

Maximum Ratings (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)

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

Characteristic	Symbol	B520C	B530C	B540C	B550C	B560C	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	20	30	40	50	60	V
Working Peak Reverse Voltage	V_{RWM}						
DC Blocking Voltage	V_R						
RMS Reverse Voltage	$V_{R(RMS)}$	14	21	28	35	42	V
Average Rectified Output Current	I_O	5.0					A
Non-Repetitive Peak Forward Surge Current, 8.3 ms	I_{FSM}	100					A
Single Half-Sine-Wave Superimposed on Rated Load							

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Thermal Resistance, Junction to Terminal	$R_{\theta JT}$	10	$^\circ\text{C/W}$
Thermal Resistance, Junction to Ambient (Note 5)	$R_{\theta JA}$	50	$^\circ\text{C/W}$
Operating Temperature Range	T_J	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ\text{C}$

Electrical Characteristics (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V_F	—	0.475	0.55	V	$I_F = 5.0\text{A}$, $T_A = +25^\circ\text{C}$
		—	0.575	0.70		
Leakage Current (Note 6)	I_R	—	—	0.5	mA	@ Rated V_R , $T_A = +25^\circ\text{C}$
		—	—	20		@ Rated V_R , $T_A = +100^\circ\text{C}$
Total Capacitance	C_T	—	—	300	pF	$V_R = 4\text{V}$, $f = 1\text{MHz}$

Notes: 5. Thermal Resistance: Junction to ambient, unit mounted on PC board with 8.0 mm² (0.033 mm thick) copper pads as heat sink.
 6. Short duration pulse test used to minimize self-heating effect.

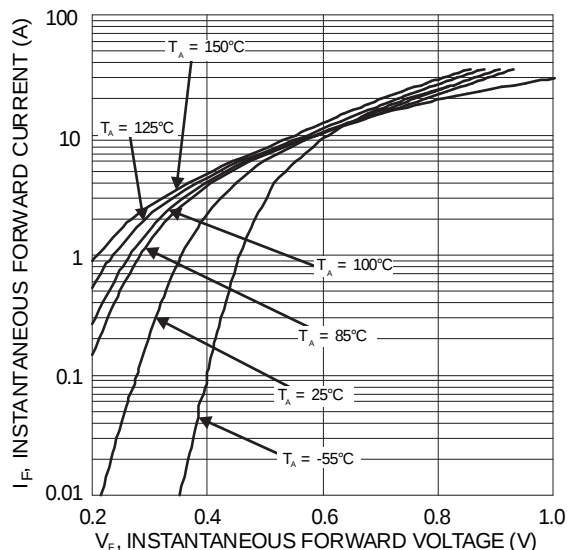


Figure 1 Typical Forward Characteristics (B520C - B540C)

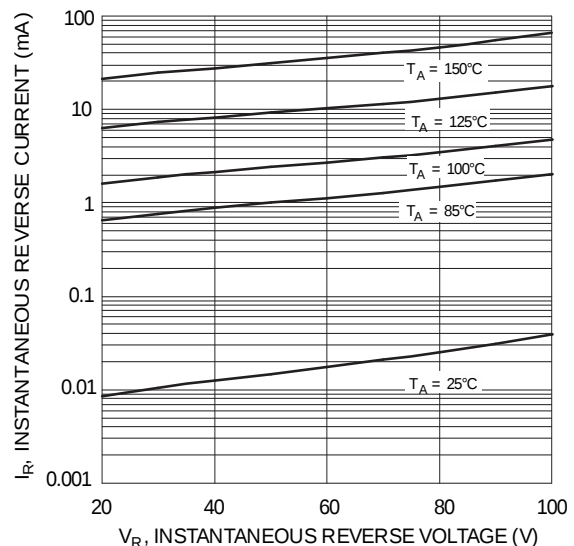
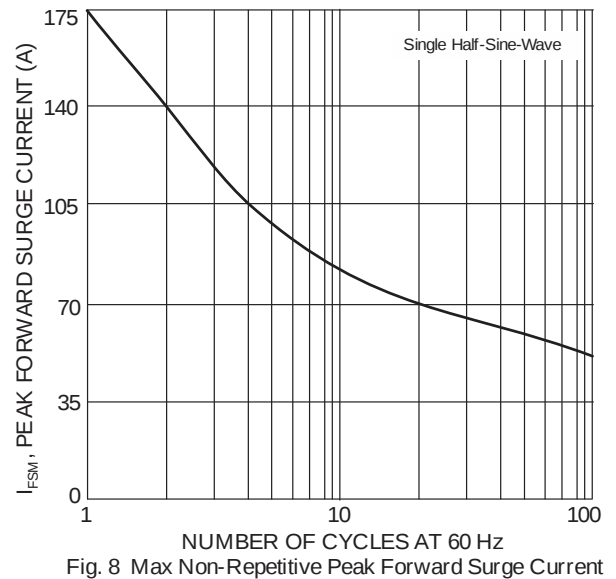
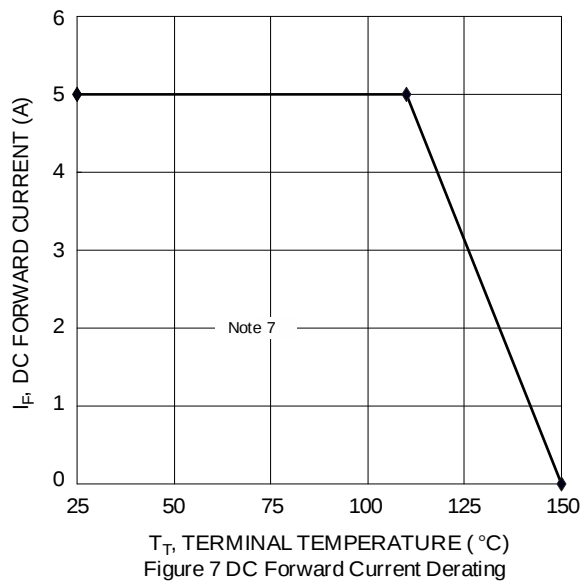
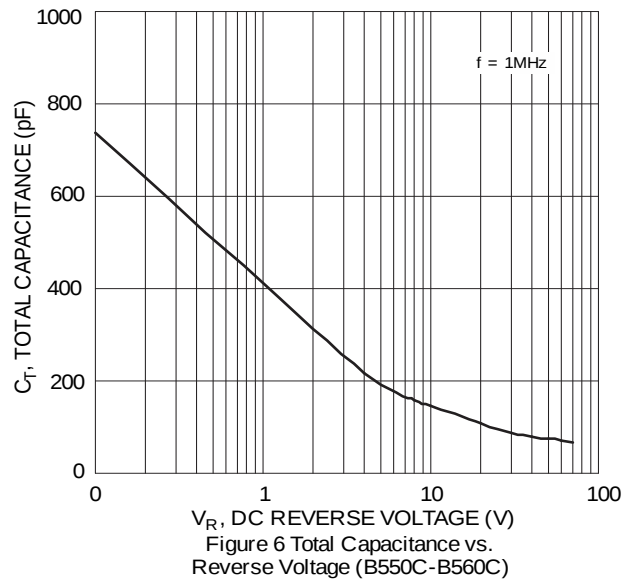
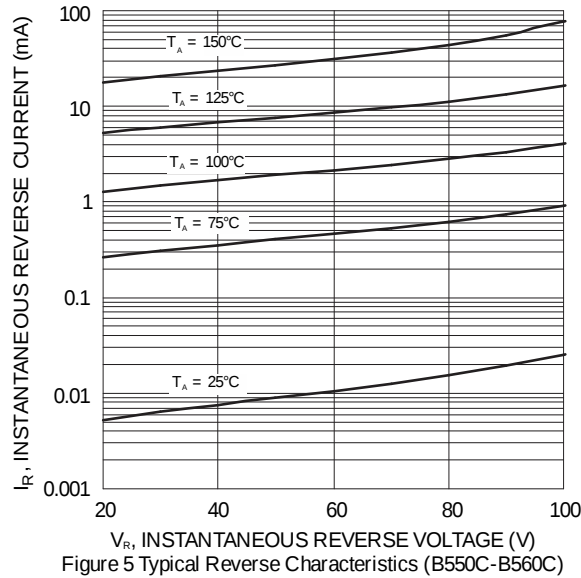
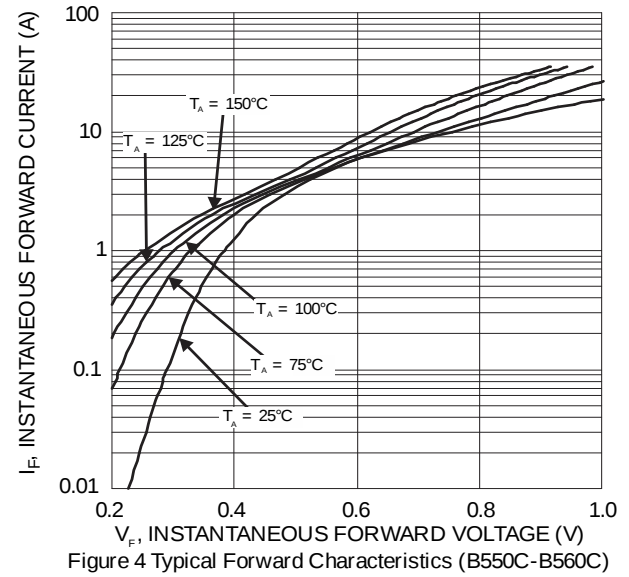
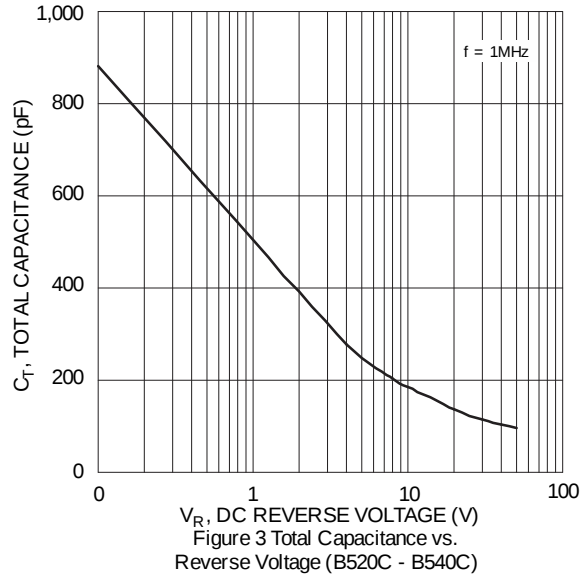


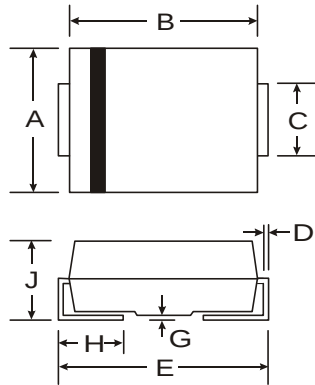
Figure 2 Typical Reverse Characteristics (B520C - B540C)



Note: 7. Device mounted on FR-4 substrate, 1" x 1", 2oz, single-sided, PC boards with 0.56" x 0.73" copper pad.

Package Outline Dimensions

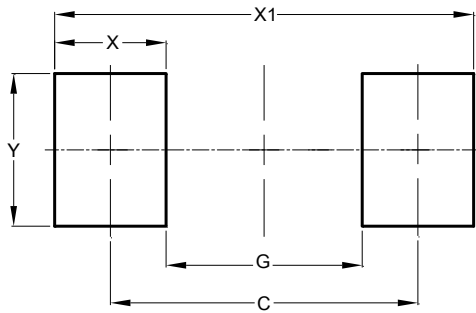
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



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	2.50
All Dimensions in mm		

Suggested Pad Layout

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.



Dimensions	Value (in mm)
C	6.90
G	4.40
X	2.50
X1	9.40
Y	3.30

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