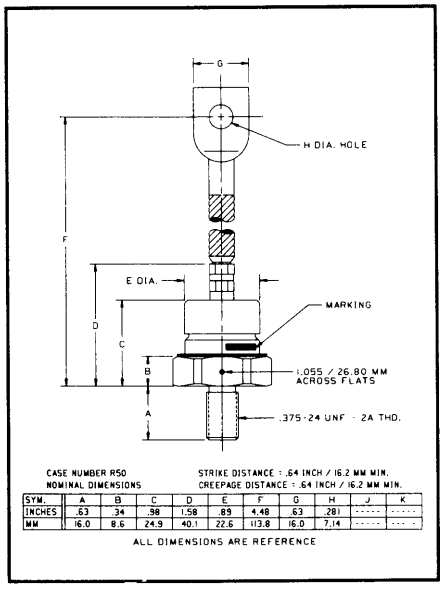
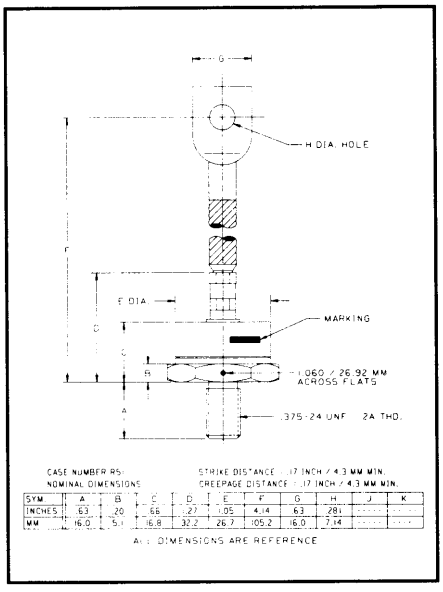
IN4587, R-
IN4596, R

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

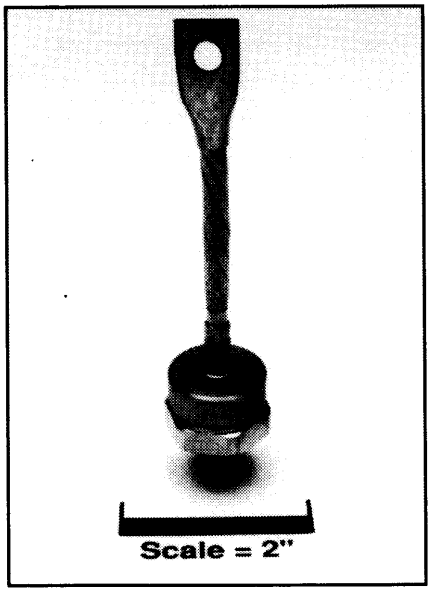
General Purpose Rectifier

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 V_{DRM}/V_{RRM} (Volts)	Current $I_{T(av)}$ (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

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

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^2sec
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°C												
Max. Reverse Current at Rated V_{RRM} 150A Avg. Forward Current, T_j = 110°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

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

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

Electrical Characteristics

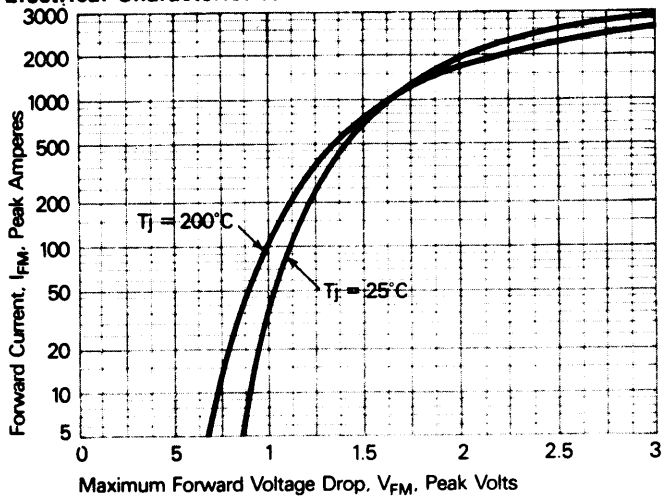


Figure 1. Forward current vs. Forward voltage.

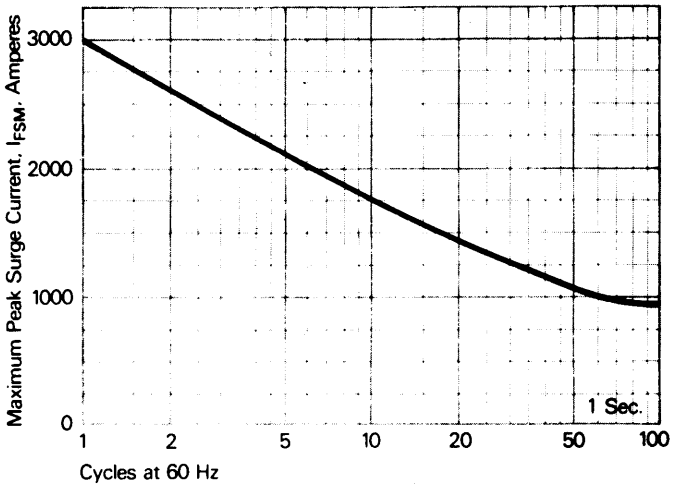


Figure 2. Maximum allowable surge current at rated load conditions.

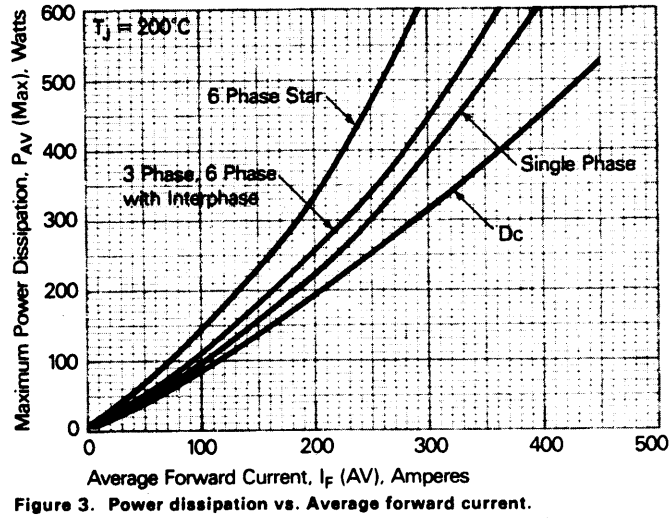


Figure 3. Power dissipation vs. Average forward current.

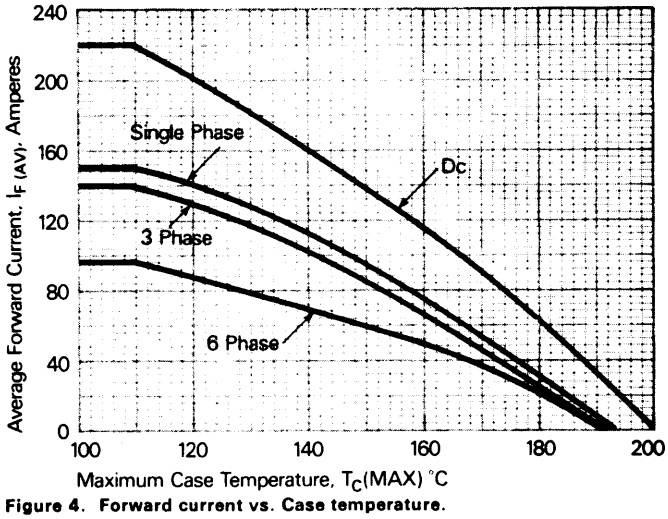


Figure 4. Forward current vs. Case temperature.

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

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

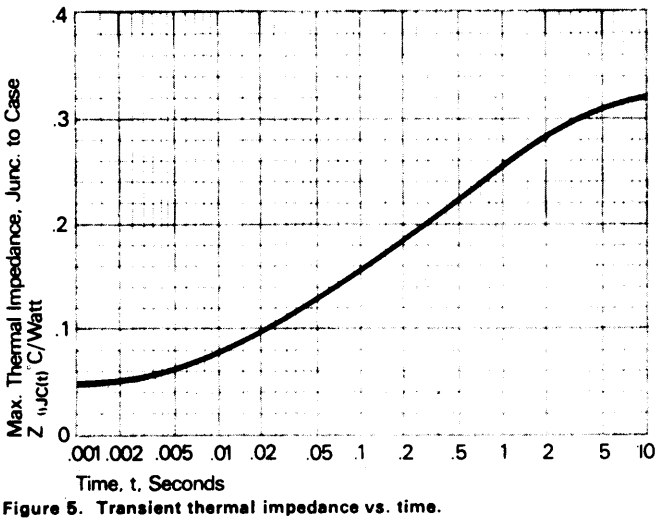


Figure 5. Transient thermal impedance vs. time.