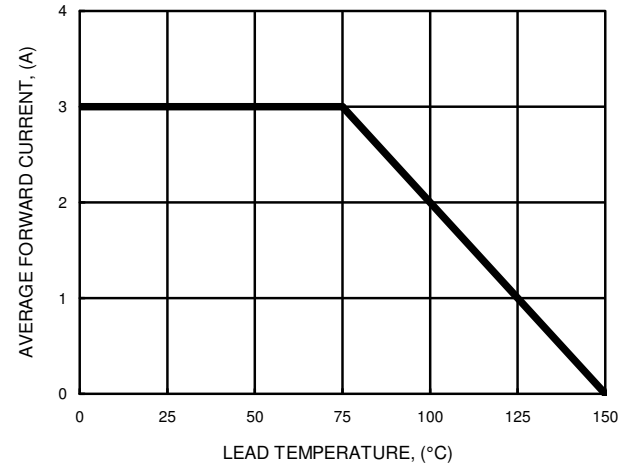


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

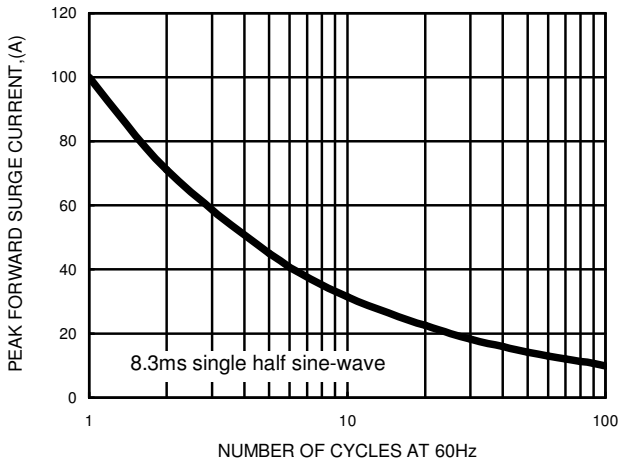


FIG.3- TYPICAL FORWORD CHARACTERISTICS

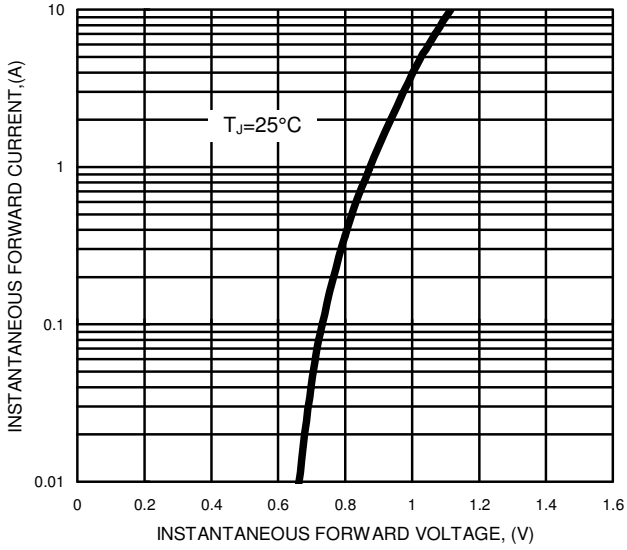


FIG.4- TYPICAL REVERSE CHARACTERISTICS

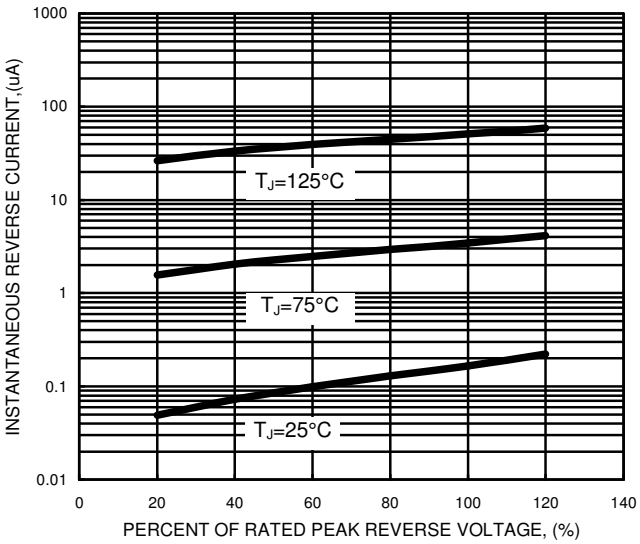
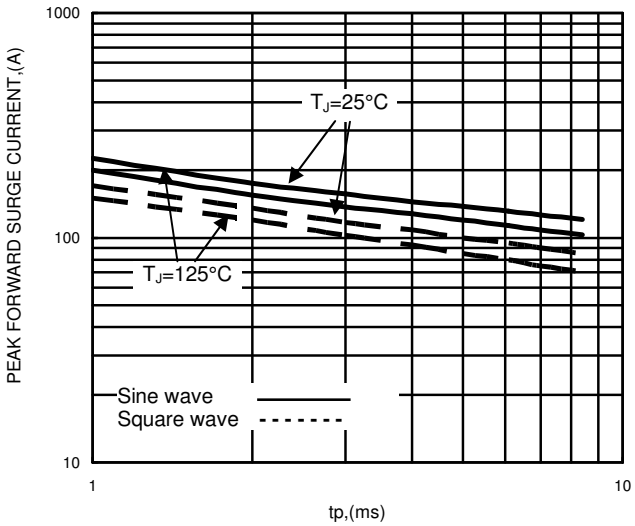


FIG.5- NON-REPETITIVE SURGE CURRENT



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