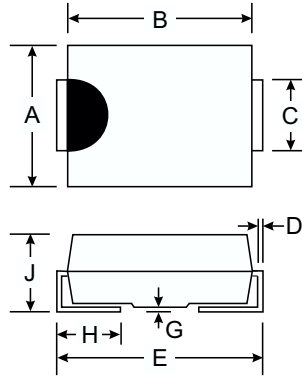


### Features

- Glass Passivated Die Construction
- Low Forward Voltage Drop and High Current Capability
- Surge Overload Rating to 50A Peak
- Ideally Suited for Automated Assembly

### Mechanical Data

- Case: Molded Plastic
- Case Material - UL Flammability Rating Classification 94V-0
- Terminals: Solder Plated Terminal - Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band or Cathode Notch
- Approx. Weight: SMA 0.064 grams  
SMB 0.093 grams
- Marking: Type Number, See Page 2
- Ordering Information: See Page 2



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	2.62	2.00	2.62

All Dimensions in mm

A Suffix Designates SMA Package  
No Suffix Designates SMB Package

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

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

Characteristic	Symbol	S2 A/AA	S2 B/BA	S2 D/DA	S2 G/GA	S2 J/JA	S2 K/KA	S2 M/MA	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Average Rectified Output Current @ $T_T = 100^\circ\text{C}$	$I_{(AV)}$	1.5							A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	50							A
Forward Voltage @ $I_F = 1.5\text{A}$	$V_{FM}$	1.15							V
Peak Reverse Current @ $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A = 125^\circ\text{C}$	$I_{RM}$	5.0 125							$\mu\text{A}$
Typical Total Capacitance (Note 1)	$C_T$	20							pF
Typical Thermal Resistance, Junction to Terminal (Note 2)	$R_{\theta JT}$	20							$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_j, T_{STG}$	-65 to +150							$^\circ\text{C}$

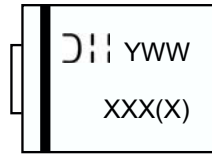
- Notes: 1. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.  
2. Thermal Resistance Junction to Terminal, unit mounted on PC board with 5.0 mm<sup>2</sup> (0.013 mm thick) copper pads as heat sink.

## Ordering Information (Note 3)

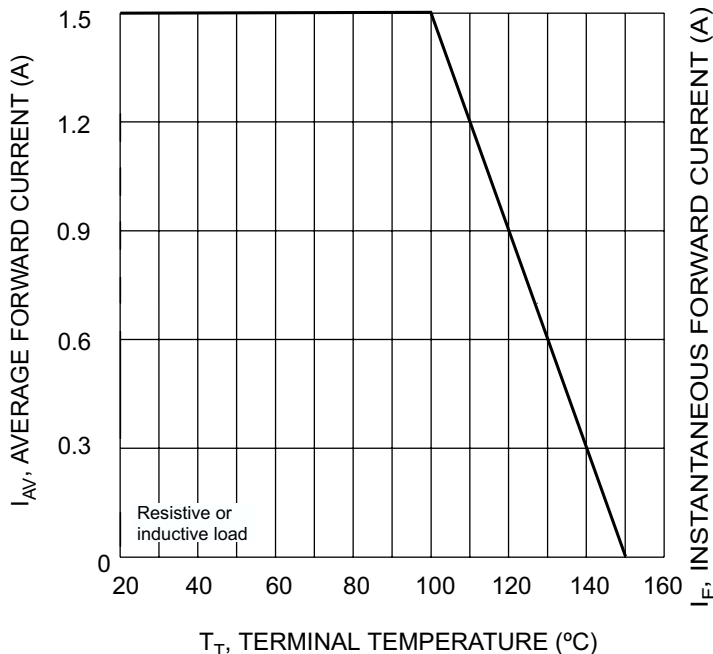
Device*	Packaging	Shipping
S2xA-7 S2x-7	SMA SMB	5000/Tape & Reel 3000/Tape & Reel

Notes: 3. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.  
\* x = Device type, e.g. S2AA-7 (SMA package); S2A-7 (SMB package).

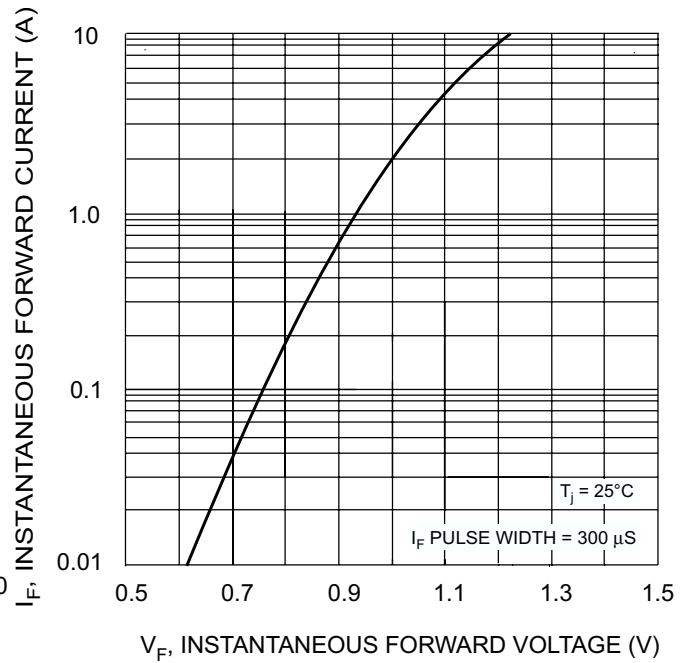
## Marking Information



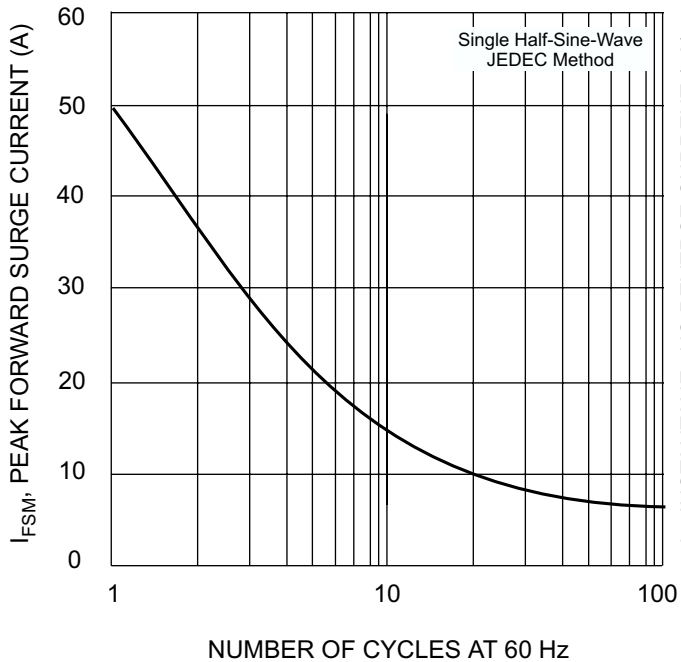
XXX = Product type marking code, ex: S2A (SMB package)  
 XXXX = Product type marking code, ex: S2AA (SMA package)  
 D = Manufacturers' code marking  
 YWW = Date code marking  
 Y = Last digit of year ex: 2 for 2002  
 WW = Week code 01 to 52



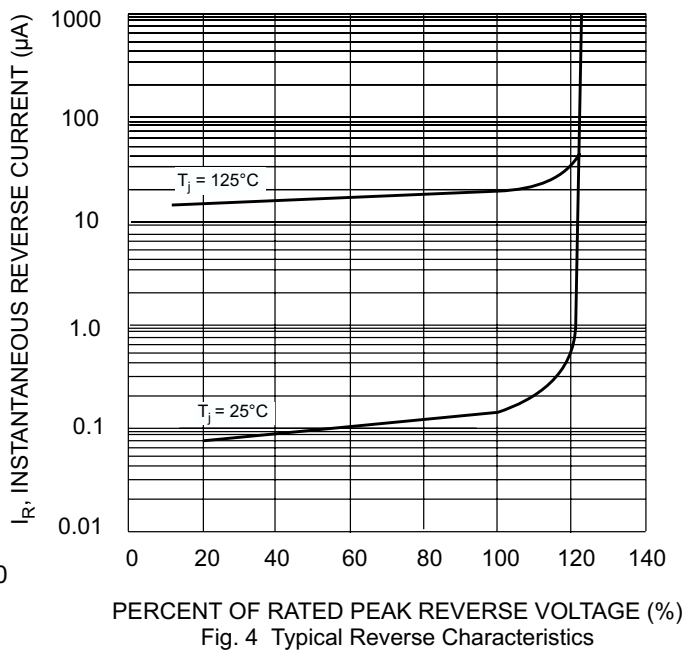
$T_T$ , TERMINAL TEMPERATURE (°C)  
 Fig. 1 Forward Current Derating Curve



$V_F$ , INSTANTANEOUS FORWARD VOLTAGE (V)  
 Fig. 2 Typical Forward Characteristics



NUMBER OF CYCLES AT 60 Hz  
 Fig. 3 Forward Surge Current Derating Curve



PERCENT OF RATED PEAK REVERSE VOLTAGE (%)  
 Fig. 4 Typical Reverse Characteristics