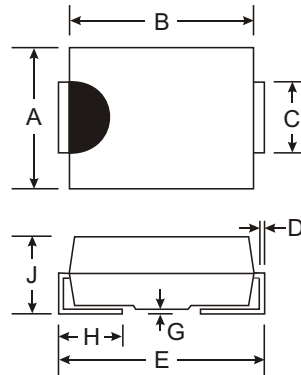


Features

- Guard Ring Die Construction for Transient Protection
- Ideally Suited for Automatic Assembly
- Low Power Loss, High Efficiency
- Surge Overload Rating to 175A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Application
- **Available in Lead Free Finish/RoHS Compliant Version (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: Solder Plated Terminal - Solderable per MIL-STD-202, Method 208
- Also Available in Lead Free Plating (Matte Tin Finish). Please see Ordering Information, Note 5, on Page 2
- Polarity: Cathode Band or Cathode Notch
- Marking: 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
All Dimensions in mm		

Maximum Ratings and Electrical Characteristics @ T_A = 25°C unless otherwise specified

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

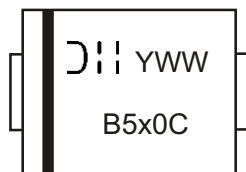
Characteristic	Symbol	B520C	B530C	B540C	B550C	B560C	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	20	30	40	50	60	V
RMS Reverse Voltage	$V_{R(RMS)}$	14	21	28	35	42	V
Average Rectified Output Current @ $T_T = 90^{\circ}\text{C}$	I_O	5.0					A
Non-Repetitive Peak Forward Surge Current, 8.3 ms single half-sine-wave Superimposed on Rated Load	I_{FSM}	175					A
Forward Voltage @ $I_F = 5.0\text{A DC}$	V_{FM}	0.55			0.70		V
Peak Reverse Current @ $T_A = 25^{\circ}\text{C}$ at Rated DC Blocking Voltage @ $T_A = 100^{\circ}\text{C}$	I_{RM}	0.5 20					mA
Typical Total Capacitance (Note 2)	C_T	300					pF
Thermal Resistance, Junction to Terminal	$R_{\theta JT}$	10					$^{\circ}\text{C/W}$
Thermal Resistance, Junction to Ambient (Note 1)	$R_{\theta JA}$	50					$^{\circ}\text{C/W}$
Operating Temperature Range	T_j	-55 to +125					$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150					$^{\circ}\text{C}$

- Notes:
1. Thermal Resistance: Junction to ambient, unit mounted on PC board with 8.0 mm² (0.033 mm thick) copper pads as heat sink.
 2. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.
 3. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see EU Directive Annex Notes 5 and 7.

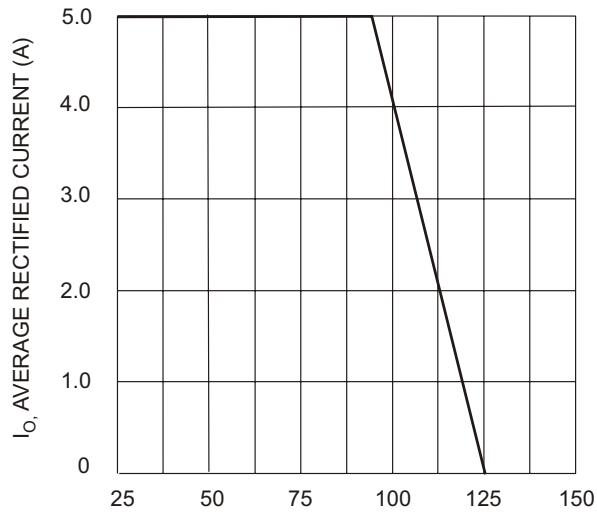
Ordering Information (Note 4 & 5)

Device	Packaging	Shipping
B520C-13	SMC	3000/Tape & Reel
B530C-13	SMC	3000/Tape & Reel
B540C-13	SMC	3000/Tape & Reel
B550C-13	SMC	3000/Tape & Reel
B560C-13	SMC	3000/Tape & Reel

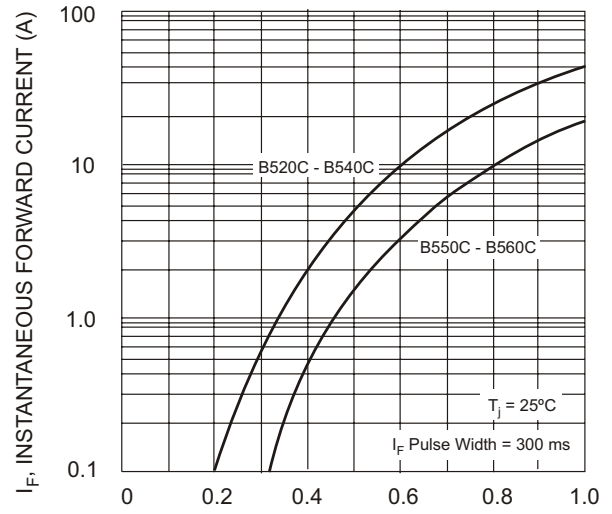
- Notes:
- For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.
 - For Lead Free Finish/RoHS Compliant version part numbers, please add "-F" suffix to the part numbers above. Example: B550C-13-F.

Marking Information

YWW = Manufacturers' code marking
YWW = Date code marking
Y = Last digit of year ex: 2 for 2002
WW = Week code 01 to 52
x = 2,3,4,5 or 6 - i.e., x = 4 for B540C



T_T , TERMINAL TEMPERATURE ($^{\circ}C$)
Fig. 1 Forward Current Derating Curve



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

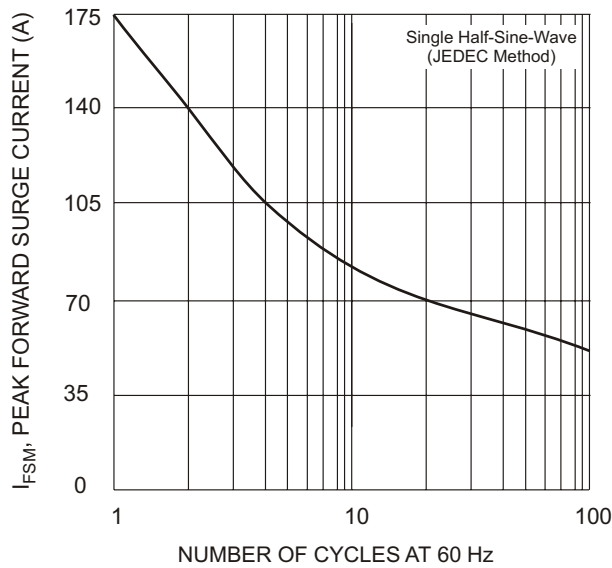
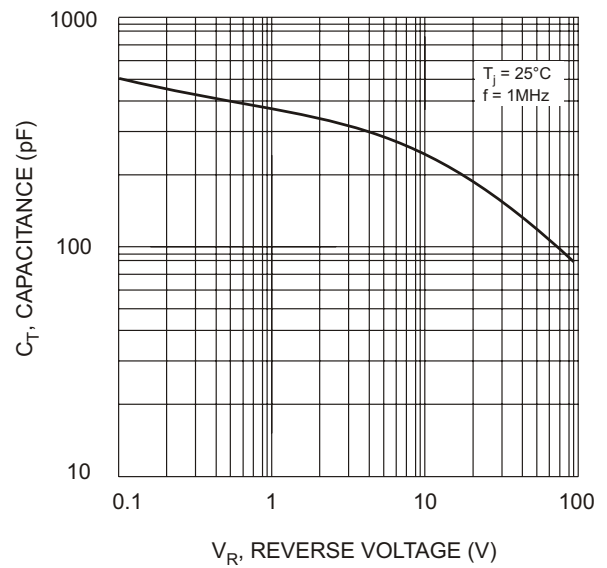


Fig. 3 Max Non-Repetitive Peak Forward Surge Current



V_R , REVERSE VOLTAGE (V)
Fig. 4 Typical Total Capacitance

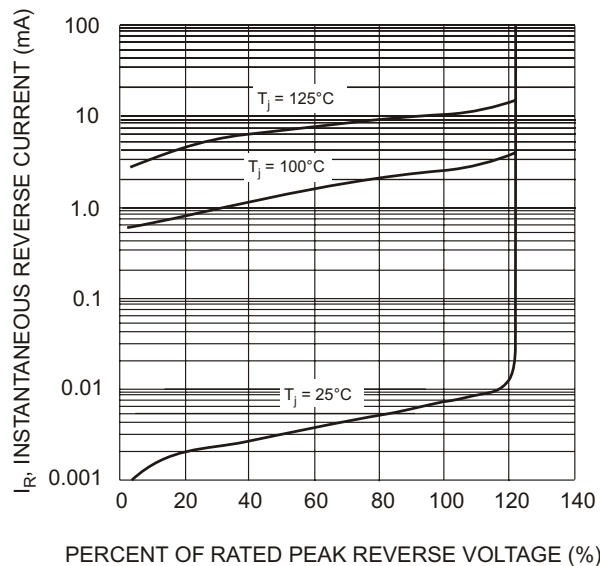


Fig. 5 Typical Reverse Characteristics