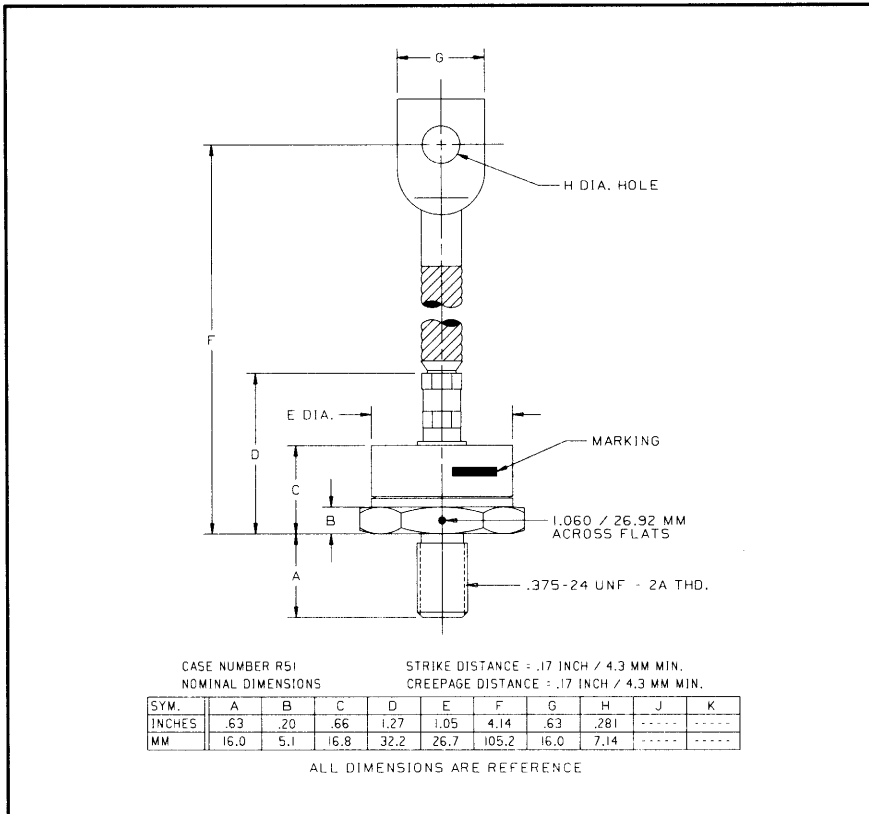


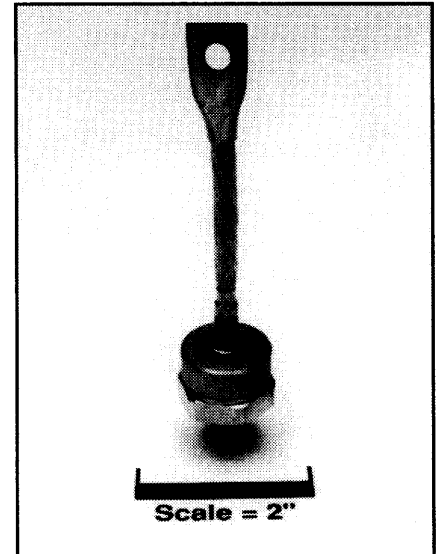
Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (412) 925-7272
Powerex, Europe, S.A. 428 Avenue G. Durand, BP107, 72003 Le Mans, France (43) 41.14.14

General Purpose Rectifier

100-150 Amperes Average
1200 Volts



R510/R511 (Outline Drawing)



R510/R511 General Purpose Rectifier
100-150Amperes Average, 1200 Volts

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
R510 (Standard Polarity)	100	01	100	10	7 (Typ.)	X	JEDEC	X	DO-8	WA
	200	02	150	15						
	300	03								
	400	04								
R511 (Reverse Polarity)	500	05								
	600	06								
	700	07								
	800	08								
	1000	10								
	1200	12								

Example: Type R510 rated at 150A average with V_{RRM} = 1200V, and standard flexible lead, order as:

Type	Voltage		Current		Time	Circuit	Leads	
R 5 1 0	1	2	1	5	X	X	W	A

Features:

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

Applications:

- ☐ Welders
- ☐ Battery Chargers
- ☐ General Industrial Rectification

R510/R511

General Purpose Rectifier

100-150 Amperes Average, 1200 Volts

Absolute Maximum Ratings

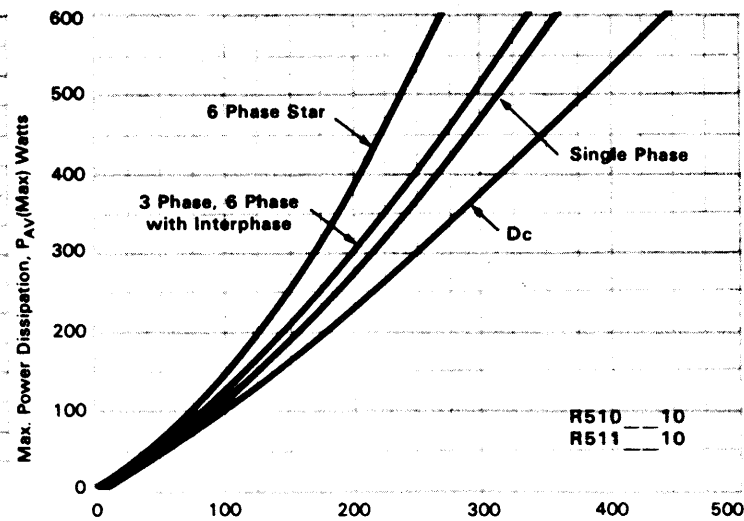
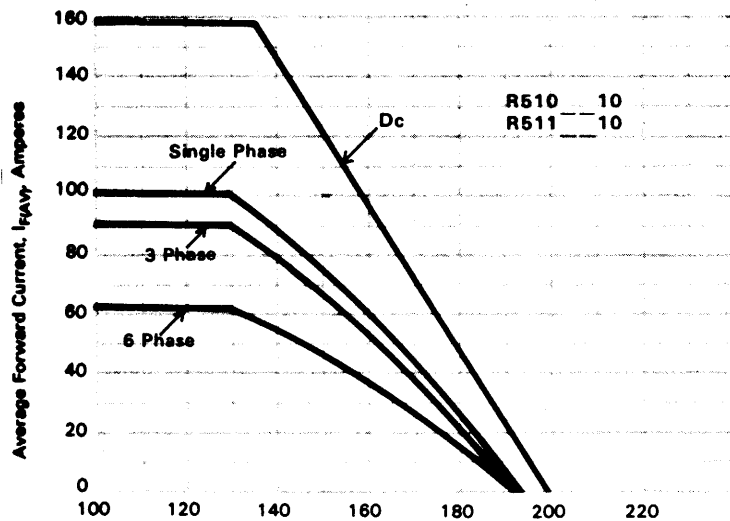
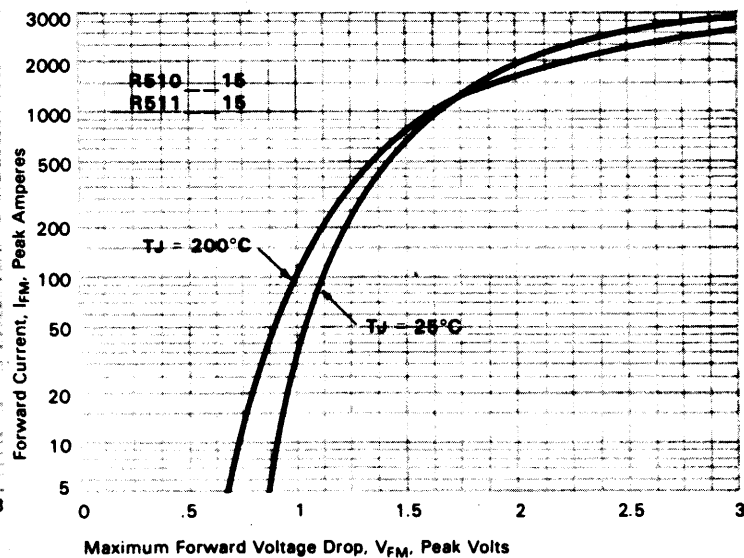
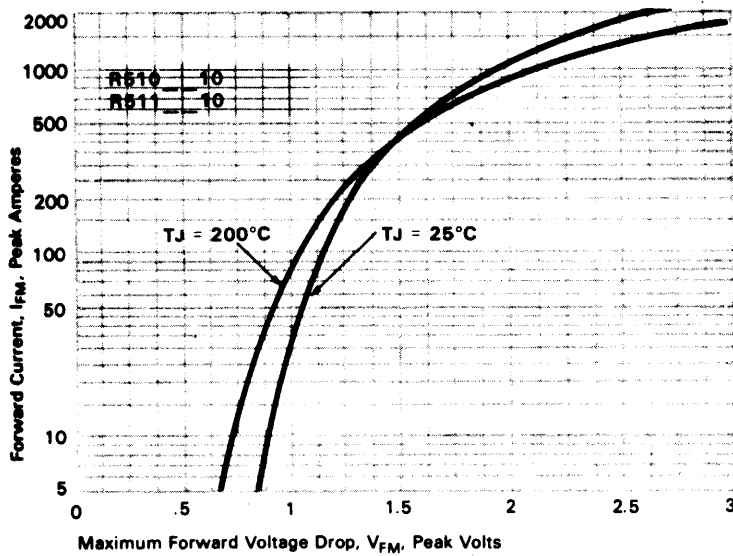
Characteristics	Symbol	R510_10, R511_10	R510_15, R511_15	Units
RMS Forward Current	$I_{F(rms)}$	160	236	Amperes
Average Forward Current	$I_{F(av)}$	100	150	Amperes
One-half Cycle Surge Current	I_{FSM}	2300	3000	Amperes
3 Cycle Surge Current	I_{FSM}	1875	2375	Amperes
10 Cycle Surge Current	I_{FSM}	1350	1750	Amperes
I^2t (for Fusing), Times = 8.3 milliseconds	I^2t	22000	37500	A ² sec
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	R510_10, R511_10	R510_15, R511_15	Units
Current - Conducting State Maximums					
Forward Voltage Drop	V_{FM}	$T_j = 25^\circ\text{C}$, $I_{FM} = 470\text{A}$	1.55	1.40	Volts
Voltage - Blocking State Maximums					
Repetitive Peak Reverse Voltage (Rated Limit)	V_{RRM}		1200	1200	Volts
Non-rep. Trans. Peak Rev. Voltage (Rated Limit)	V_{RSM}	$t_p \leq 5.0\text{msec}$	1300	1300	Volts
Reverse Leakage Current	I_{RRM}	T_j at max., $V_{RRM} = \text{Rated}$	30	30	mA
Switching					
Typical Reverse Recovery Time	t_{rr}	$I_{FM} = 314\text{A}$, $t_p = 40\mu\text{sec}$, $di_R/dt = 25\text{A}/\mu\text{sec}$, $T_C = 25^\circ\text{C}$	7	7	μsec
Thermal					
Maximum Resistance, Case to Sink (Lubricated)	$R_{\theta(c-s)}$		0.20	0.20	°C/Watt

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R510/R511
General Purpose Rectifier
100-150 Amperes Average, 1200 Volts



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R510/R511

General Purpose Rectifier

100-150 Amperes Average, 1200 Volts

