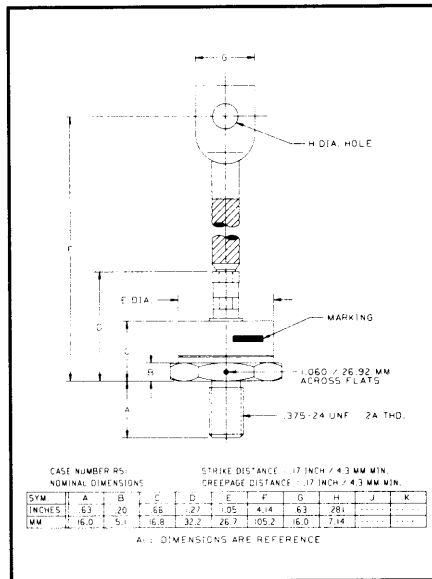
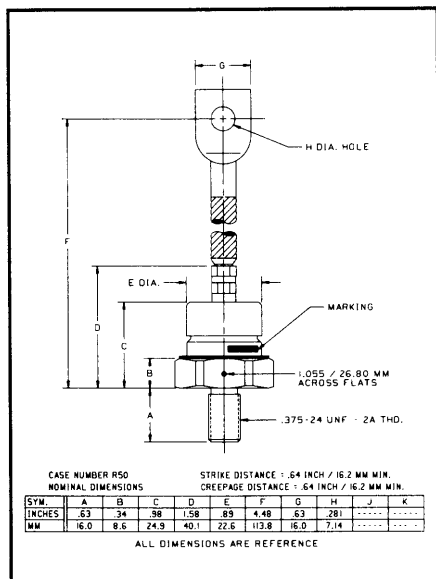


Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (412) 925-7272  
Powerex, Europe, S.A. 428 Avenue G. Durand, BP107, 72003 Le Mans, France (43) 41.14.14

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



IN4587, R - IN4596, R (Outline Drawing)

### 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.

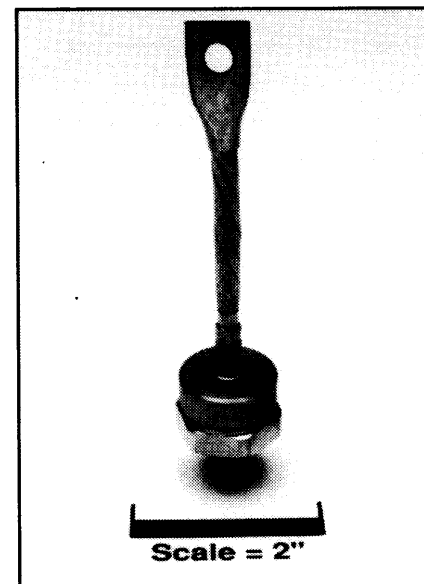
Type	Voltage	Current
	$V_{DRM}/V_{RRM}$ (Volts)	$I_{T(av)}$ (A)
IN4587	100	150
IN4588	200	
IN4589	300	
IN4590	400	
IN4591	500	
IN4592	600	
IN4593	800	
IN4594	1000	
IN4595	1200	
IN4596	1400	

### 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 <sup>2</sup> 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
<b>Current - Conducting State Maximums, <math>T_j = 200^\circ\text{C}</math></b>												
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
<b>Voltage - Blocking State Maximums</b>												
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
<b>Thermal</b>												
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

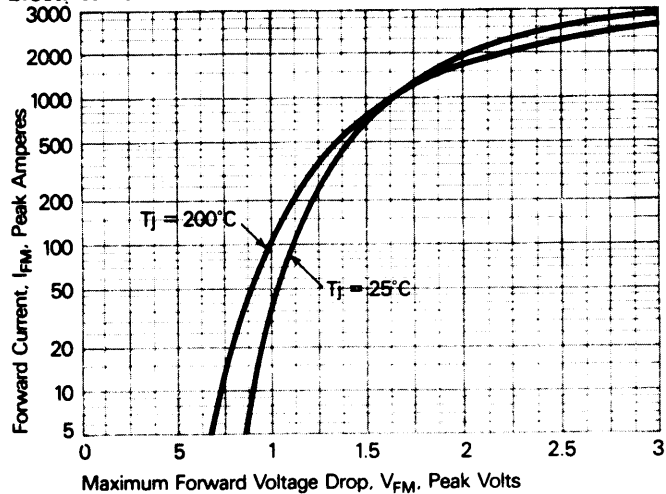


Figure 1. Forward current vs. Forward voltage.

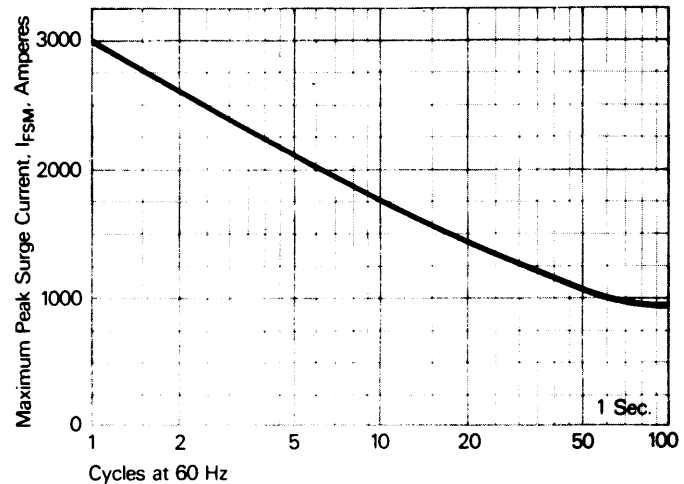


Figure 2. Maximum allowable surge current at rated load conditions.

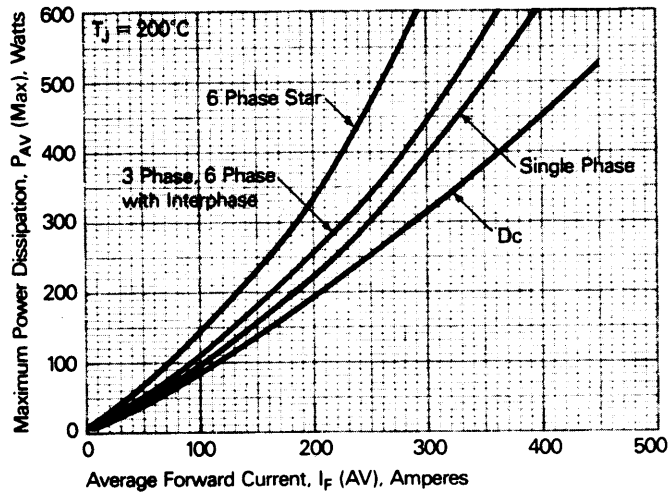


Figure 3. Power dissipation vs. Average forward current.

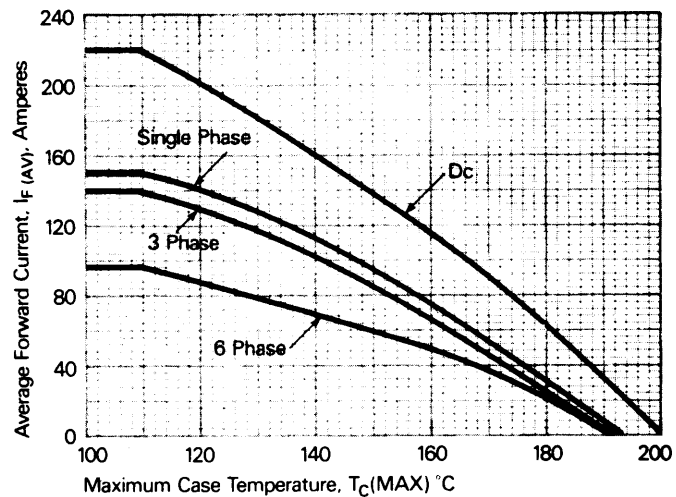


Figure 4. Forward current vs. Case temperature.

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IN4587,R - IN4596,R  
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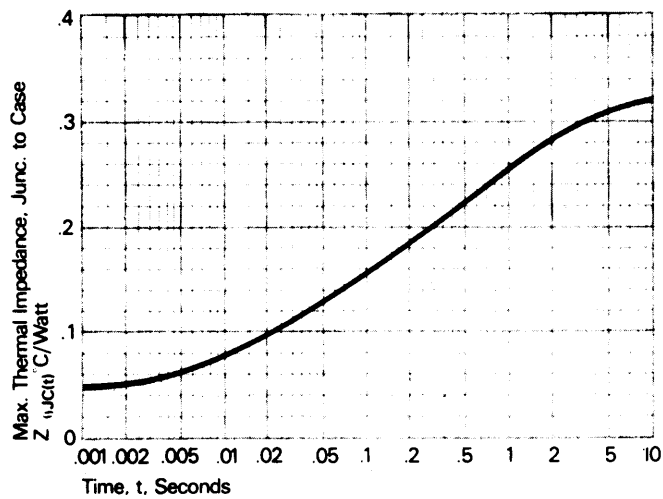


Figure 5. Transient thermal impedance vs. time.