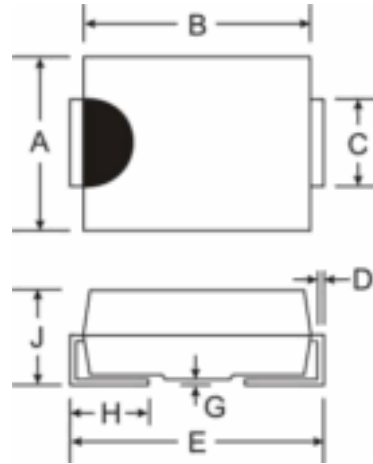


### Features

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- Surge Overload Rating to 100A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Application
- **Lead Free Finish/RoHS Compliant (Note 2)**

### 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 (E3)
- Polarity: Cathode Band or Cathode Notch
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.21 grams (approximate)



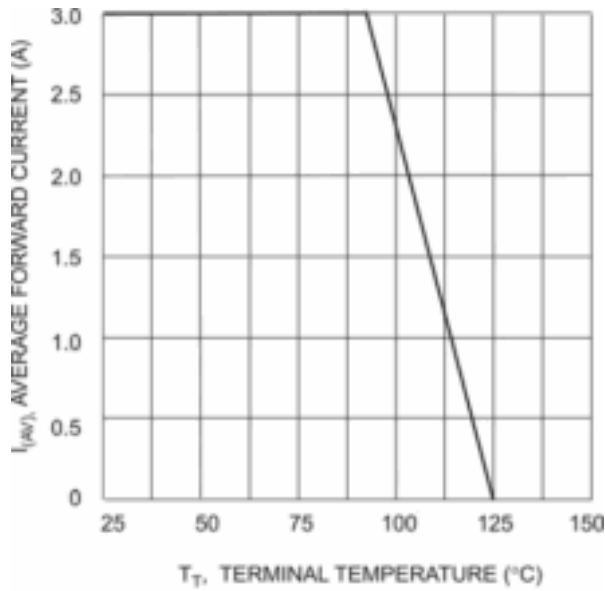
SMC		
Dim	Min	Max
A	5.59	6.22
B	6.60	7.11
C	2.75	3.18
D	0.15	0.31
E	7.75	8.13
G	0.10	0.20
H	0.76	1.52
J	2.00	2.62
All Dimensions in mm		

### 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%.

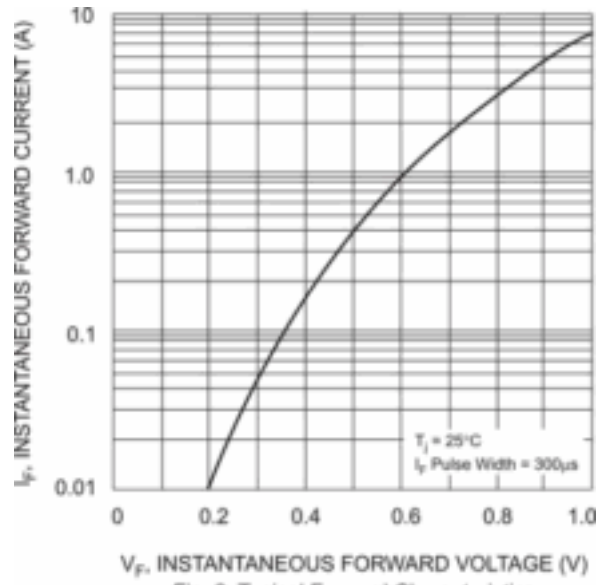
Characteristic	Symbol	B370	B380	B390	B3100	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$					
Working Peak Reverse Voltage	$V_{RWM}$	70	80	90	100	V
DC Blocking Voltage	$V_R$					
RMS Reverse Voltage	$V_{R(RMS)}$	49	56	63	70	V
Average Rectified Output Current @ $T_T = 90^\circ\text{C}$	$I_O$	3.0				A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	100				A
Forward Voltage @ $I_F = 3.0\text{A}$	$V_{FM}$		0.79			V
			0.69			
Peak Reverse Current at Rated DC Blocking Voltage	$I_{RM}$		0.5			mA
			20			
Typical Total Capacitance (Note 1)	$C_T$		100			pF
Typical Thermal Resistance Junction to Terminal	$R_{\theta JT}$		10			$^\circ\text{C/W}$
Operating Temperature Range	$T_j$		-55 to +125			$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$		-55 to +150			$^\circ\text{C}$

- Notes: 1. Measured at 1.0MHz and Applied Reverse Voltage of 4.0V DC.  
2. RoHS revision 13.2.2003. High Temperature Solder Exemption Applied, see *EU Directive Annex Note 7*.



$T_j$ , TERMINAL TEMPERATURE (°C)

Fig. 1 Forward Current Derating Curve



$V_F$ , INSTANTANEOUS FORWARD VOLTAGE (V)

Fig. 2 Typical Forward Characteristics

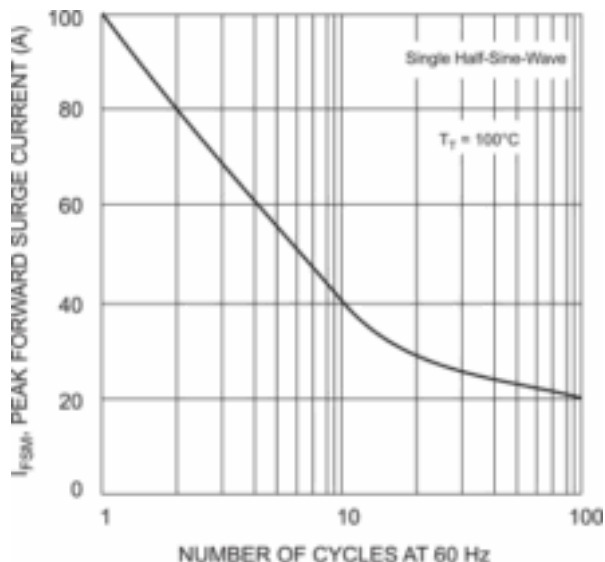
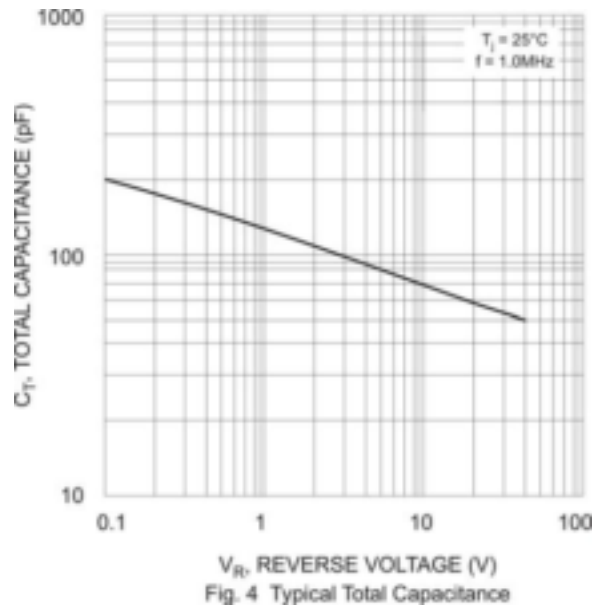


Fig. 3 Max Non-Repetitive Peak Forward Surge Current



$V_R$ , REVERSE VOLTAGE (V)

Fig. 4 Typical Total Capacitance

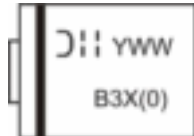
## Ordering Information (Note 3)

Device*	Packaging	Shipping
B3x0-13-F	SMC	3000/Tape & Reel

\* x = Device type, e.g. B380-13-F (SMC package).

Notes: 3. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

## Marking Information



B3X0 = Product type marking code, ex: B380 (SMC package)  
 311 = Manufacturers' code marking  
 YWW = Date code marking  
 Y = Last digit of year ex: 2 for 2002  
 WW = Week code 01 to 52  
 Note: B3100 marking code is B310

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