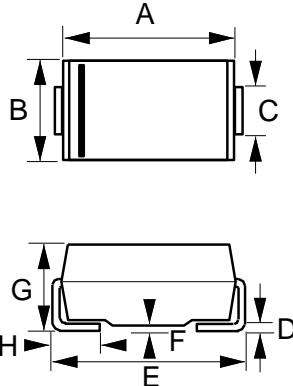


**SURFACE MOUNT  
GLASS PASSIVATED RECTIFIER**
**REVERSE VOLTAGE – 600 to 1000 Volts  
FORWARD CURRENT – 1.0 Ampere**
**FEATURES**

- 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	$I_F=1.0\text{A}$	$V_F$	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)	$R_{th, JL}$ $R_{th, JC}$	30 30	°C/W

**DYNAMIC ELECTRICAL CHARACTERISTICS**

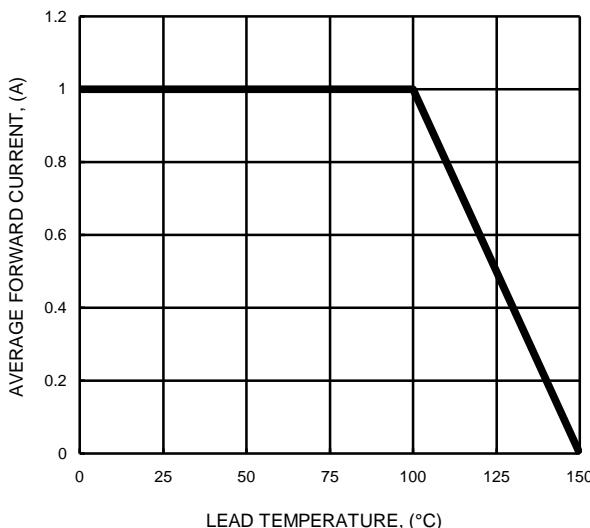
PARAMETER	TEST CONDITION	SYMBOL	TYP.	UNIT
Reverse recovery time	$I_F= 0.5\text{A}$ , $I_{rr}= 0.25\text{A}$ , $I_R = 1.0\text{A}$	$t_{rr}$	1300	ns

**Note:**

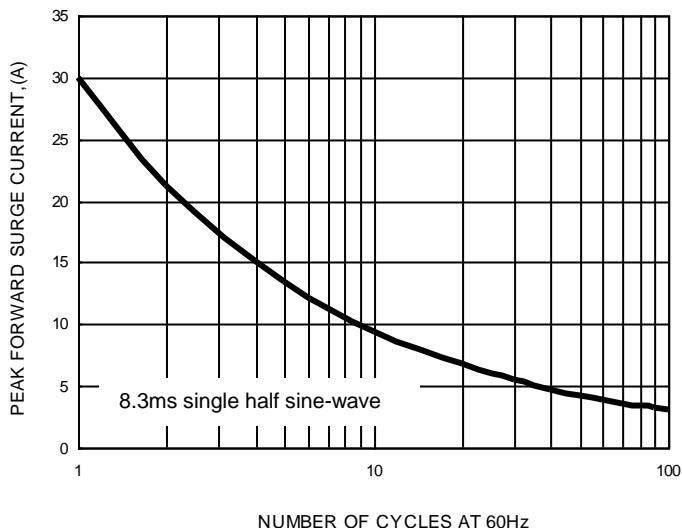
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- 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)**

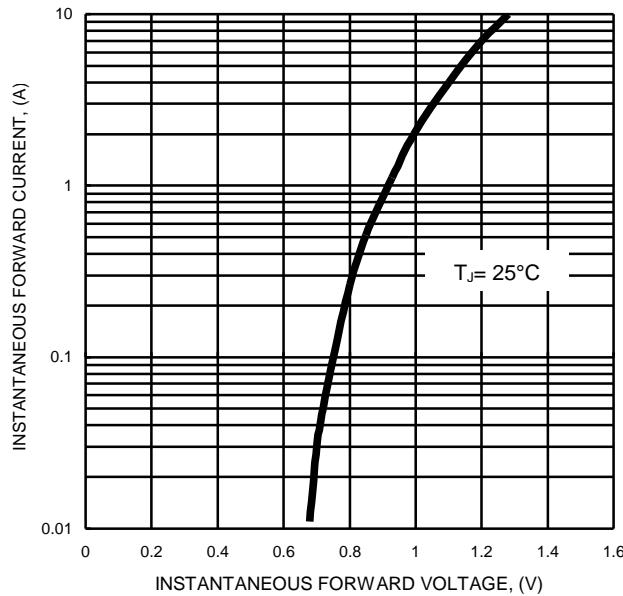
**FIG.1- FORWARD CURRENT DERATING CURVE**



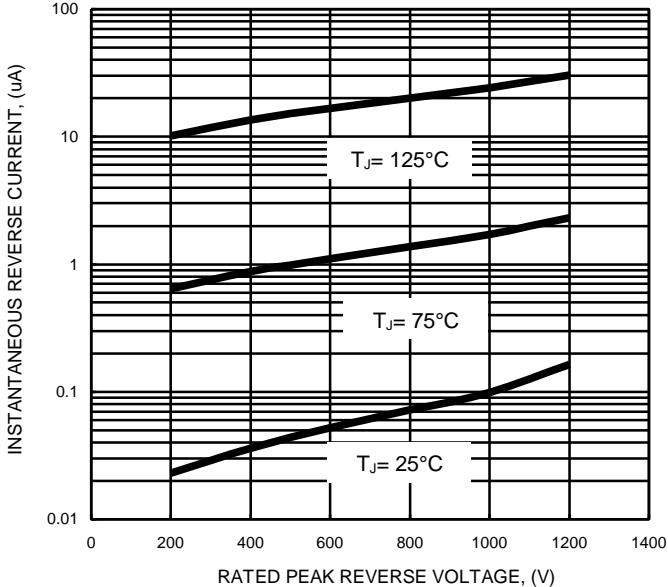
**FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT**



**FIG.3- TYPICAL FORWARD CHARACTERISTICS**

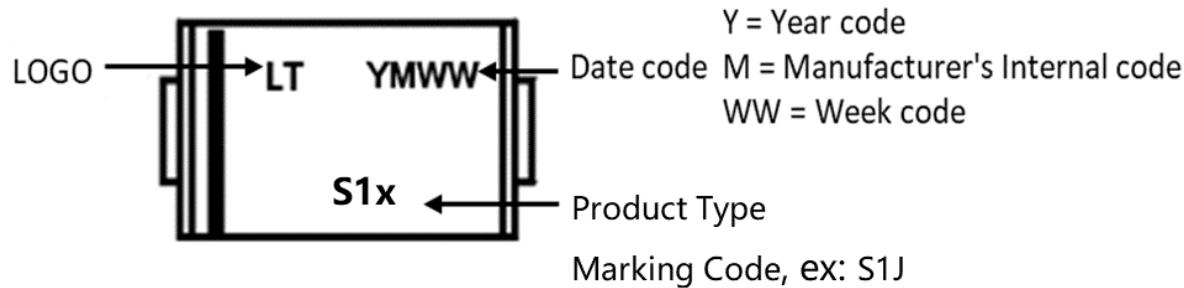


**FIG.4- TYPICAL REVERSE CHARACTERISTICS**



**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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