

**SURFACE MOUNT  
GLASS PASSIVATED RECTIFIER**

**REVERSE VOLTAGE – 50 to 1000 Volts  
FORWARD CURRENT – 1.0 Ampere**

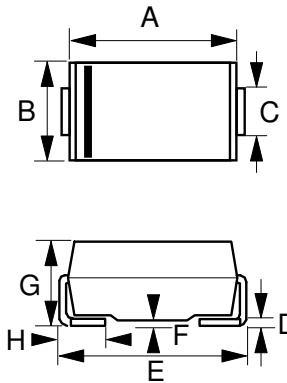
**FEATURES**

- 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: "Green" molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl.), "Halogen-free"
- Suffix "Q" with Part No. means AEC-Q101 Qualified
- Polarity: Indicated by cathode band
- Weight : 0.07 grams ( Approximate )

**SMA**



SMA		
DIM.	MIN.	MAX
A	4.06	4.57
B	2.29	2.92
C	1.27	1.63
D	0.15	0.31
E	4.83	5.59
F	0.05	0.20
G	1.96	2.40
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	S1A	S1B	S1D	S1G	S1J	S1K	S1M	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
Average rectified output current @ $T_L=100^\circ\text{C}$ @ $T_C=100^\circ\text{C}$	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load. ( JEDEC METHOD)	$I_{FSM}$	30							A
Operation and storage temperature range	$T_J, T_{STG}$	-55 to +150							°C

**STATIC ELECTRICAL CHARACTERISTICS**

PARAMETER	TEST CONDITION	SYMBOL	MAX	UNIT
Forward voltage	$I_F=1.0A$	$V_F$	1.1	V
Reverse leakage current	$V_R$ at rated $T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$	$I_R$	5.0 100	uA
Typical junction capacitance (Note 1)		$C_J$	10	pF

**THERMAL CHARACTERISTICS**

PARAMETER	SYMBOL	TYP.	UNIT
Typical thermal resistance (Note 2)	$R_{thJL}$ $R_{thJC}$	30 30	°C/W

**DYNAMIC ELECTRICAL CHARACTERISTICS**

PARAMETER	TEST CONDITION	SYMBOL	TYP.	UNIT
Reverse recovery time	$I_F=0.5A, I_{RR}=0.25A, I_R=1.0A$	$T_{RR}$	1300	ns

**Note :**

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

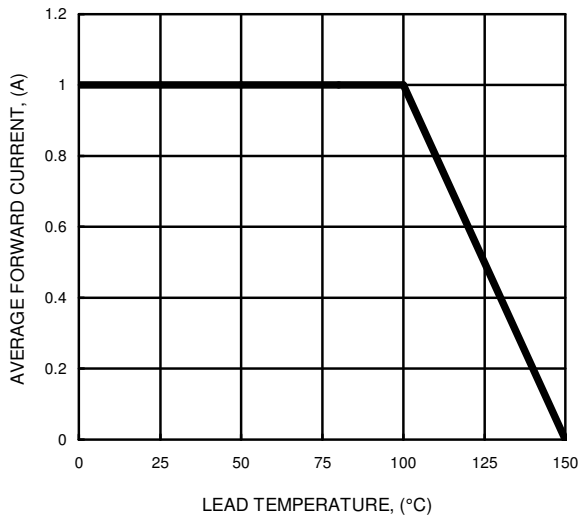
REV. 14, Apr.-2017, KSDA01

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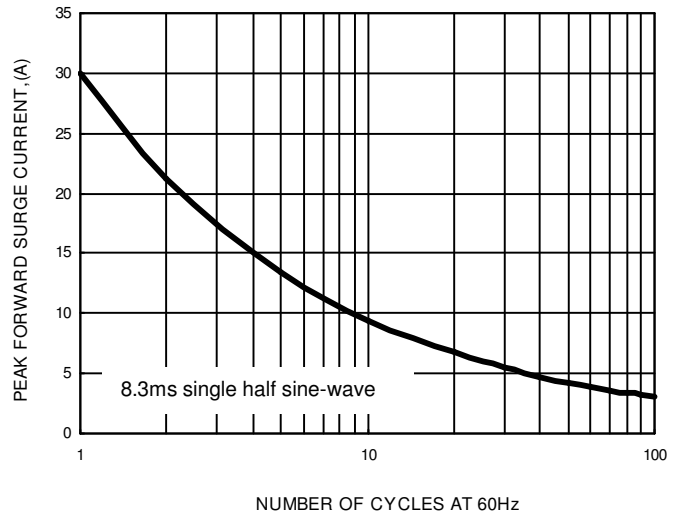
# RATING AND CHARACTERISTIC CURVES S1A thru S1M



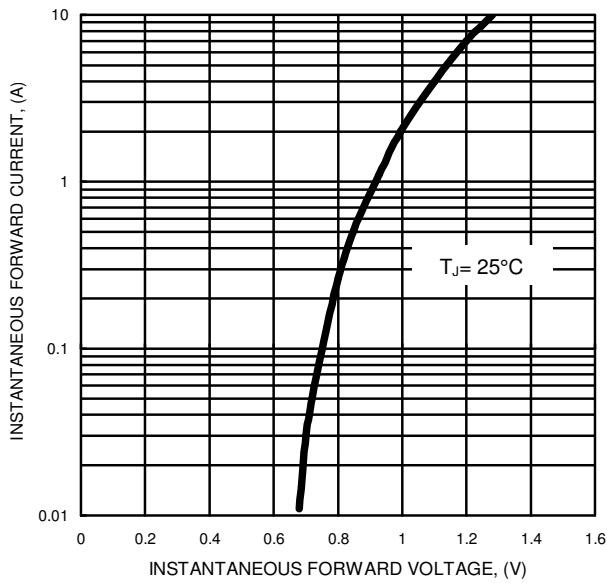
**FIG.1- FORWARD CURRENT DERATING CURVE**



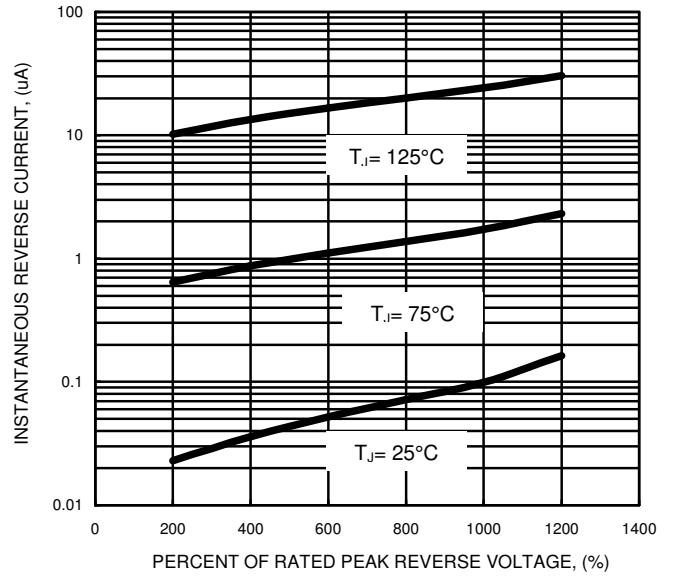
**FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT**



**FIG.3- TYPICAL FORWARD CHARACTERISTICS**



**FIG.4- TYPICAL REVERSE CHARACTERISTICS**



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