Maximum Ratings (@T_A = +25°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 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	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
Electrostatic Discharge	HBM	4000					V
Electrostatic Discharge	MM	400					V
Electrostatic Discharge	CDM	1					KV

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Thermal Resistance, Junction to Terminal	$R_{\Theta JT}$	10	°C/W
Thermal Resistance, Junction to Ambient (Note 6)	$R_{\Theta JA}$	50	°C/W
Thermal Resistance, Junction to Ambient (Note 7)	$R_{\Theta JA}$	115	°C/W
Thermal Resistance, Junction to Ambient (Note 8)	$R_{\Theta JA}$	30	°C/W
Operating Temperature Range	T_J	-55 to +150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic		Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	B520C, B530C, B540C B550C, B560C	V_F	— —	0.475 0.575	0.55 0.70	V	I_F = 5.0A, T_A = +25°C
Leakage Current (Note 7)		I_R	— —	— —	0.5 20	mA	@ Rated V_R, T_A = +25°C @ Rated V_R, T_A = +100°C
Total Capacitance		C_T	—	—	300	pF	V_R = 4V, f = 1MHz
Switching Speed t_{RR}		t_{RR}	—	16	—	ns	I_F=0.5A, I_R=1A, I_{RR}=0.25A (RG1)

Notes:
6. Thermal Resistance: Junction to ambient, unit mounted on PC board with 8.0mm^2 (0.033mm thick) copper pads as heatsink.
7. MRP FR-4 PCB, 2oz.
8. With 50mm × 50mm × 23mm Al heatsink.
9. Short duration pulse test used to minimize self-heating effect.

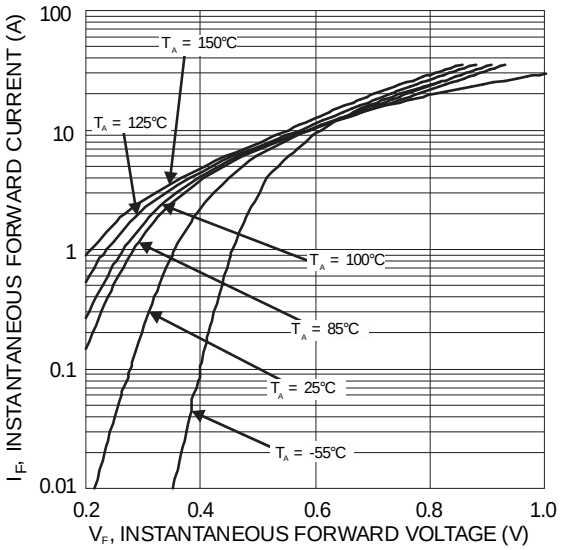


Figure 1 Typical Forward Characteristics (B520C - B540C)

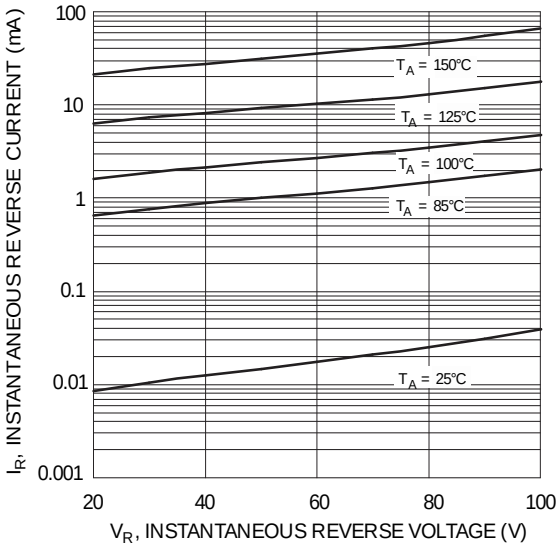


Figure 2 Typical Reverse Characteristics (B520C - B540C)

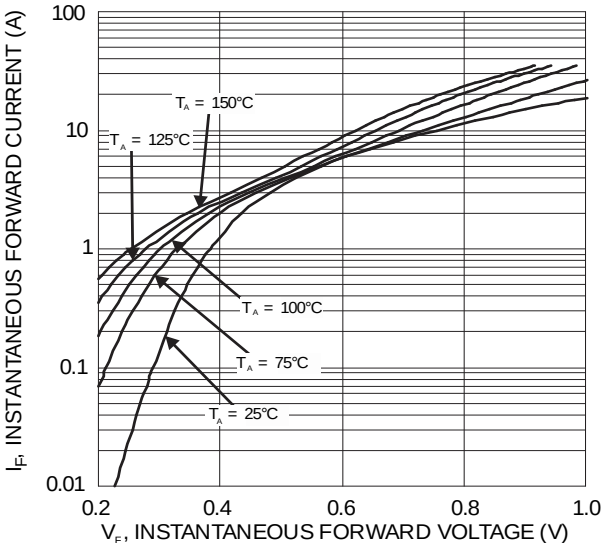


Figure 3 Typical Forward Characteristics (B550C-B560C)

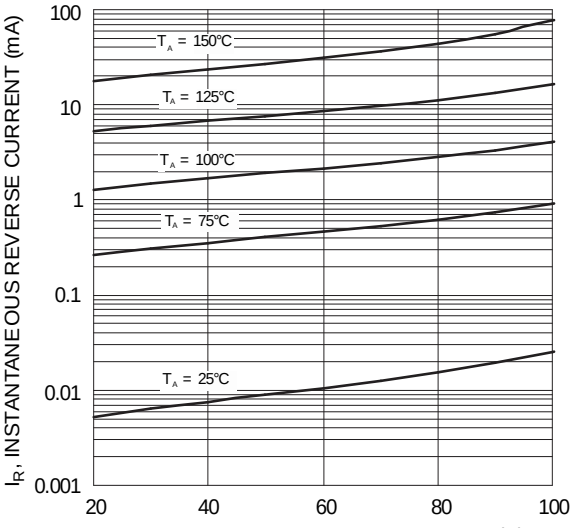


Figure 4 Typical Reverse Characteristics (B550C-B560C)

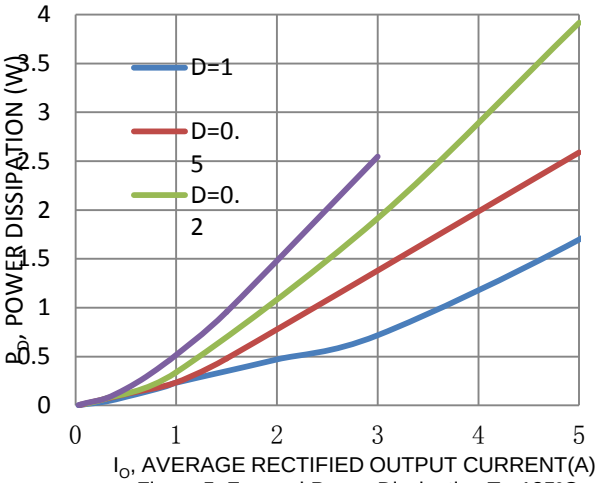


Figure 5. Forward Power Dissipation T_J=125ºC
(B520C - B540C)

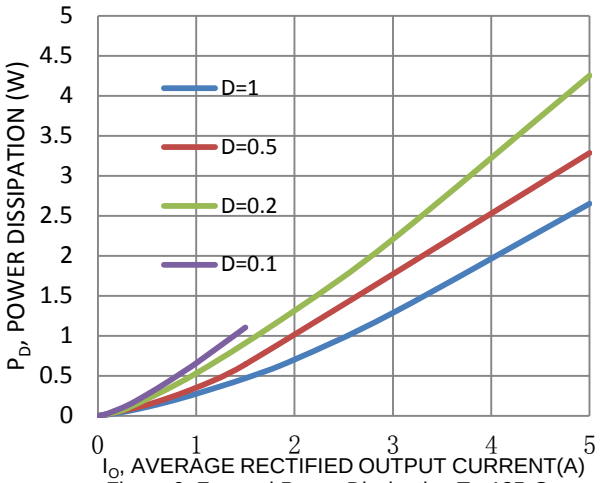


Figure 6. Forward Power Dissipation T_J=125ºC...
(B550C - B560C)

Note: 8. Device mounted on FR-4 substrate, 1" × 1", 2oz, single-sided, PCBs with 0.56" × 0.73" copper pad.

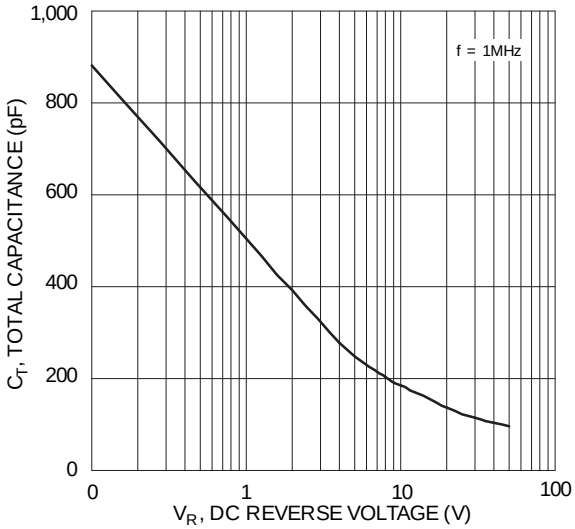


Figure 7 Total Capacitance vs. Reverse Voltage
(B520C-B540C)

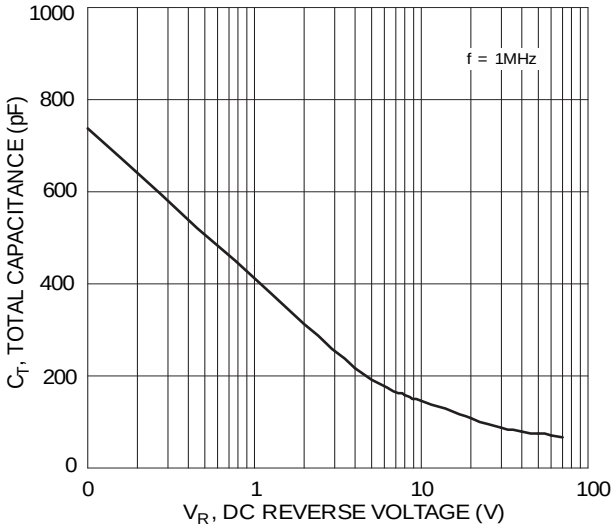


Figure 8 Total Capacitance vs. Reverse Voltage
(B550C-B560C)

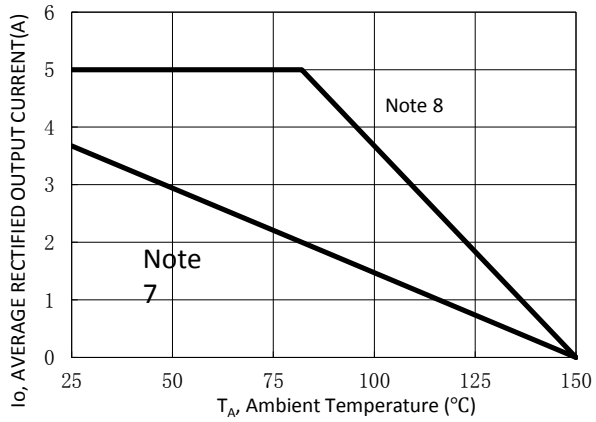


Figure 9. DC Forward Current Derating

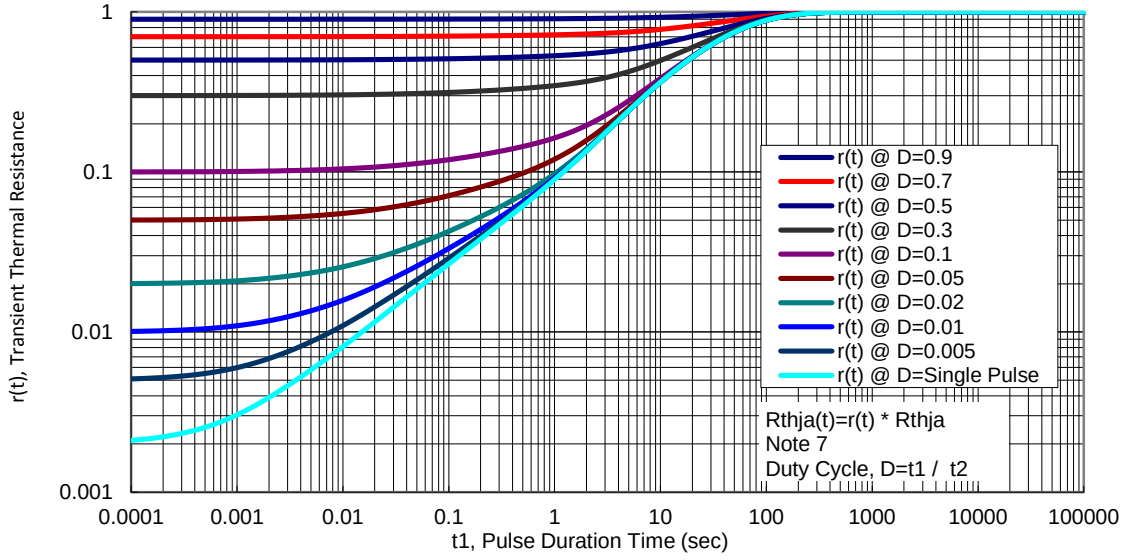
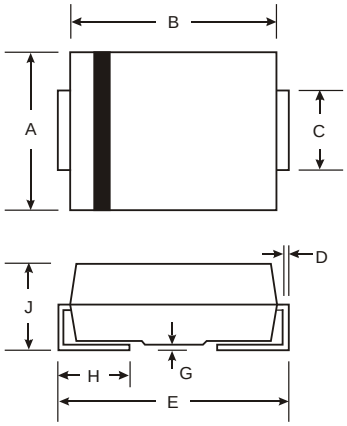


Figure 10 : Transient Thermal Resistance

Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.

SMC

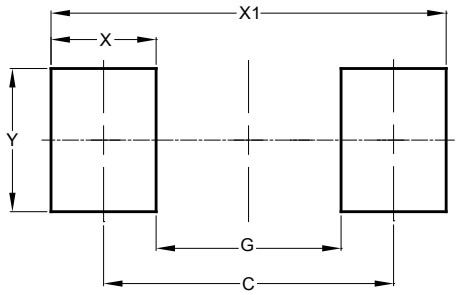


SMC		
Dim	**Min**	**Max**
A	5.59	6.22
B	6.60	7.11
C	2.75	3.18
D	0.15	0.31
E	7.75	8.13
G	0.10	0.20
H	0.76	1.52
J	2.00	2.50
All Dimensions in mm		

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

SMC



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

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