



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

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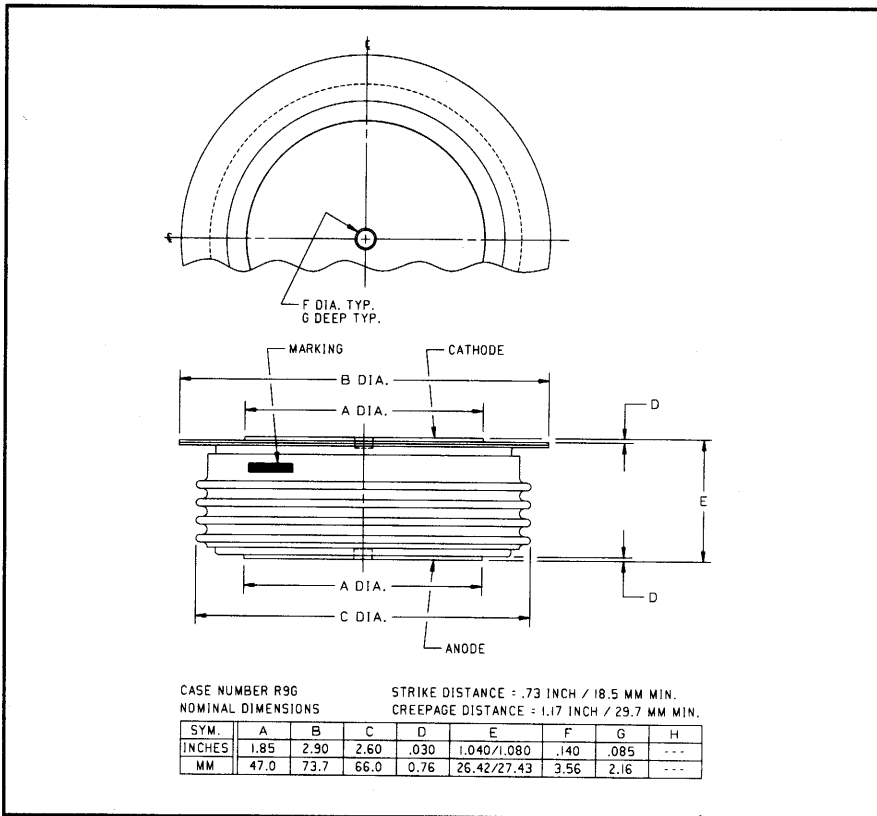
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



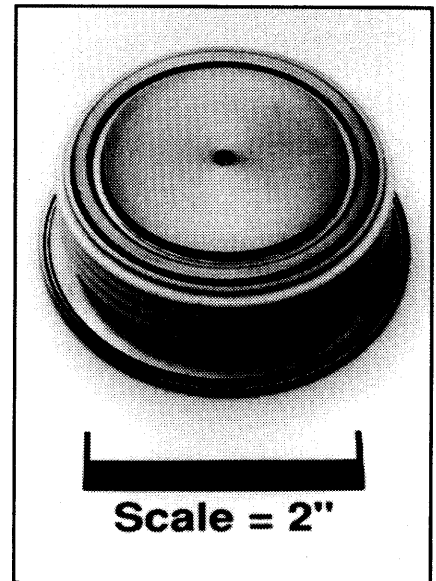
Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (412) 925-7272  
 Powerex, Europe, S.A. 428 Avenue G. Durand, BP107, 72003 Le Mans, France (43) 41.14.14

### General Purpose Rectifier

2200 Amperes Average  
 1600 Volts



R9G0 2200A (Outline Drawing)



R9G0 1800A General Purpose Rectifier  
 2200 Amperes Average, 1600 Volts

#### Description:

Powerex General Purpose Rectifiers are designed for high blocking voltage capability with low forward voltage to minimize conduction losses. These hermetic Pow-R-Disc devices can be mounted using commercially available clamps and heatsinks.

#### Features:

- Low Forward Voltage
- Low Thermal Impedance
- Hermetic Packaging
- Excellent Surge and  $I^2t$  Ratings

#### Applications:

- Power Supplies
- Motor Control
- Free Wheeling Diode
- Battery Chargers
- Resistance Welding

#### Ordering Information:

Select the complete 8 digit part number you desire from the table below.

Type	Voltage	Current	Typical Recovery Time
	$V_{RRM}$ (Volts)	$I_T(av)$ (A)	$t_{rr}$ ( $\mu$ sec)
R9G0	01 through 16  100V through 1600V	22  2200A	XX  15 $\mu$ sec



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**R9G0 2200A**  
**General Purpose Rectifier**  
2200 Amperes Average, 1600 Volts

### Absolute Maximum Ratings

Characteristics	Symbol	R9G0 2200A	Units
Non-repetitive Transient Peak Reverse Voltage	$V_{RSM}$	$V_{RRM} + 200V$	Volts
RMS Forward Current, $T_C = 134^\circ C$	$I_{F(rms)}$	3455	Amperes
Average Current 180° Sine Wave, $T_C = 134^\circ C$	$I_{F(av)}$	2200	Amperes
RMS Forward Current, $T_C = 55^\circ C$	$I_{F(rms)}$	5340	Amperes
Average Current 180° Sine Wave, $T_C = 55^\circ C$	$I_{F(av)}$	3400	Amperes
Peak One Cycle Surge Forward Current (Non-repetitive) 60Hz	$I_{fsm}$	30000	Amperes
Peak One Cycle Surge Forward Current (Non-repetitive) 50Hz	$I_{fsm}$	27400	Amperes
3 Cycle Surge Current	$I_{fsm}$	22000	Amperes
10 Cycle Surge Current	$I_{fsm}$	18500	Amperes
$i^2t$ (for Fusing) for One Cycle, 60Hz	$i^2t$	3,700,000	$A^2sec$
Maximum $i^2t$ of Package ( $t = 8.3$ msec)	$i^2t$	$90 \times 10^6$	$A^2sec$
Operating Temperature	$T_j$	-40 to +150°C	°C
Storage Temperature	$T_{stg}$	-40 to +190°C	°C
Approximate Weight		1	lb.
		454	g
Mounting Force		5000 to 6000	lb.
		2270 to 2700	kg.



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**R9G0 2200A**  
**General Purpose Rectifier**  
 2200 Amperes Average, 1600 Volts

**Electrical Characteristics,  $T_j = 25^\circ\text{C}$  Unless Otherwise Specified**

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Peak Reverse Leakage Current	$I_{RRM}$	$T_j = 125^\circ\text{C}, V_R = V_{RRM}$			150	mA
Forward Voltage Drop	$V_{FM}$	$I_{FM} = 1500\text{A}, \text{Duty Cycle} < 0.1\%$			1.10	Volts
Threshold Voltage, Low-level	$V_{(TO)1}$	$T_j = 150^\circ\text{C}, I = 15\%, I_{T(av)} \text{ to } \pi I_{T(av)}$			0.79109	Volts
Slope Resistance, Low-level	$r_{T1}$				0.08773	$\text{m}\Omega$
Threshold Voltage, High-level	$V_{(TO)2}$	$T_j = 150^\circ\text{C}, I = \pi I_{T(av)} \text{ to } I_{TSM}$			0.73267	Volts
Slope Resistance, High-level	$r_{T2}$				0.09978	$\text{m}\Omega$
$V_{TM}$ Coefficients, Low-level		$T_j = 150^\circ\text{C}, I = 15\% I_{T(av)} \text{ to } \pi I_{T(av)}$				$A_1 = 0.87442$ $B_1 = -0.02263$ $C_1 = 6.427\text{E-}05$ $D_1 = 3.061\text{E-}03$
$V_{TM}$ Coefficients, High-level		$T_j = 150^\circ\text{C}, I = \pi I_{T(av)} \text{ to } I_{TSM}$				$A_2 = 6.40712$ $B_2 = -0.87093$ $C_2 = 4.383\text{E-}05$ $D_2 = 0.02888$
Typical Reverse Recovery Time	$t_{rr}$	$T_C = 25^\circ\text{C}, I_{FM} = 1500\text{A},$ $di_R/dt = 25\text{A}/\mu\text{sec}, t_p = 190\mu\text{sec}$		15		$\mu\text{sec}$

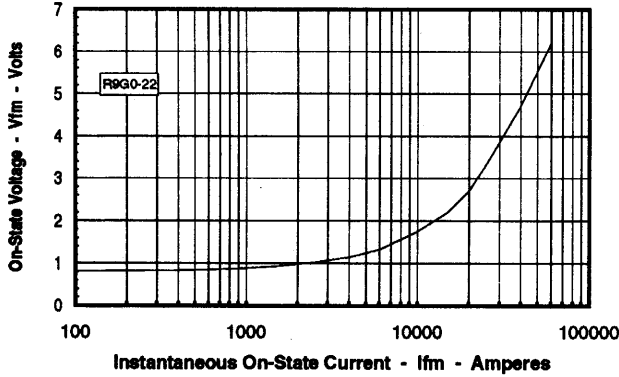
**Thermal Characteristics**

Maximum Thermal Resistance, Double Sided Cooling						
Junction-to-Case	$R_{\theta(j-c)}$				0.020	$^\circ\text{C}/\text{W}$
Case-to-Sink	$R_{\theta(c-s)}$				0.0075	$^\circ\text{C}/\text{W}$

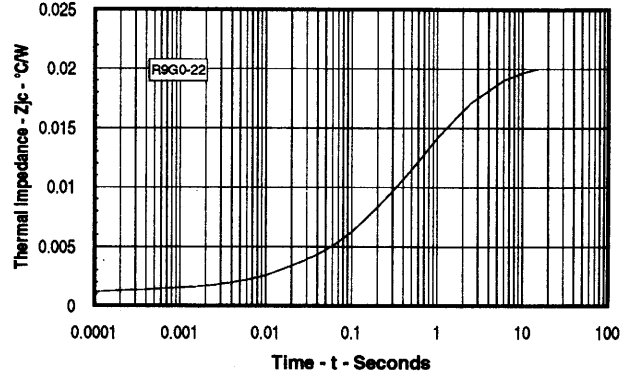
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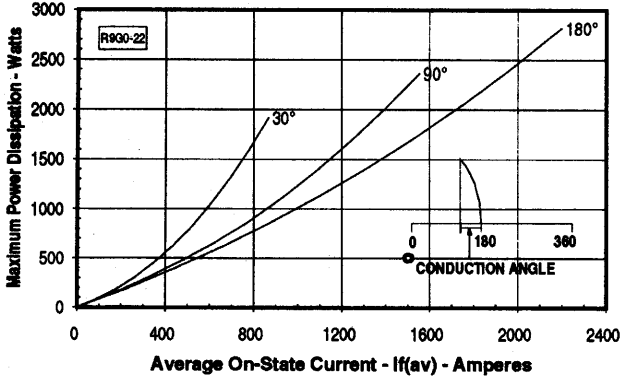
**Maximum On-State Forward Voltage Drop**  
 ( $T_J = 190^\circ\text{C}$ )



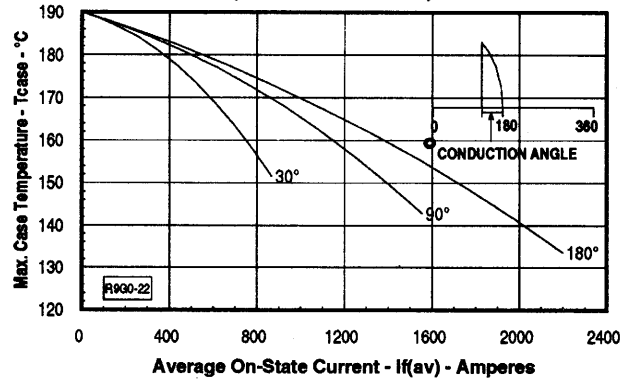
**Maximum Transient Thermal Impedance**  
 (Junction to Case)



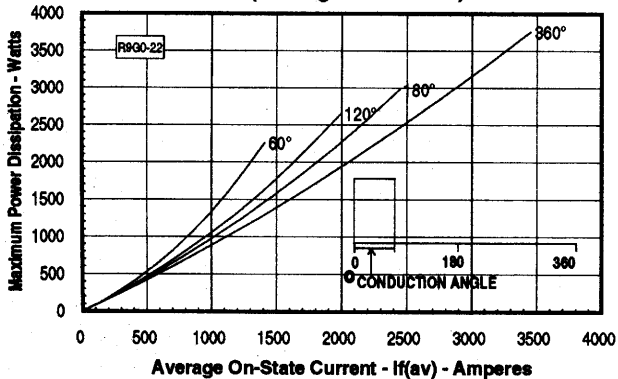
**Maximum On-State Power Dissipation**  
 (Sinusoidal Waveform)



**Maximum Allowable Case Temperature**  
 (Sinusoidal Waveform)



**Maximum On-State Power Dissipation**  
 (Rectangular Waveform)



**Maximum Allowable Case Temperature**  
 (Rectangular Waveform)

