

**SURFACE MOUNT
GLASS PASSIVATED RECTIFIER**

**REVERSE VOLTAGE – 600 to 1000 Volts
FORWARD CURRENT – 1.0 Ampere**

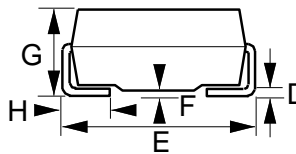
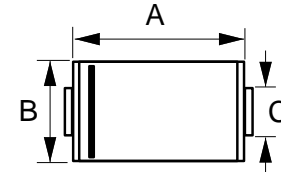
FEATURES

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

MECHANICAL DATA

- Package: Molded plastic
- Package Material: "Green" molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl.), "Halogen-free"
- 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	2.01	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	S1J	S1K	S1M	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	600	800	1000	V
Maximum DC blocking voltage	V_{DC}	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 4)		C_T	10	pF

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP.	UNIT
Typical thermal resistance (Note 5)	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. 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, case and lead.

RATING AND CHARACTERISTIC CURVES
S1J-S1M(LS)

FIG.1- FORWARD CURRENT DERATING CURVE

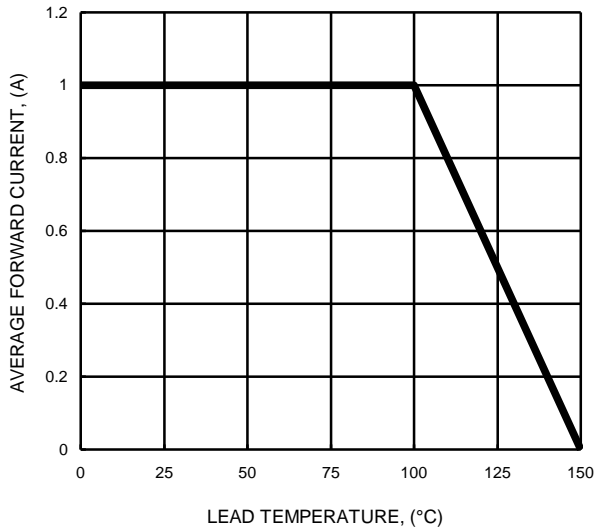


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

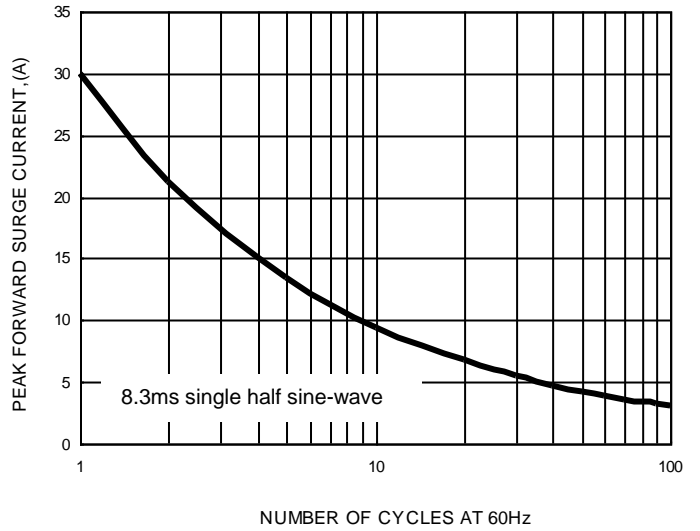


FIG.3- TYPICAL FORWARD CHARACTERISTICS

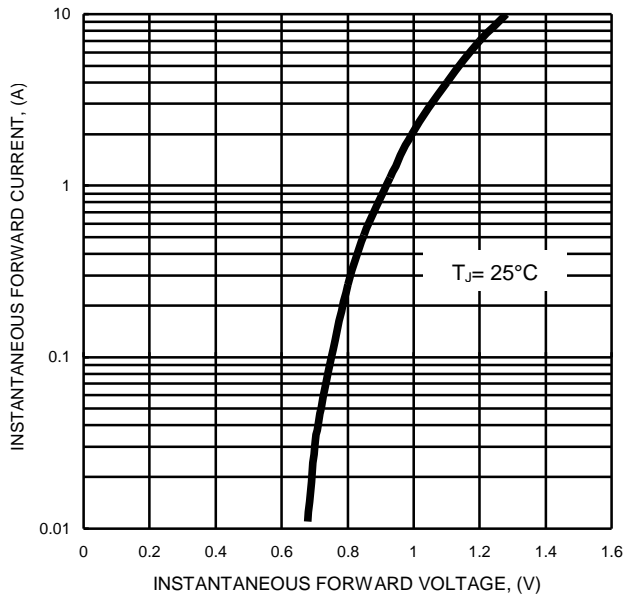
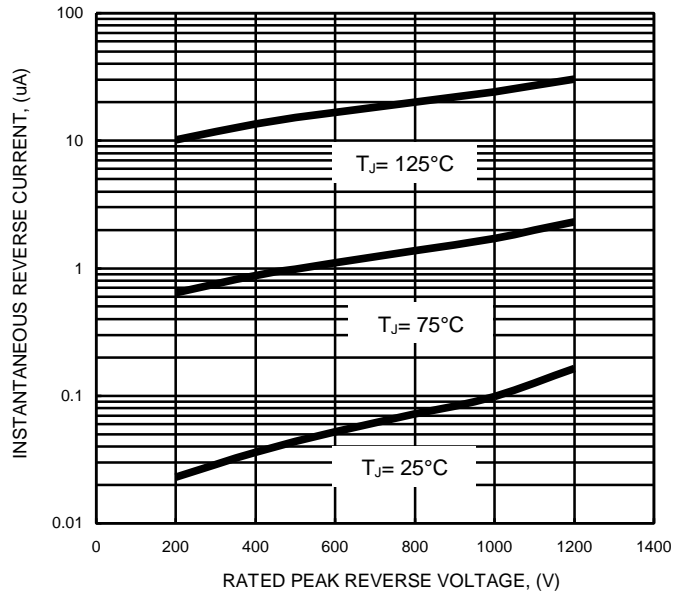


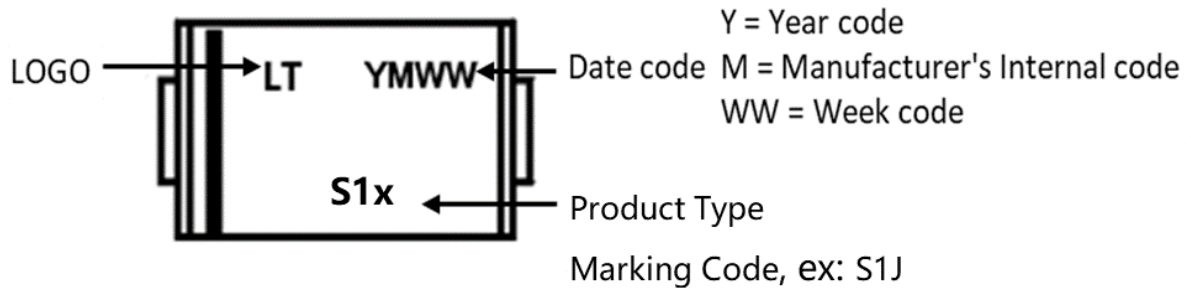
FIG.4- TYPICAL REVERSE CHARACTERISTICS



Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
S1J_HF	SMA	5000	Tape & Reel
S1K_HF	SMA	5000	Tape & Reel
S1M_HF	SMA	5000	Tape & Reel

Marking Information:



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