

**Maximum Ratings** (@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	Value	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	20	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Blocking Voltage	V <sub>RM</sub>		
RMS Reverse Voltage	V <sub>R(RMS)</sub>	14	V
Average Rectified Output Current (See Figure 1)	I <sub>O</sub>	500	mA
Non-Repetitive Peak Forward Surge Current	I <sub>FSM</sub>	3	A

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance	R <sub>θJA</sub>	134	°C/W
Thermal Resistance, Junction to Ambient (Note 6)			
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°C

**Electrical Characteristics** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 5)	V <sub>(BR)R</sub>	20	—	—	V	I <sub>R</sub> = 100μA
Forward Voltage Drop	V <sub>F</sub>	—	0.51 0.48	0.56 0.53	V	I <sub>F</sub> = 0.5A, T <sub>J</sub> = +25°C I <sub>F</sub> = 0.5A, T <sub>J</sub> = +125°C
Leakage Current (Note 5)	I <sub>R</sub>	—	6 0.5	100 20	μA mA	V <sub>R</sub> = 20V, T <sub>J</sub> = +25°C V <sub>R</sub> = 20V, T <sub>J</sub> = +125°C

Notes: 5. Short duration pulse test used to minimize self-heating effect.  
 6. Polyimide PCB, 2oz, copper minimum recommended pad layout per <http://www.diodes.com/package-outlines.html>.

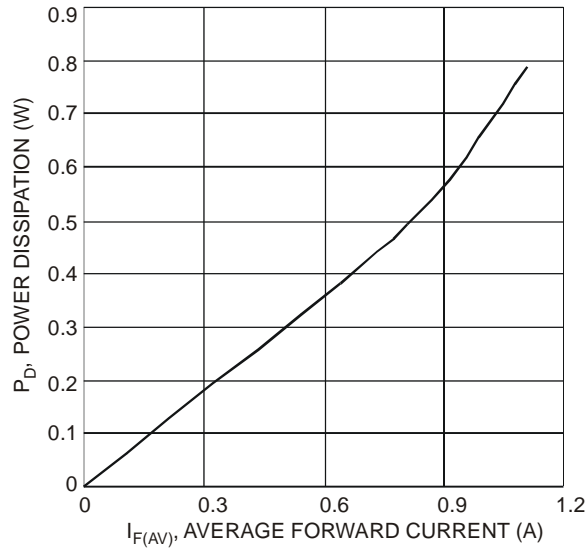


Fig. 1 Forward Power Dissipation

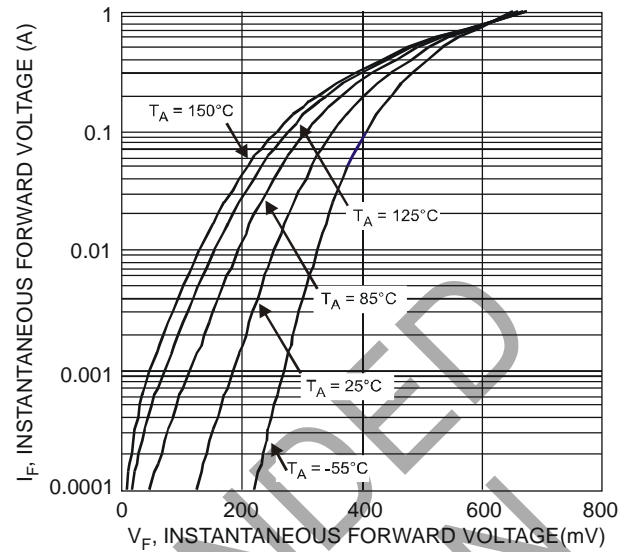


Fig. 2 Typical Forward Characteristics

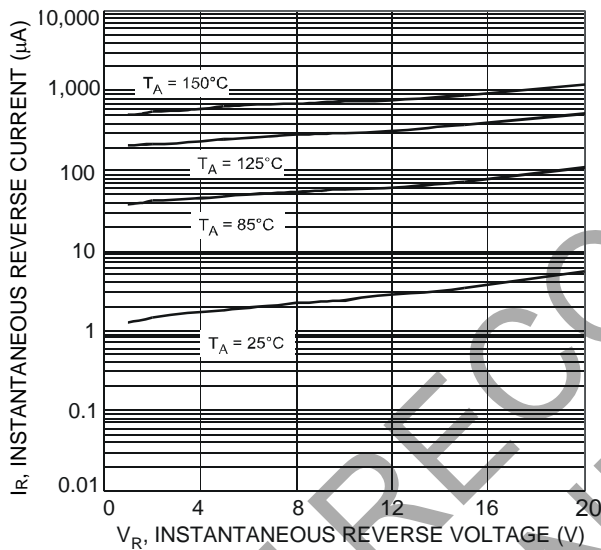


Fig. 3 Typical Reverse Characteristics

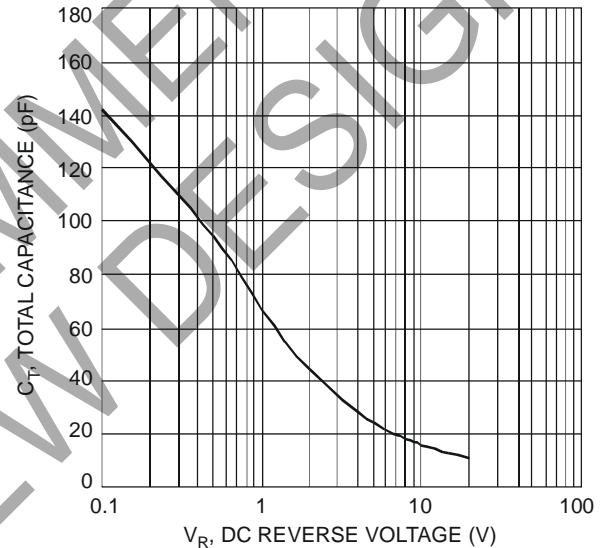


Fig. 4 Total Capacitance vs. Reverse Voltage

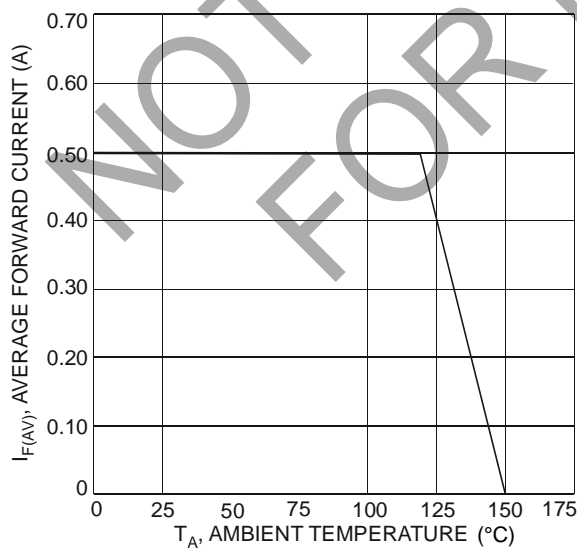


Fig. 5 Forward Current Derating Curve

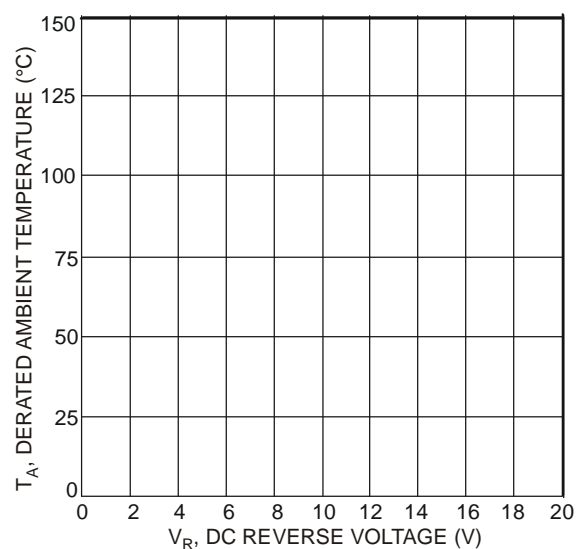
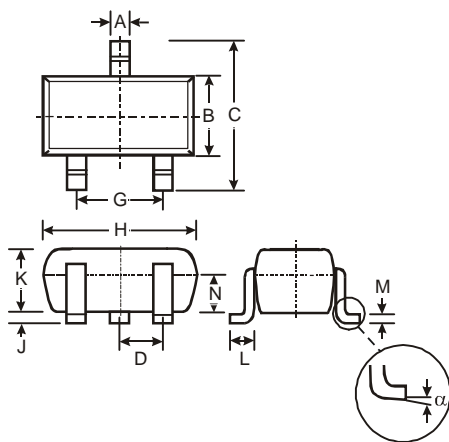


Fig. 6 Operating Temperature Derating

## Package Outline Dimensions

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

### SC59

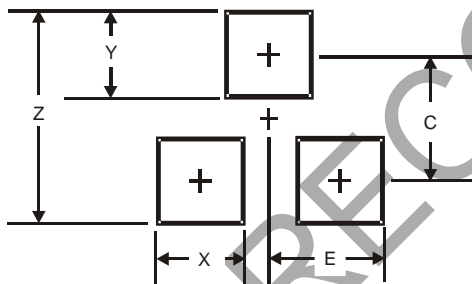


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Dim	Min	Max	Typ
A	0.35	0.50	0.38
B	1.50	1.70	1.60
C	2.70	3.00	2.80
D	-	-	0.95
G	-	-	1.90
H	2.90	3.10	3.00
J	0.013	0.10	0.05
K	1.00	1.30	1.10
L	0.35	0.55	0.40
M	0.10	0.20	0.15
N	0.70	0.80	0.75
$\alpha$	0°	8°	-
All Dimensions in mm			

## Suggested Pad Layout

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

### SC59



Dimensions	Value (in mm)
Z	3.4
X	0.8
Y	1.0
C	2.4
E	1.35

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