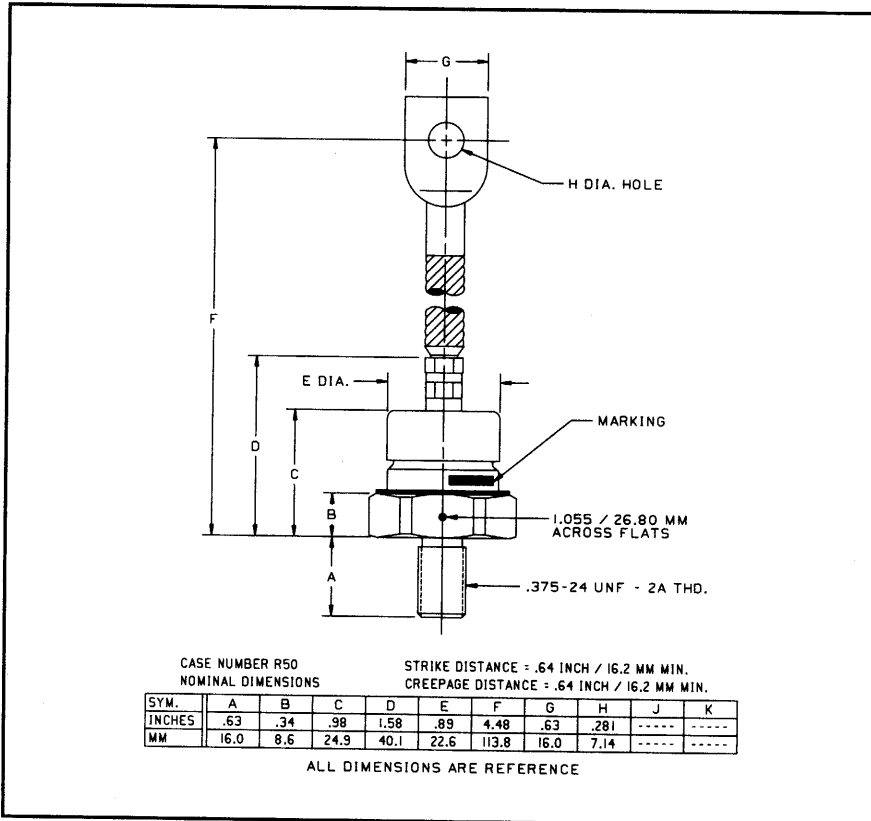


Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (412) 925-7272  
 Powerex, Europe, S.A. 428 Avenue G. Durand, BP107, 72003 Le Mans, France (43) 41.14.14

**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 <sub>RRM</sub>	Code	I <sub>T(av)</sub>
A180	200	B	150
	400	D	
	600	M	
	800	N	
	1000	P	
	1200	PB	
	1400	PD	
	1600	PM	



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

### Absolute Maximum Ratings

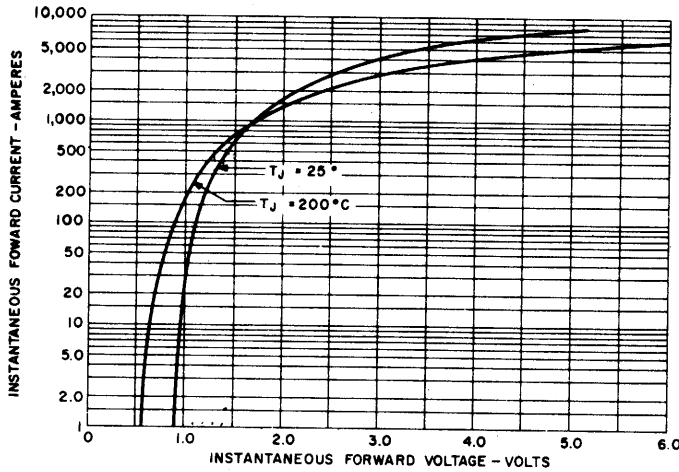
Characteristics	Symbol	A180 (R)	Units
RMS Forward Current	$I_{F(rms)}$	236	Amperes
Average Forward Current	$I_{F(av)}$	150	Amperes
One Cycle Surge Current	$I_{FSM}$	3400	Amperes
$i^2t$ (for Fusing), Times $\geq 1.0$ milliseconds	$i^2t$	22000	$A^2sec$
Storage Temperature	$T_{stg}$	-40 to +200	$^{\circ}C$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

### Electrical and Thermal Characteristics

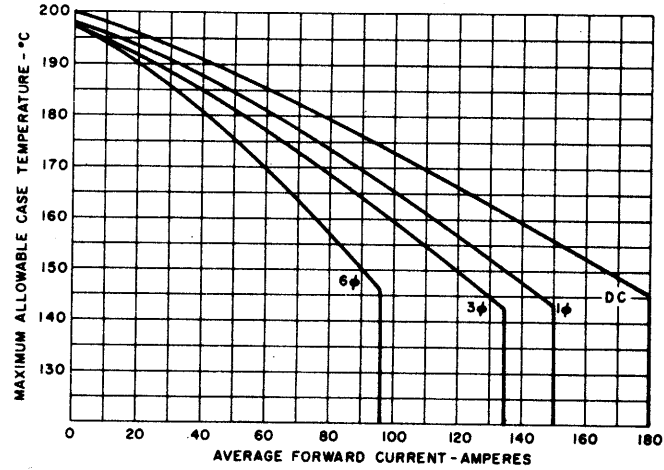
Characteristics	Symbol	Test Conditions	A180 (R)	Units
<b>Current - Conducting State Maximums</b>				
Forward Voltage Drop	$V_{FM}$	$T_C = 143^{\circ}C,$ $I_{F(av)} = 150A, 471A$ Peak	1.3	Volts
<b>Voltage - Blocking State Maximums</b>				
Repetitive Peak Reverse Voltage (Rated Limit)	$V_{RRM}$		1600	Volts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

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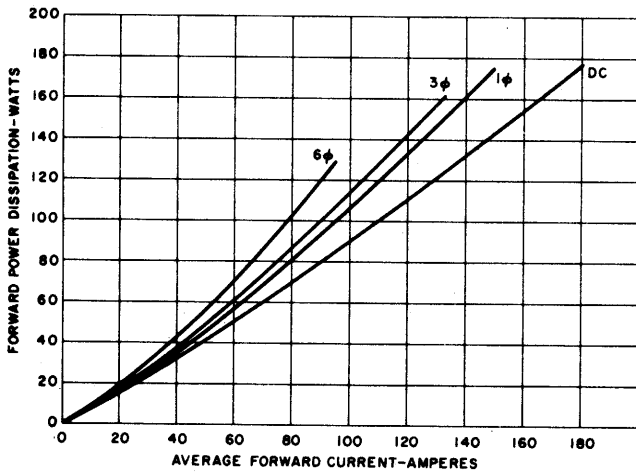
**A180 (R)**  
**Silicon Rectifier**  
 150 Amperes Average, 1600 Volts



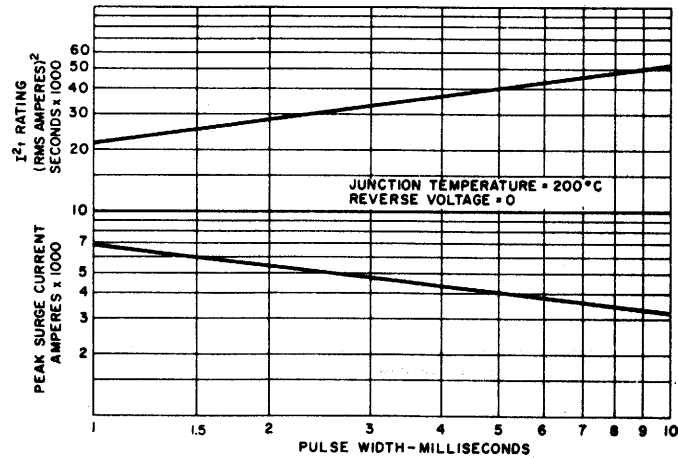
**MAXIMUM FORWARD CHARACTERISTICS**



**MAXIMUM CASE TEMPERATURE VS. AVERAGE FORWARD CURRENT**



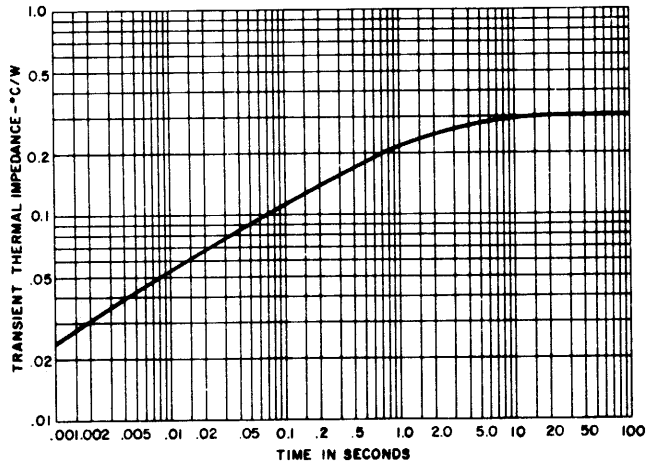
**AVERAGE FORWARD POWER DISSIPATION VS. AVERAGE FORWARD CURRENT**



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

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



TRANSIENT THERMAL IMPEDANCE —  
JUNCTION-TO-CASE