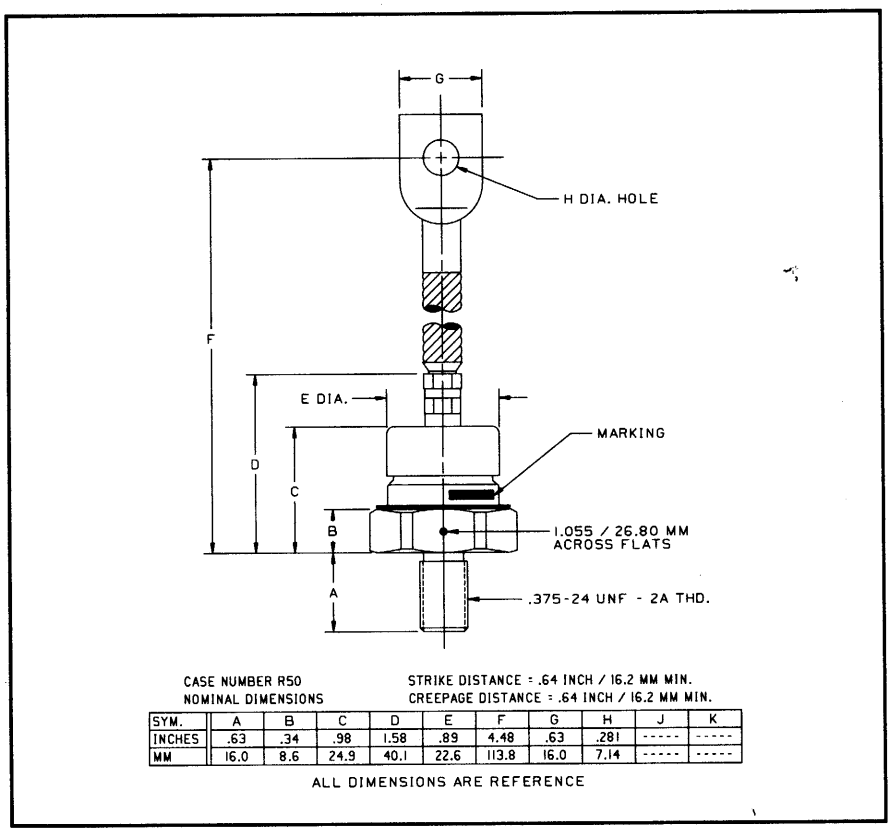
Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (412) 925-7272
Powerex, Europe, S.A. 428 Avenue G. Durand, BP107, 72003 Le Mans, France (43) 41.14.14

General Purpose Rectifier

100-150 Amperes Average
1600 Volts



CASE NUMBER R50
NOMINAL DIMENSIONS

STRIKE DISTANCE = .64 INCH / 16.2 MM MIN.
CREEPAGE DISTANCE = .64 INCH / 16.2 MM MIN.

SYM.	A	B	C	D	E	F	G	H	J	K
INCHES	.63	.34	.98	1.58	.89	4.48	.63	.281	-----	-----
MM	16.0	8.6	24.9	40.1	22.6	113.8	16.0	7.14	-----	-----

ALL DIMENSIONS ARE REFERENCE

R500/R501 (Outline Drawing)



R500/R501 General Purpose Rectifier
100-150 Amperes Average, 1600 Volts

Features:

- ☐ Standard and Reverse Polarities with Color Coded Ceramic Seals
- ☐ Flag Lead and Stud Top Terminals Available
- ☐ High Surge Current Ratings
- ☐ Special Electrical Selection for Parallel and Series Operation
- ☐ Compression Bonded Encapsulation

Applications:

- ☐ Electromechanical Refining
- ☐ Metal Reduction
- ☐ General Industrial Rectification

Ordering Information:
Select the complete part number you desire from the following table:

Type	Voltage		Current		Recovery Time		Recovery Time Circuit		Leads	
	V_{RRM} (Volts)	Code	$I_{F(av)}$ (A)	Code	t_{rr} (μsec)	Code	Circuit	Code	Case	Code
R500 (Standard Polarity)	400	04	100	10	7 (Typ.)	X	JEDEC	X	DO-8	WA
	600	06	150	15						
	800	08								
	1000	10								
R501 (Reverse Polarity)	1200	12								
	1400	14								
	1600	16								

Example: Type R500 rated at 150A average with V_{RRM} = 1600V, and standard flexible lead, order as:

Type				Voltage		Current		Time	Circuit	Leads	
R	5	0	0	1	6	1	5	X	X	W	A

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

R500/R501
General Purpose Rectifier
100-150 Amperes Average, 1600 Volts

Absolute Maximum Ratings

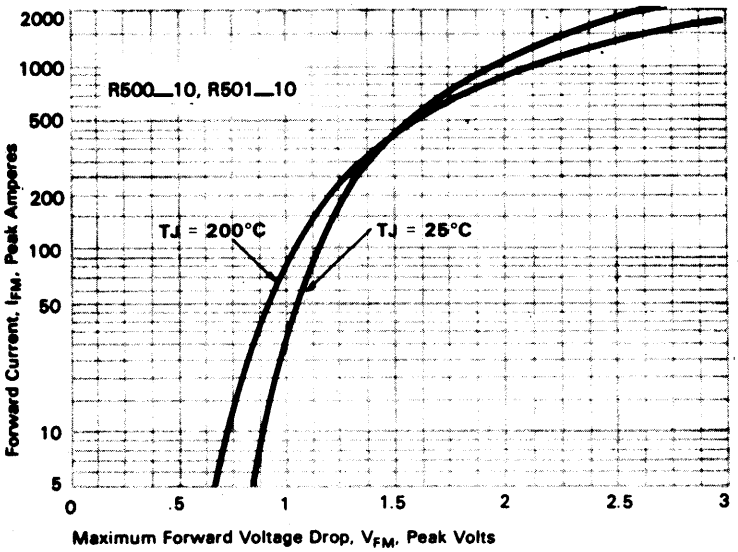
Characteristics	Symbol	R500_ _10, R501_ _10	R500_ _15, R501_ _15	Units
RMS Forward Current	$I_{F(rms)}$	160	236	Amperes
Average Forward Current	$I_{F(av)}$	100	150	Amperes
One-half Cycle Surge Current	I_{FSM}	2300	3000	Amperes
3 Cycle Surge Current	I_{FSM}	1875	2375	Amperes
10 Cycle Surge Current	I_{FSM}	1350	1750	Amperes
I^2t (for Fusing), Times = 8.3 milliseconds	I^2t	22000	37500	A^2sec
Storage Temperature	T_{stg}	-65 to +200	-65 to +200	°C
Operating Temperature	T_j	-65 to +200	-65 to +200	°C
Mounting Torque (Lubricated)		120	120	in-lb

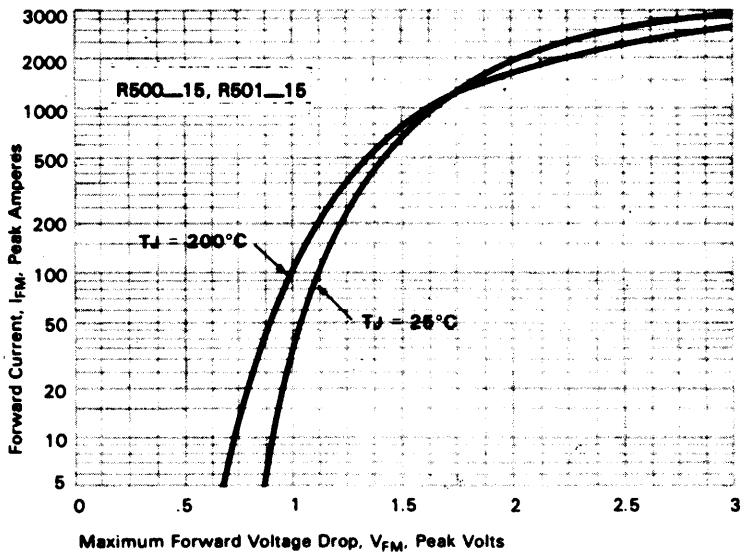
Electrical and Thermal Characteristics

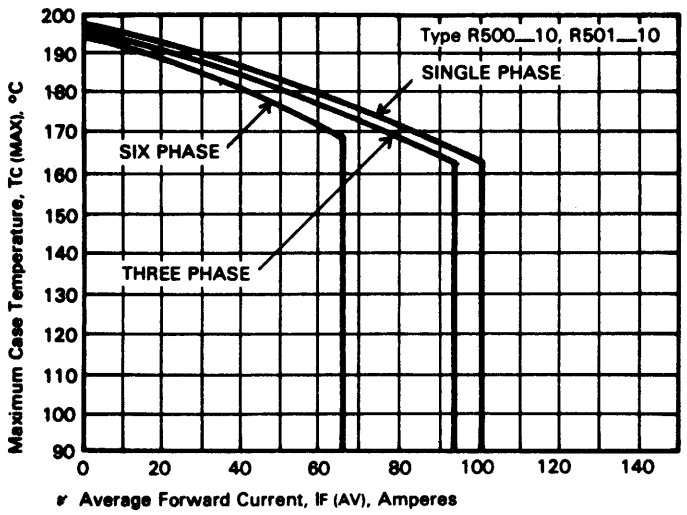
Characteristics	Symbol	Test Conditions	R500_ _10, R501_ _10	R500_ _15, R501_ _15	Units
Current - Conducting State Maximums					
Forward Voltage Drop	V_{FM}	T_j = 25°C, I_{FM} = 470A	1.55	1.40	Volts
Voltage - Blocking State Maximums					
Repetitive Peak Reverse Voltage (Rated Limit)	V_{RRM}		1600	1600	Volts
Non-rep. Trans. Peak Rev. Voltage (Rated Limit)	V_{RSM}	$t_p \leq$ 5.0msec	1700	1700	Volts
Reverse Leakage Current	I_{RRM}	T_j at max., V_{RRM} = Rated	30	30	mA
Switching					
Typical Reverse Recovery Time	t_{rr}	I_{FM} = 314A, t_p = 40µsec, di_R/dt = 25A/µsec, T_C = 25°C	7	7	µsec
Thermal					
Maximum Resistance, Junction to Case	$R_{\theta(j-c)}$		0.28	0.28	°C/Watt
Maximum Resistance, Case to Sink (Lubricated)	$R_{\theta(c-s)}$		0.20	0.20	°C/Watt

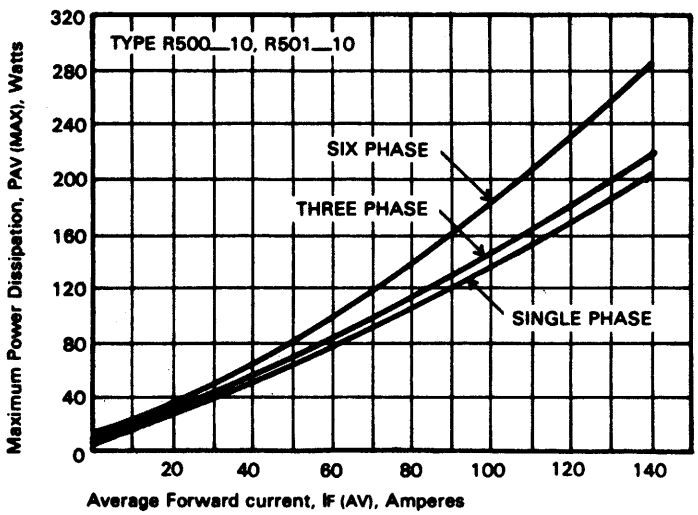
Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (412) 925-7272
Powerex, Europe, S.A. 428 Avenue G. Durand, BP107, 72003 Le Mans, France (43) 41.14.14

R500/R501
General Purpose Rectifier
100-150 Amperes Average, 1600 Volts









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

R500/R501
General Purpose Rectifier
100-150 Amperes Average, 1600 Volts

