
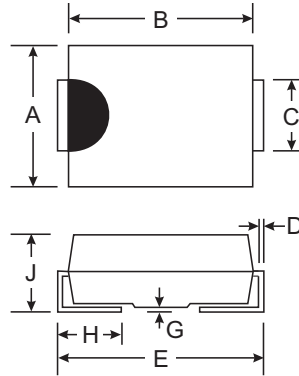


### Features

- Glass Passivated Die Construction
- Low Forward Voltage Drop and High Current Capability
- Surge Overload Rating to 100A Peak
- Ideally Suited for Automated Assembly
- **Lead Free Finish/RoHS Compliant (Note 3)**

### Mechanical Data

- Case: SMC
- 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 
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number & Date Code, See Page 2
- Ordering Information: See Page 2
- Weight: 0.21 grams (approximate)



SMC		
Dim	Min	Max
A	5.59	6.22
B	6.60	7.11
C	2.75	3.18
D	0.15	0.31
E	7.75	8.13
G	0.10	0.20
H	0.76	1.52
J	2.00	2.62
<b>All Dimensions in mm</b>		

### 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	S5AC	S5BC	S5DC	S5GC	S5JC	S5KC	S5MC	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 @ $T_T = 75^\circ\text{C}$	$I_O$	5.0							A
Non-Repetitive Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	100							A
Forward Voltage @ $I_F = 5.0\text{A}$	$V_{FM}$	1.15							V
Peak Reverse Current @ $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A = 125^\circ\text{C}$	$I_{RM}$	10 250							$\mu\text{A}$
Typical Total Capacitance (Note 1)	$C_T$	40							pF
Typical Thermal Resistance, Junction to Terminal (Note 2)	$R_{\theta JT}$	10							$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +150							$^\circ\text{C}$

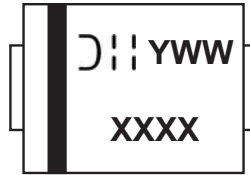
- Notes:
1. Measured at 1.0MHz and Applied Reverse Voltage of 4.0V DC.
  2. Thermal Resistance Junction to Terminal, unit mounted on PC board with 5.0mm<sup>2</sup> (0.013mm thick) copper pads as Heat Sink.
  3. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see *EU Directive Annex Notes 5 and 7*.

## Ordering Information (Note 4)

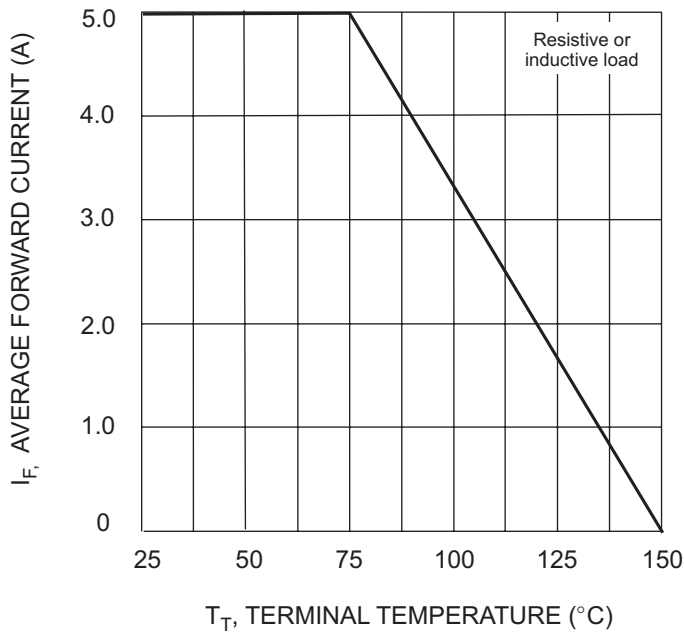
Device*	Packaging	Shipping
S5xC-13-F	SMC	3000/Tape & Reel

Notes: 4. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.  
\*x = Device type, e.g. S5AC-13-F.

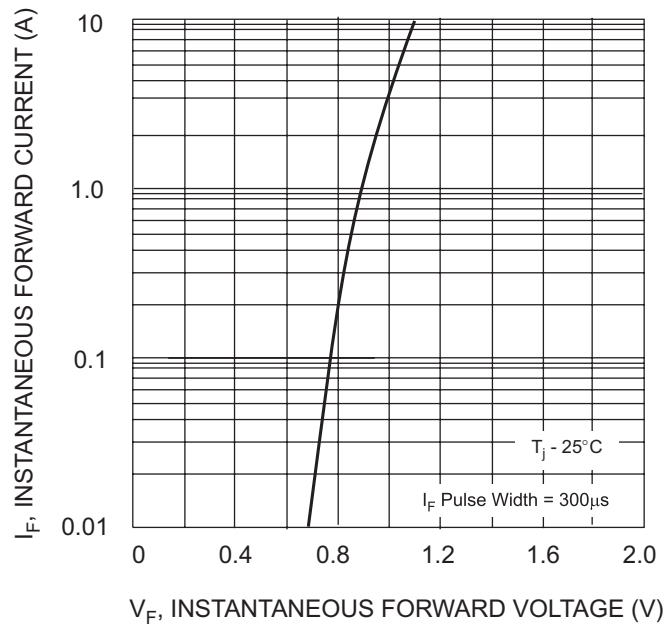
## Marking Information



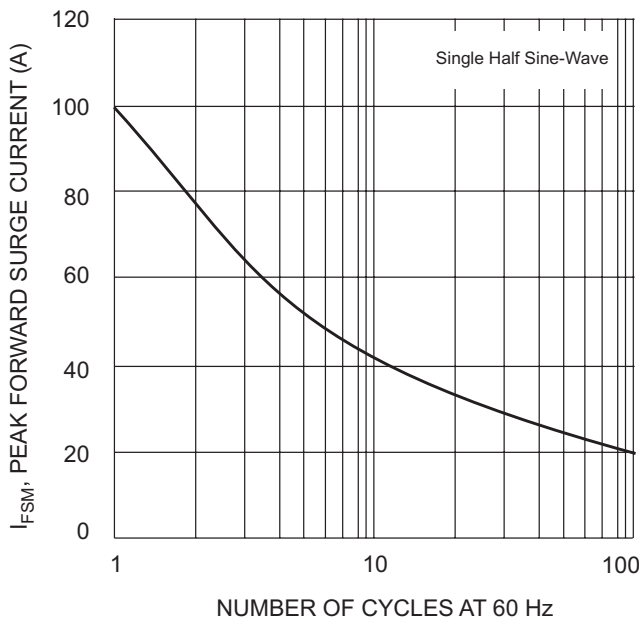
XXXX = Product type marking code, ex. S5KC  
 D = Manufacturers' code marking  
 YWW = Date code marking  
 Y = Last digit of year ex: 2 for 2002  
 WW = Week code 01 to 52



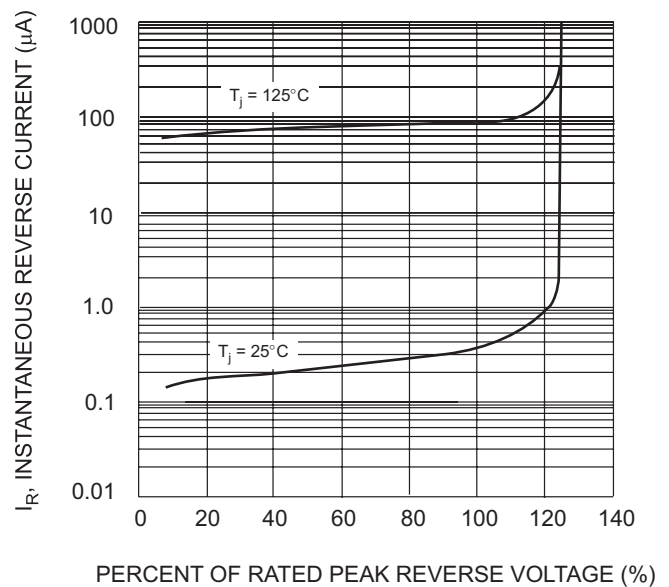
$T_T$ , TERMINAL TEMPERATURE (°C)  
Fig. 1 Forward Current Derating Curve



$V_F$ , 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

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