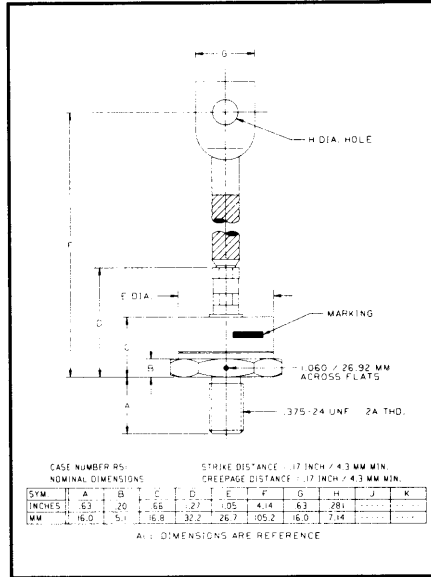
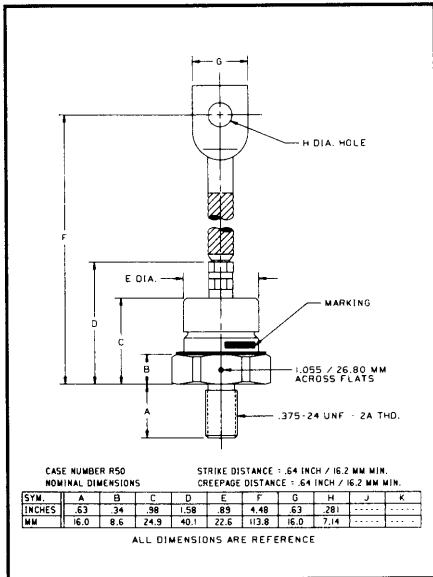


Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (412) 925-7272
Powerex, Europe, S.A. 428 Avenue G. Durand, BP107, 72003 Le Mans, France (43) 41.14.14

**General Purpose
Rectifier**
150 Amperes Average
1400 Volts



IN4587, R - IN4596, R (Outline Drawing)



IN4587, R - IN4596, R
General Purpose Rectifier
150 Amperes Average,
1400 Volts

Ordering Information:

Select the complete six digit part number you desire from the table, i.e. IN4596 is a 1400 Volt, 150 Ampere General Purpose Rectifier.

| Type | Voltage | Current |
|--------|------------------------------|--------------------|
| | V_{DRM}/V_{RRM} (Volts) | $I_{T(av)}$ (A) |
| IN4587 | 100 | 150 |
| IN4588 | 200 | |
| IN4589 | 300 | |
| IN4590 | 400 | |
| IN4591 | 500 | |
| IN4592 | 600 | |
| IN4593 | 800 | |
| IN4594 | 1000 | |
| IN4595 | 1200 | |
| IN4596 | 1400 | |

Features:

- Standard and Reverse Polarities with Color Coded Seals
- High Surge Current Ratings
- Electrical Selection for Parallel and Series Operation
- Compression Bonded Encapsulation

Applications:

- Welders
- Battery Chargers
- Electromechanical Refining
- Metal Reduction
- General Industrial High Current Rectification



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IN4587,R - IN4596,R
 General Purpose Rectifier
 150 Ampere Average, 1400 Volts

Absolute Maximum Ratings

| Characteristics | Symbol | IN4587,R - IN4696,R | Units |
|---|--------------|---------------------|--------------------|
| RMS Forward Current | $I_{F(rms)}$ | 236 | Amperes |
| Maximum Average Forward Current | $I_{F(av)}$ | 150 | Amperes |
| One-half Cycle Surge Current (at 60Hz Under Load) | I_{FSM} | 3000 | Amperes |
| I^2t (for Fusing), (at 60Hz Half-wave) | i^2t | 37200 | A ² sec |
| Storage Temperature | T_{stg} | -60 to +200 | °C |
| Operating Temperature | T_j | -60 to +200 | °C |
| Mounting Torque (Lubricated) | | 120 | in-lb |

Electrical and Thermal Characteristics

| Characteristics | Symbol | IN4587 | IN4588 | IN4589 | IN4590 | IN4591 | IN4592 | IN4593 | IN4594 | IN4595* | IN4596* | Units |
|---|-------------------|------------------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|
| Current - Conducting State Maximums, $T_j = 200^\circ\text{C}$ | | | | | | | | | | | | |
| Max. Reverse Current at Rated V_{RRM} 150A Avg. Forward Current, $T_j = 110^\circ\text{C}$ | $I_{R(av)}$ | 9.5 | 9.5 | 9.0 | 9.0 | 8.0 | 6.5 | 5.5 | 4.5 | 4.0 | 3.5 | mA |
| Voltage - Blocking State Maximums | | | | | | | | | | | | |
| Repetitive Peak Reverse Voltage | V_{RRM} | 100 | 200 | 300 | 400 | 500 | 600 | 800 | 1000 | 1200 | 1400 | Volts |
| Non-rep. Trans. Peak Rev. Voltage | V_{RSM} | 200 | 300 | 400 | 525 | 650 | 800 | 1050 | 1300 | 1600 | 1800 | Volts |
| Max. Allowable d-c Blocking Voltage | V_R | 100 | 200 | 300 | 400 | 500 | 600 | 800 | 1000 | 1200 | 1400 | Volts |
| Thermal | | | | | | | | | | | | |
| Maximum Resistance, Junction to Case | $R_{\theta(j-c)}$ | 0.35 (All Types) | | | | | | | | | | °C/Watt |
| Maximum Resistance, Case to Sink (Lubricated) | $R_{\theta(c-s)}$ | 0.15 (All Types) | | | | | | | | | | °C/Watt |

*Ceramic Seal Supplied

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IN4587,R - IN4596,R
 General Purpose Rectifier
 150 Ampere Average, 1400 Volts

Electrical Characteristics

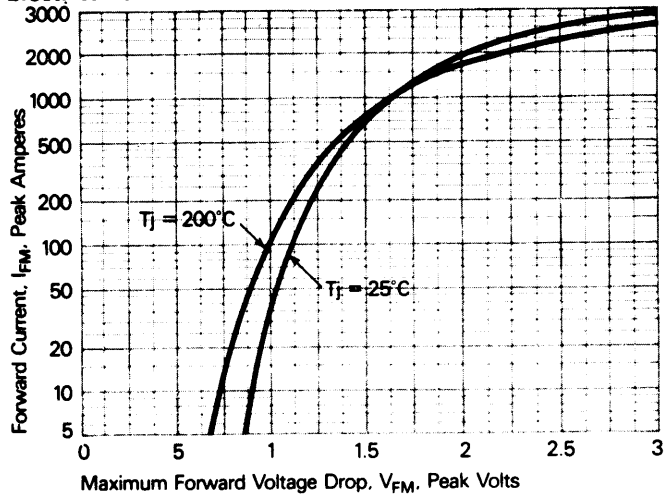


Figure 1. Forward current vs. Forward voltage.

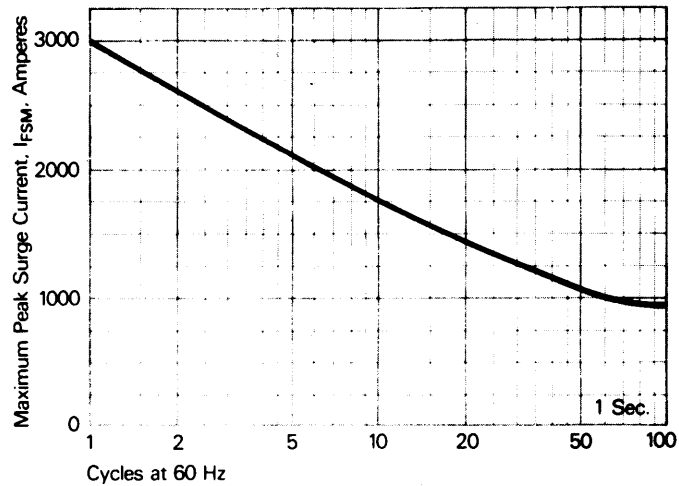


Figure 2. Maximum allowable surge current at rated load conditions.

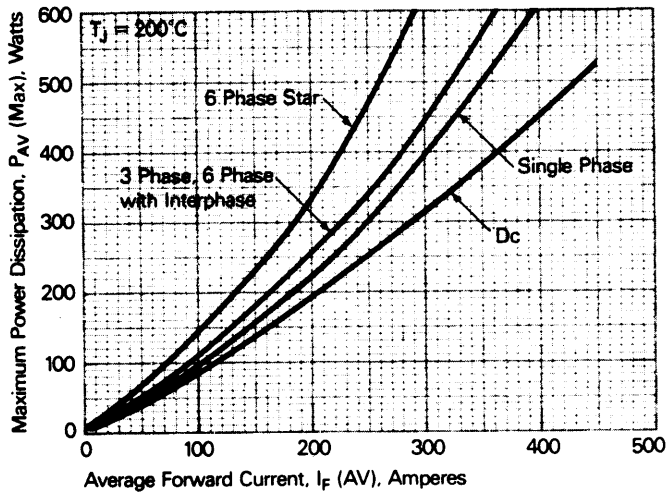


Figure 3. Power dissipation vs. Average forward current.

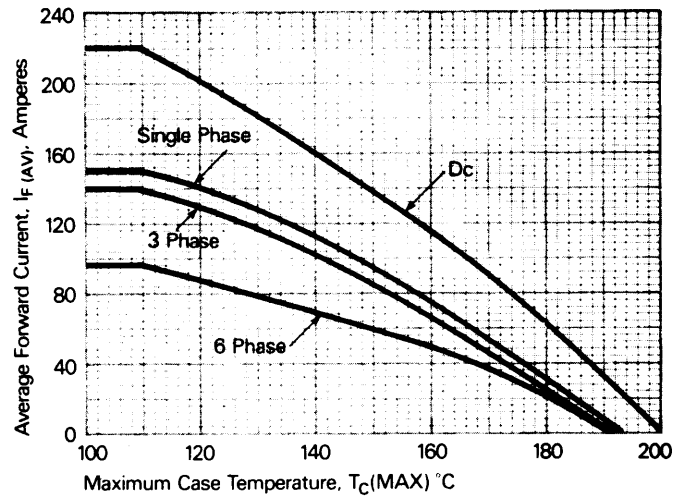


Figure 4. Forward current vs. Case temperature.

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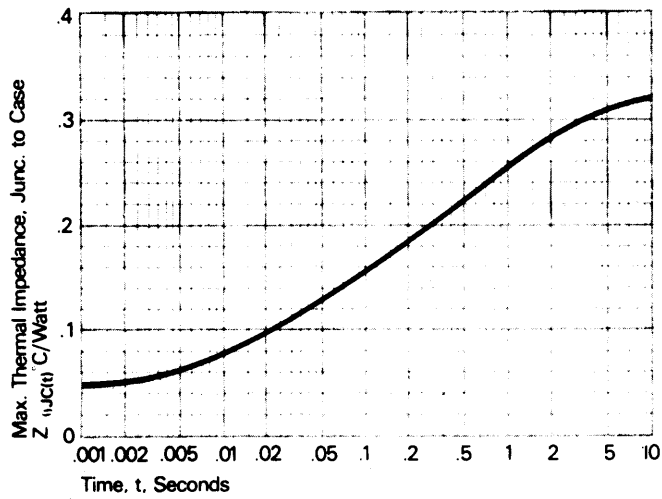


Figure 5. Transient thermal impedance vs. time.