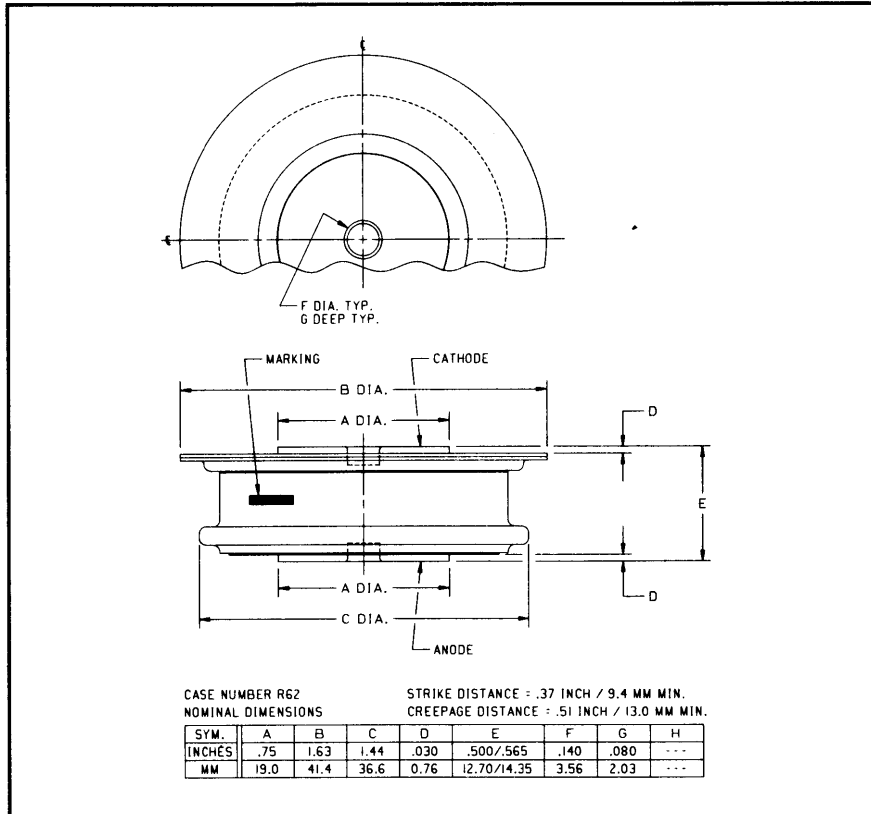
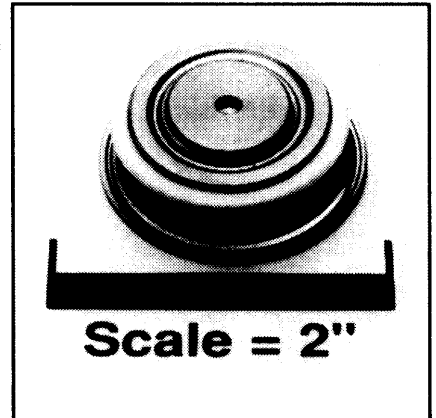


Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (412) 925-7272
 Powerex, Europe, S.A. 428 Avenue G. Durand, BP107, 72003 Le Mans, France (43) 41.14.14

Fast Recovery Rectifier
300 Amperes Average
1600 Volts



R622_30 (Outline Drawing)



R622_30
 Fast Recovery Rectifier
 300 Amperes Average, 1600 Volts

Ordering Information:

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

Type	Voltage		Current		Recovery Time		Leads	
	V _{RRM} (Volts)	Code	I _{F(av)} (A)	Code	t _{rr} (nsec)	Code	Case	Code
R622	400	04	300	30	500	PS	R62	OO
	600	06						
	800	08						
	1000	10						
	1200	12						
	1400	14						
	1600	16						

Example: Type R602 rated at 300A average with
 V_{RRM} = 1600V, Recovery Time = 500nsec, order as:

Type	Voltage	Current	Time	Leads
R 6 2 2	1 6	3 0	PS	O O

Features:

- Fast Recovery Times
- Soft Recovery Characteristics
- High Surge Current Ratings
- High Rated Blocking Voltages
- Special Electrical Selection for Parallel and Series Operation
- Single or Double-sided Cooling
- Long Creepage and Strike Paths
- Hermetic Seal
- Special Selection of Recovery Characteristics Available

Applications:

- Inverters
- Choppers
- Transmitters
- Free Wheeling Diode

R622_30
Fast Recovery Rectifier
 300 Amperes Average, 1600 Volts

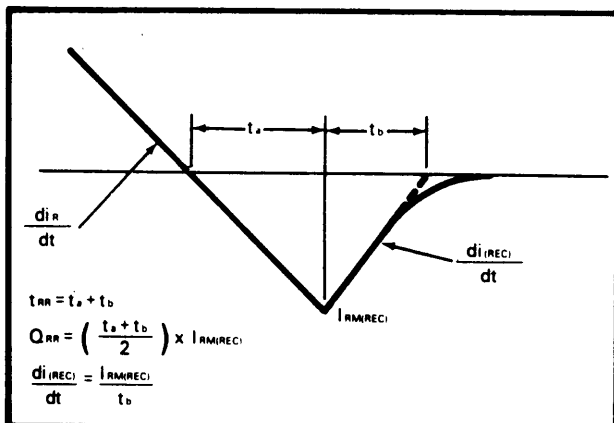
Absolute Maximum Ratings

Characteristics	Symbol	R622_30	Units
RMS Forward Current	$I_{F(rms)}$	470	Amperes
Average Forward Current	$I_{F(av)}$	300	Amperes
One-half Cycle Surge Current	I_{FSM}	3500	Amperes
3 Cycle Surge Current	I_{FSM}	2700	Amperes
10 Cycle Surge Current	I_{FSM}	2100	Amperes
I^2t (for Fusing), Times = 8.3 milliseconds	I^2t	51000	A^2sec
Max. I^2t of Package (for Times = 8.3 milliseconds)	I^2t	20×10^6	A^2sec
Storage Temperature	T_{stg}	40 to +190	$^{\circ}C$
Operating Temperature	T_j	40 to +150	$^{\circ}C$
Mounting Force		1000 to 1400	lbs

Electrical and Thermal Characteristics

Characteristics	Symbol	Test Conditions	R622_30	Units
Current - Conducting State Maximums				
Forward Voltage Drop	V_{FM}	$T_j = 25^{\circ}C, I_{FM} = 800A$	2.75	Volts
Voltage - Blocking State Maximums				
Repetitive Peak Reverse Voltage (Rated Limit)	V_{RRM}		1600	Volts
Non-rep. Trans. Peak Rev. Voltage (Rated Limit)	V_{RSM}	$t \leq 5.0msec$	1800	Volts
Reverse Leakage Current, mA peak	I_{RRM}	T_j at max., $V_{RRM} = \text{Rated}$	50	mA
Switching				
Maximum Reverse Recovery Time	t_{rr}	$I_{FM} = 785A, t_p = 100\mu sec,$ $di_F/dt = 25A/\mu sec, T_C = 25^{\circ}C$	500	nsec
Maximum Reverse Recovery Time	t_{rr}	$I_{FM} = 785A, t_p = 100\mu sec,$ $di_F/dt = 25A/\mu sec, T_C = 150^{\circ}C$	1.1	μsec
Thermal				
Maximum Resistance, Junction to Case	$R_{\theta(j-c)}$		0.095	$^{\circ}C/Watt$
Maximum Resistance, Case to Sink (Lubricated)	$R_{\theta(c-s)}$		0.025	$^{\circ}C/Watt$

Reverse Recovery Wave Form



Transient Thermal Impedance Vs. Time

