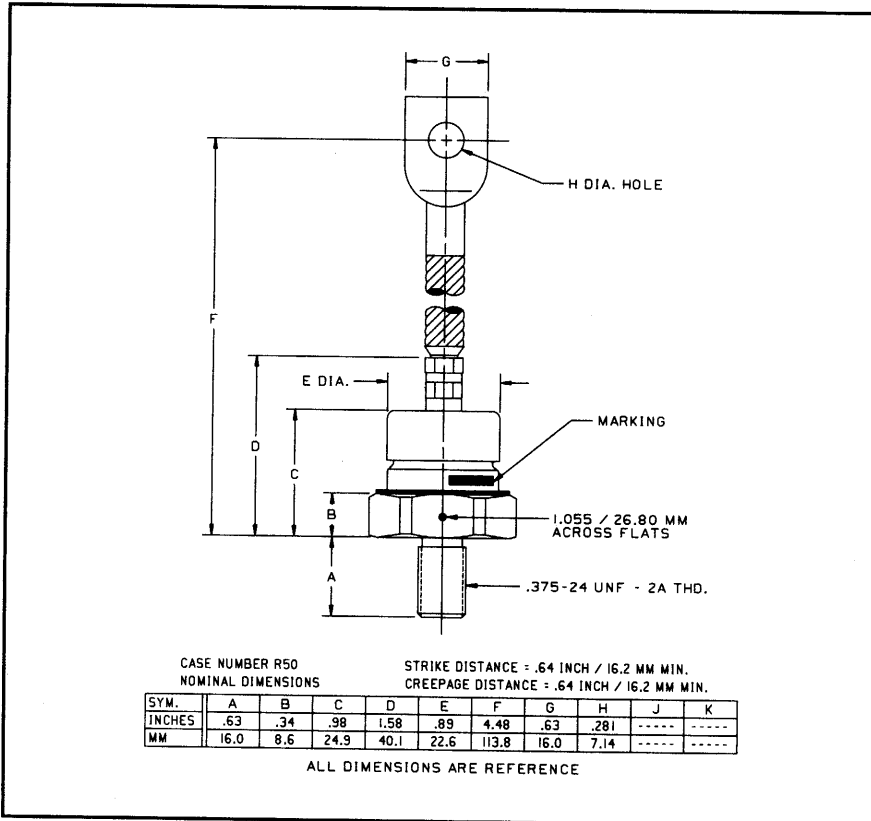


Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (412) 925-7272
 Powerex, Europe, S.A. 428 Avenue G. Durand, BP107, 72003 Le Mans, France (43) 41.14.14

Silicon Rectifier
 150 Amperes Average
 1600 Volts



A180 (R)
Silicon Rectifier
 150 Amperes Average, 1600 Volts

A180 (R) (Outline Drawing)

Features:

- Hermetic Seal

Applications:

- Transportation Equipment
- DC Motor Control
- DC Power Supplies
- Battery Vehicles

Ordering Information:

Select the complete five or six digit part number you desire from the table, i.e. A180PM is a 1600 Volt, 150 Ampere Silicon Rectifier.

Type	Voltage		Current
	V _{RRM}	Code	I _{T(av)}
A180	200	B	150
	400	D	
	600	M	
	800	N	
	1000	P	
	1200	PB	
	1400	PD	
	1600	PM	



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Absolute Maximum Ratings

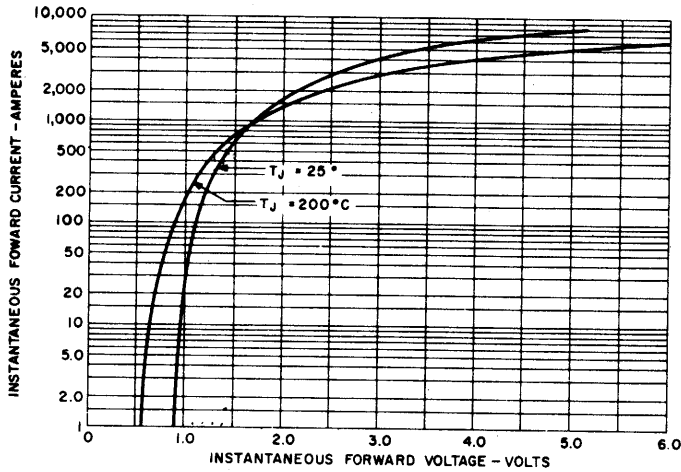
Characteristics	Symbol	A180 (R)	Units
RMS Forward Current	$I_{F(rms)}$	236	Amperes
Average Forward Current	$I_{F(av)}$	150	Amperes
One Cycle Surge Current	I_{FSM}	3400	Amperes
I^2t (for Fusing), Times ≥ 1.0 milliseconds	I^2t	22000	A ² sec
Storage Temperature	T_{stg}	-40 to +200	°C
Operating Temperature	T_j	-40 to +200	°C
Mounting Torque		90 to 100	in-lb
		10.2 to 11.3	N-m

Electrical and Thermal Characteristics

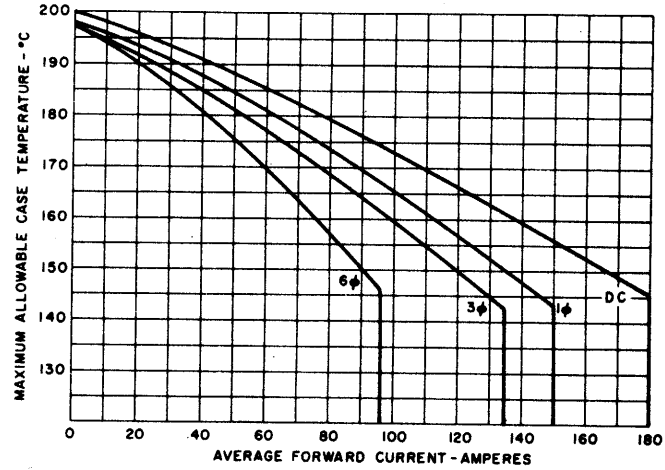
Characteristics	Symbol	Test Conditions	A180 (R)	Units
Current - Conducting State Maximums				
Forward Voltage Drop	V_{FM}	$T_C = 143^\circ\text{C}$, $I_{F(av)} = 150\text{A}, 471\text{A Peak}$	1.3	Volts
Voltage - Blocking State Maximums				
Repetitive Peak Reverse Voltage (Rated Limit)	V_{RRM}		1600	Volts
Non-rep. Trans. Peak Rev. Voltage (Rated Limit)	V_{RSM}	$V \leq 5.0\text{msec}$	1800	Volts
Reverse Leakage Current, mA peak	I_{RRM}	T_j at max., $V_{RRM} = \text{Rated}$	20	mA
Thermal				
Maximum Resistance, Junction to Case	$R_{\theta(j-c)}$		0.3	°C/Watt

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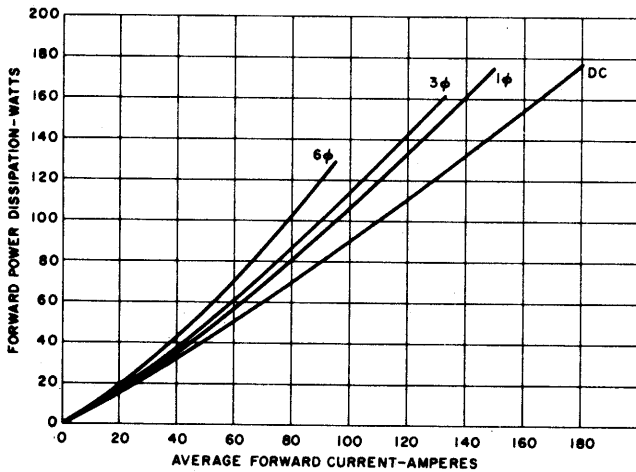
A180 (R)
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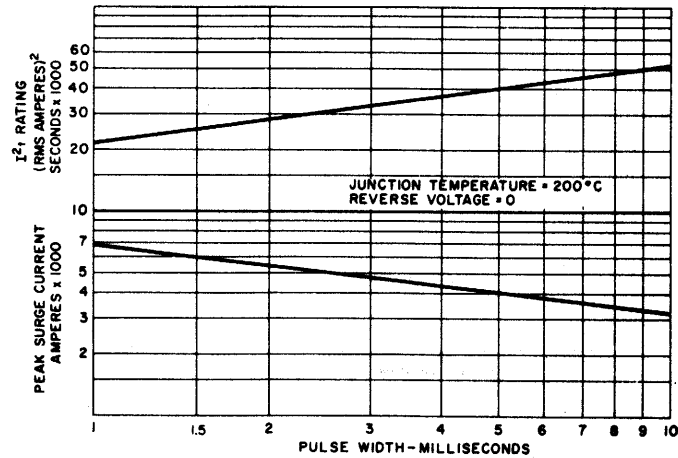
MAXIMUM FORWARD CHARACTERISTICS



MAXIMUM CASE TEMPERATURE VS. AVERAGE FORWARD CURRENT



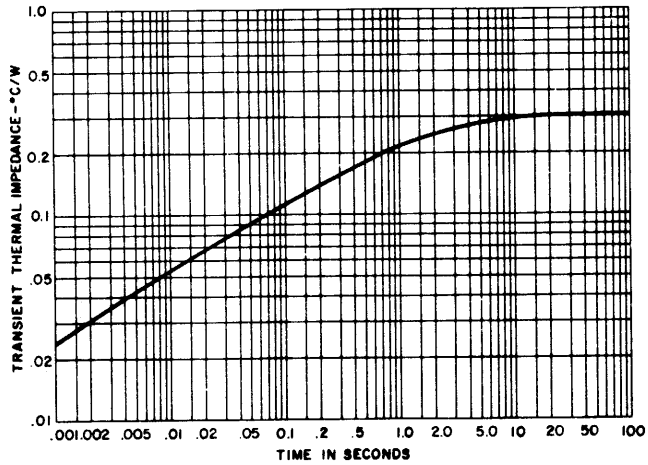
AVERAGE FORWARD POWER DISSIPATION VS. AVERAGE FORWARD CURRENT



SUB-CYCLE SURGE FORWARD CURRENT AND I^2t RATING VS. PULSE TIME FOLLOWING RATED LOAD CONDITIONS

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TRANSIENT THERMAL IMPEDANCE —
JUNCTION-TO-CASE