

Distributed by:

**JAMECO**<sup>®</sup>  
ELECTRONICS

**www.Jameco.com ♦ 1-800-831-4242**

The content and copyrights of the attached  
material are the property of its owner.

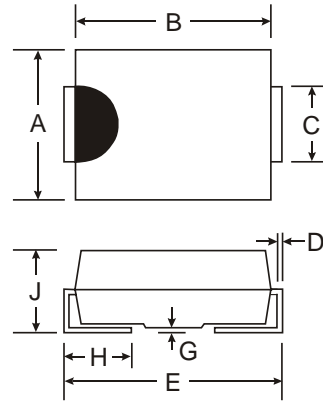
Jameco Part Number 1591455

**Features**

- Glass Passivated Die Construction
- Low Forward Voltage Drop and High Current Capability
- Surge Overload Rating to 30A Peak
- Ideally Suited for Automated Assembly
- **Lead Free Finish/RoHS Compliant (Note 3)**

**Mechanical Data**

- Case: SMA/SMB
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208 **(e3)**
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number, See Page 3
- Ordering Information: See Page 3
- SMA Weight: 0.064 grams (approximate)
- SMB Weight: 0.093 grams (approximate)



Dim	SMA		SMB	
	Min	Max	Min	Max
A	2.29	2.92	3.30	3.94
B	4.00	4.60	4.06	4.57
C	1.27	1.63	1.96	2.21
D	0.15	0.31	0.15	0.31
E	4.80	5.59	5.00	5.59
G	0.10	0.20	0.10	0.20
H	0.76	1.52	0.76	1.52
J	2.01	2.30	2.00	2.40
<b>All Dimensions in mm</b>				

A, B, D, G, J, K, M Suffix Designates SMA Package  
AB, BB, DB, GB, JB, KB, MB Suffix Designates SMB Package

**Maximum Ratings and Electrical Characteristics** @T<sub>A</sub> = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

Characteristic	Symbol	S1 A/AB	S1 B/BB	S1 D/DB	S1 G/GB	S1 J/JB	S1 K/KB	S1 M/MB	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Working Peak Reverse Voltage	V <sub>RWM</sub>								
DC Blocking Voltage	V <sub>R</sub>								
RMS Reverse Voltage	V <sub>R(RMS)</sub>	35	70	140	280	420	560	700	V
Average Rectified Output Current @ T <sub>T</sub> = 100°C	I <sub>O</sub>	1.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load	I <sub>FSM</sub>	30							A
Forward Voltage @ I <sub>F</sub> = 1.0A	V <sub>FM</sub>	1.1							V
Peak Reverse Leakage Current @ T <sub>A</sub> = 25°C	I <sub>RM</sub>	5.0							μA
at Rated DC Blocking Voltage @ T <sub>A</sub> = 125°C		100							
Maximum Reverse Recovery Time (Note 4)	t <sub>rr</sub>	2.0							μs
Typical Total Capacitance (Note 1)	C <sub>T</sub>	10							pF
Typical Thermal Resistance, Junction to Terminal (Note 2)	R <sub>θJT</sub>	30							°C/W
Operating and Storage Temperature Range	T <sub>i</sub> , T <sub>STG</sub>	-65 to +150							°C

- Notes:
1. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
  2. Thermal resistance junction to terminal, unit mounted on PC board with 5.0 mm<sup>2</sup> (0.013 mm thick) copper pads as heat sink.
  3. RoHS revision 13.2.2003. Glass and high temperature solder exemptions applied, see *EU Directive Annex Notes 5 and 7*.
  4. Measured with I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>RR</sub> = 0.25A.

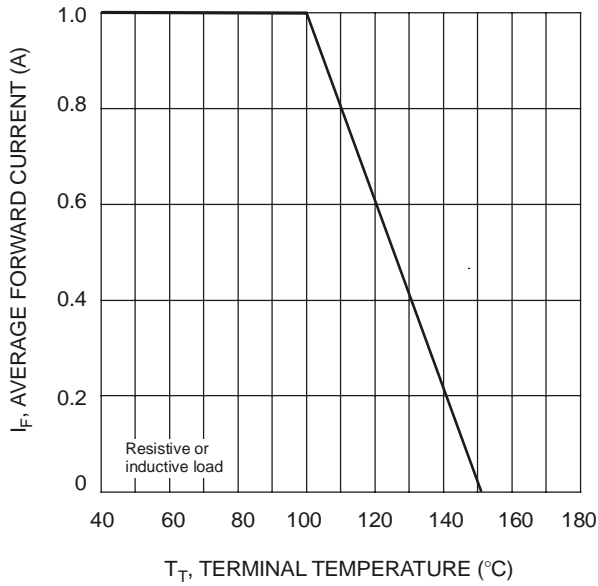


Fig. 1 Forward Current Derating Curve

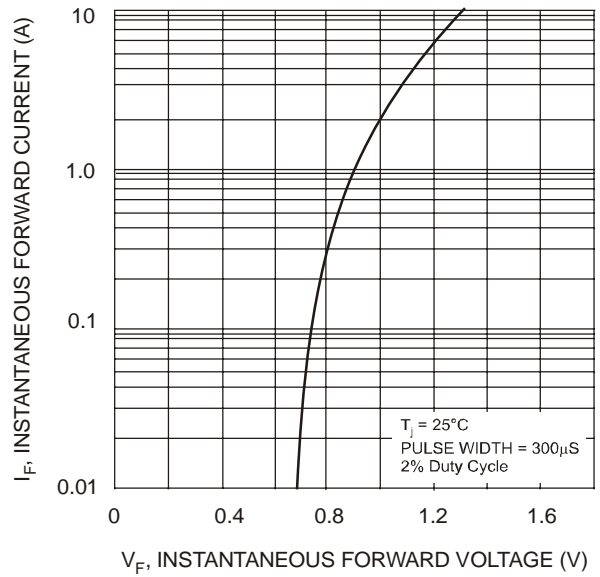


Fig. 2 Typical Forward Characteristics

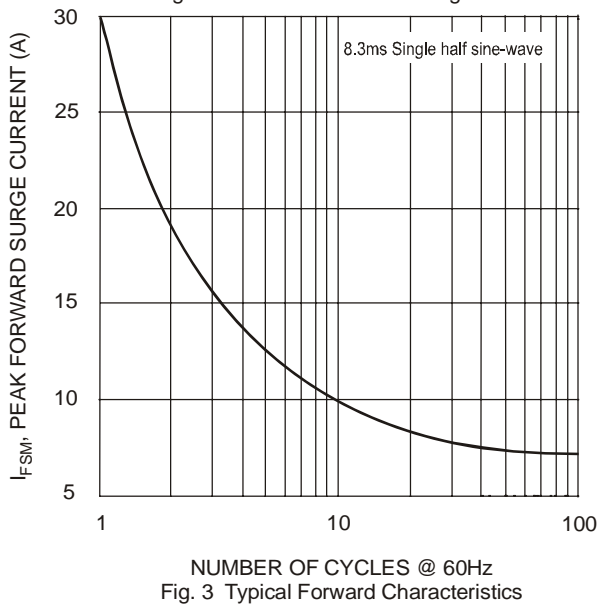


Fig. 3 Typical Forward Characteristics

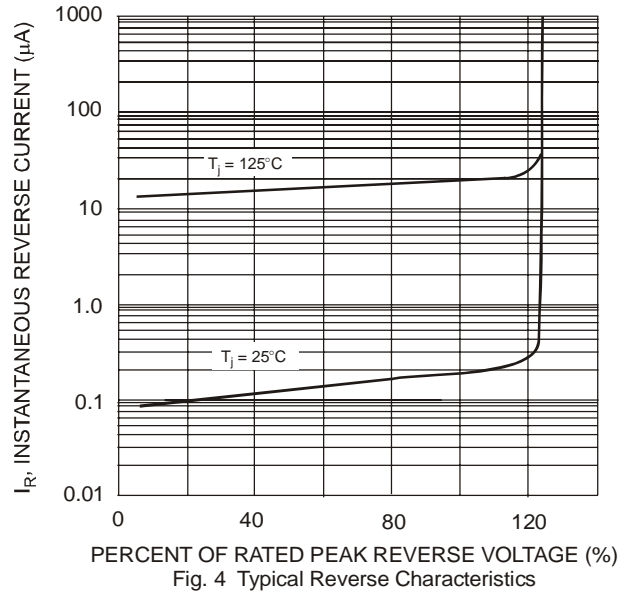


Fig. 4 Typical Reverse Characteristics

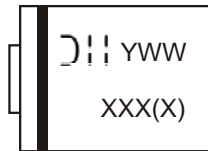
**Ordering Information** (Note 5)

Device	Packaging	Shipping
S1x-13-F	SMA	5000/Tape & Reel
S1xB-13-F	SMB	3000/Tape & Reel

\* x = Device type, e.g. S1A-13-F (SMA package); S1AB-13-F (SMB package).

Notes: 5. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**Marking Information**



XXX = Product type marking code, ex: S1A (SMA package)  
 XXXX = Product type marking code, ex: S1AB (SMB package)  
 D!!! = Manufacturers' code marking  
 YWW = Date code marking  
 Y = Last digit of year ex: 2 for 2002  
 WW = Week code 01 to 52

**IMPORTANT NOTICE**

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. Diodes Incorporated does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on our website, harmless against all damages.

**LIFE SUPPORT**

Diodes Incorporated products are not authorized for use as critical components in life support devices or systems without the expressed written approval of the President of Diodes Incorporated.