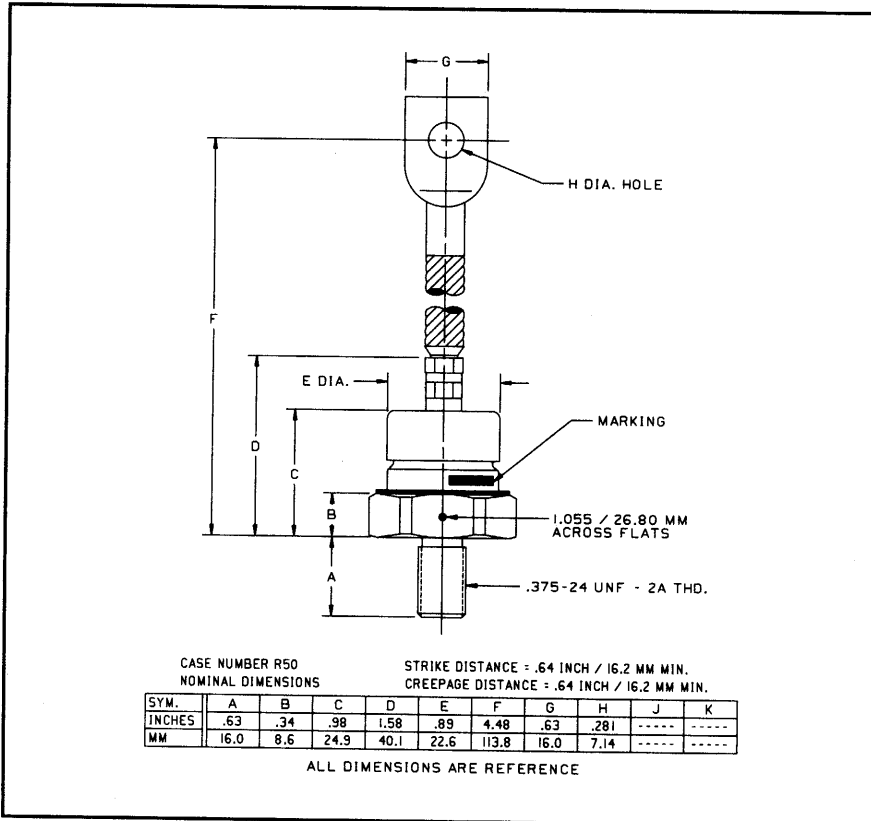


Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (412) 925-7272
 Powerex, Europe, S.A. 428 Avenue G. Durand, BP107, 72003 Le Mans, France (43) 41.14.14

Silicon Rectifier
 150 Amperes Average
 1600 Volts



A180 (R) (Outline Drawing)



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

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 $I_{T(av)}$ |
|------|-----------|------|------------------------|
| | V_{RRM} | Code | |
| A180 | 200 | B | 150 |
| | 400 | D | |
| | 600 | M | |
| | 800 | N | |
| | 1000 | P | |
| | 1200 | PB | |
| | 1400 | PD | |
| | 1600 | PM | |

Features:

- Hermetic Seal

Applications:

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



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Absolute Maximum Ratings

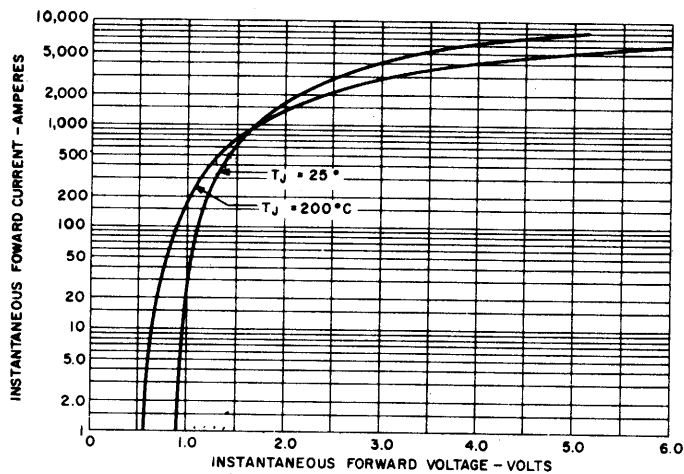
| Characteristics | Symbol | A180 (R) | Units |
|--|--------------|--------------|-------------|
| RMS Forward Current | $I_{F(rms)}$ | 236 | Amperes |
| Average Forward Current | $I_{F(av)}$ | 150 | Amperes |
| One Cycle Surge Current | I_{FSM} | 3400 | Amperes |
| i^2t (for Fusing), Times ≥ 1.0 milliseconds | i^2t | 22000 | A^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

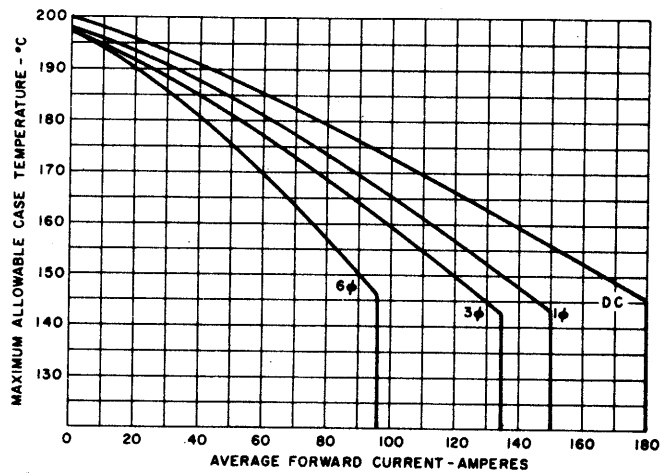
| Characteristics | Symbol | Test Conditions | A180 (R) | Units |
|---|-------------------|---|----------|------------------|
| Current - Conducting State Maximums | | | | |
| Forward Voltage Drop | V_{FM} | $T_C = 143^{\circ}C$, $I_{F(av)} = 150A, 471A$ Peak | 1.3 | Volts |
| Voltage - Blocking State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

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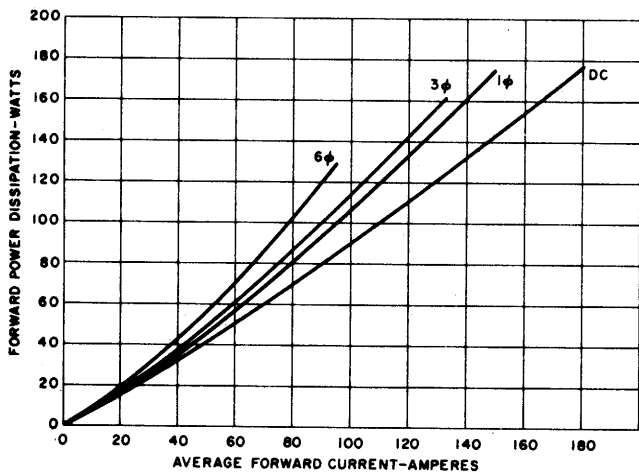
A180 (R)
Silicon Rectifier
 150 Amperes Average, 1600 Volts



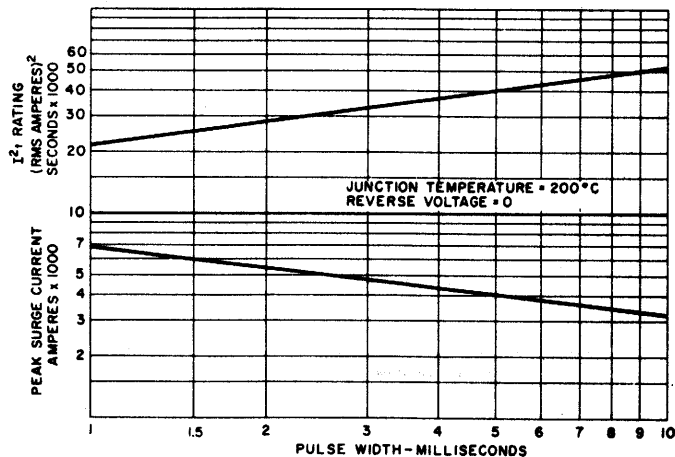
MAXIMUM FORWARD CHARACTERISTICS



MAXIMUM CASE TEMPERATURE VS. AVERAGE FORWARD CURRENT



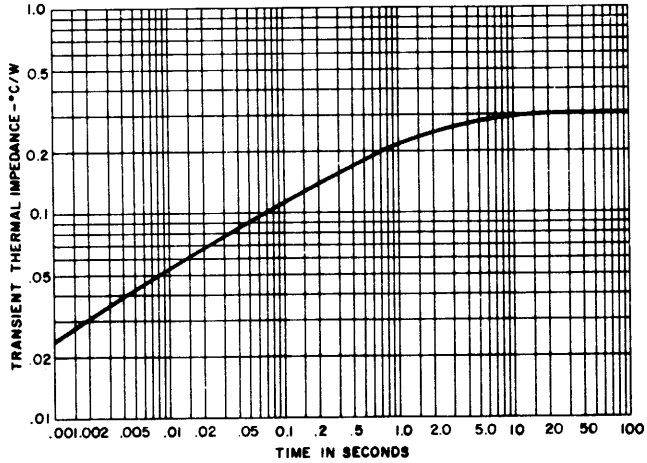
AVERAGE FORWARD POWER DISSIPATION VS. AVERAGE FORWARD CURRENT



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

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TRANSIENT THERMAL IMPEDANCE —
JUNCTION-TO-CASE