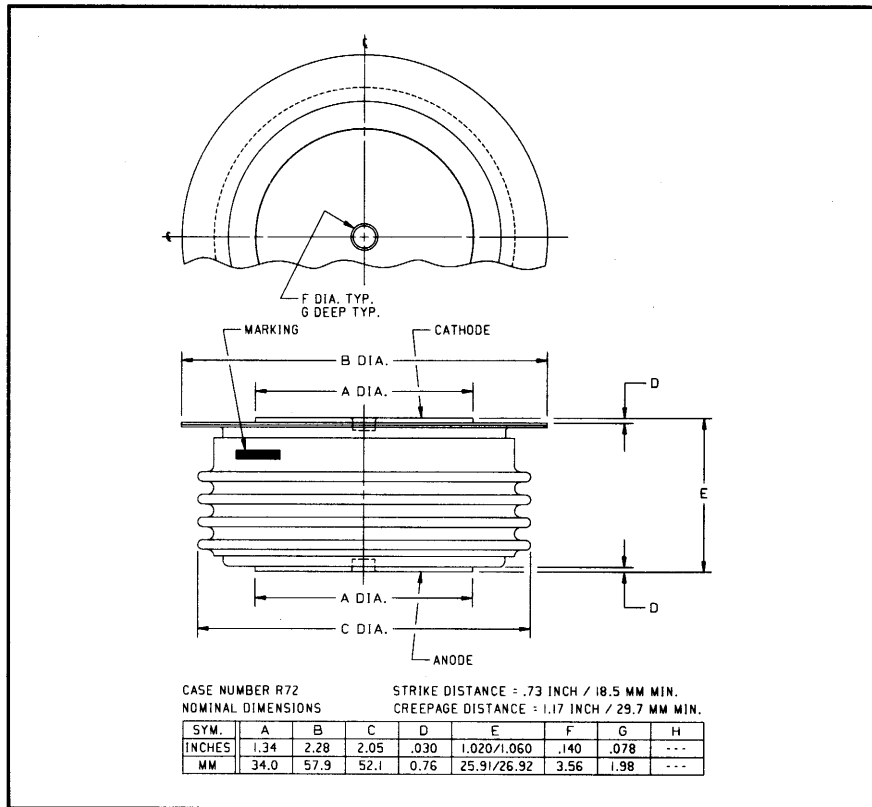


Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (412) 925-7272
Powerex, Europe, S.A. 428 Avenue G. Durand, BP107, 72003 Le Mans, France (43) 41.14.14

General Purpose Rectifier
600-1200 Amperes
4400 Volts



R720 (Outline Drawing)

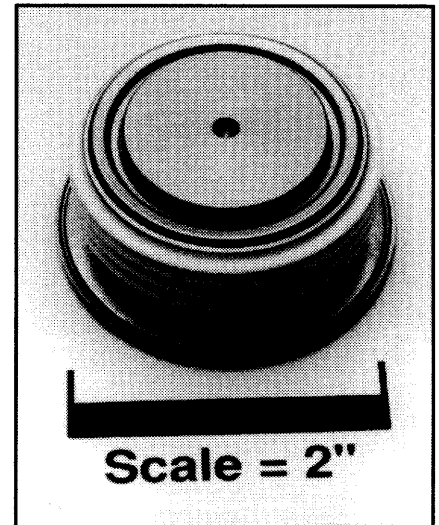
Ordering Information:

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

	Voltage		Current		Recovery Time		Recovery Time Circuit		Leads										
Type	V _{RRM} (Volts)	Code	I _{F(av)} (A)	Code	t _{rr} (μsec)	Code	Circuit	Code	Case	Code									
R720	100	01	600	06	13	X	JEDEC	X	R72	OO									
	200	02	900	09	10	7 (Typical)													
	400	04																	
	600	06	1200	12															
	800	08																	
	1000	10																	
	1200	12																	
	1400	14																	
	1600	16																	
	1800	18																	
	2000	20																	
	2200	22																	
	2400	24																	
	2600	26																	
	2800	28																	
	3000	30																	
	3500	35																	
	4000	40																	
	4400	44																	

Example: Type R720 rated at 900A average with V_{RRM} = 2600V

Type	Voltage	Current	Time	Circuit	Leads
R 7 2 0	2 6	0 9	X	X	O O



R720
General Purpose Rectifier
600-1200 Amperes, 4400 Volts

Features:

- ☐ High Surge Current Ratings
- ☐ High Rated Blocking Voltages
- ☐ Special Electrical Selection for Parallel and Series Operation
- ☐ Single or Double-sided Cooling
- ☐ Long Creepage & Strike Paths
- ☐ Hermetic Seal

Applications:

- ☐ Rectification
- ☐ Free Wheeling Diode
- ☐ Battery Chargers
- ☐ Resistance Welding



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R720

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600-1200 Amperes, 4400 Volts

Absolute Maximum Ratings

Characteristics	Symbol	R720_06	R720_09	R720_12	Units
RMS Forward Current	$I_{F(rms)}$	945	1415	1885	Amperes
Average Forward Current	$I_{F(av)}$	600	900	1200	Amperes
One-half Cycle Surge Current	I_{FSM}	7000	8500	12500	Amperes
3 Cycle Surge Current	I_{FSM}	5250	6350	9400	Amperes
10 Cycle Surge Current	I_{FSM}	4350	5300	7800	Amperes
I^2t (for Fusing), Times = 8.3 milliseconds	I^2t	204000	301000	650700	A^2sec
Max. I^2t of Package ($t = 8.3ms$)	I^2t	80×10^6	80×10^6	80×10^6	A^2sec
Storage Temperature	T_{stg}	-65 to +200	-65 to +200	-65 to +200	$^{\circ}C$
Operating Temperature	T_j	Up to 1400V -65 to +200	1400V to 2200V -65 to +175	2200V to 4600V -65 to +150	$^{\circ}C$
Mounting Force		2000 to 2400	2000 to 2400	2000 to 2400	lbs

Electrical and Thermal Characteristics

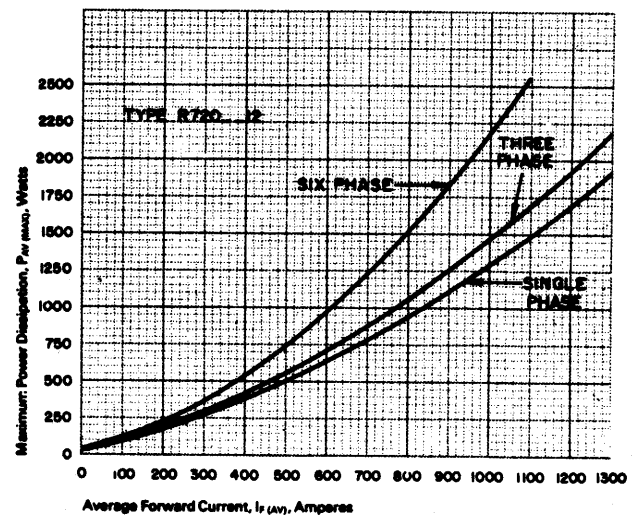
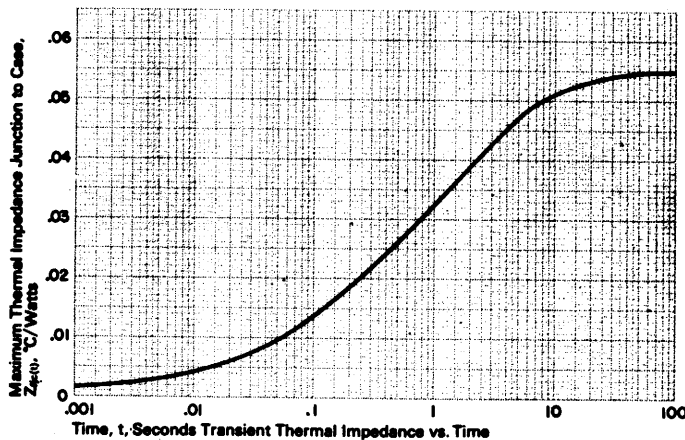
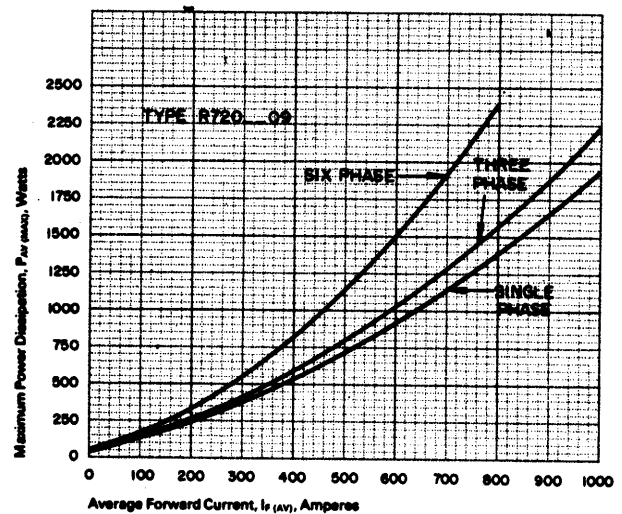
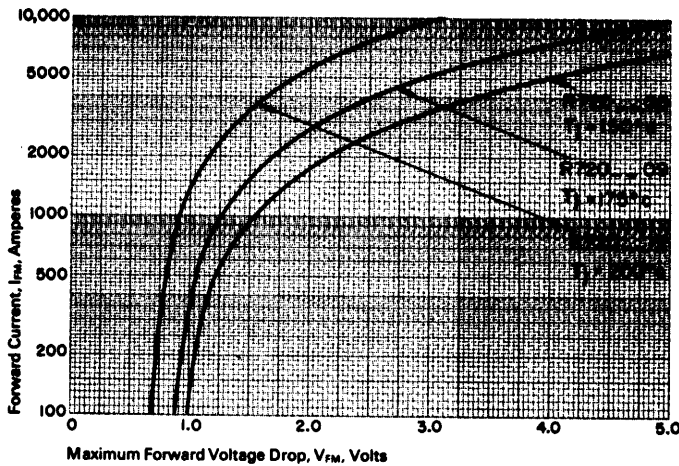
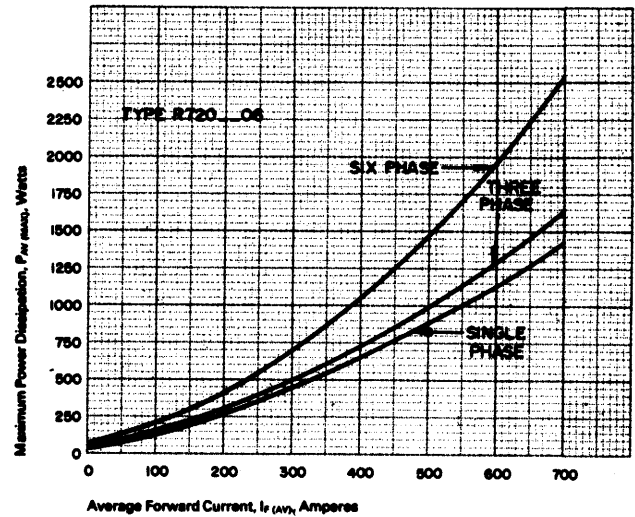
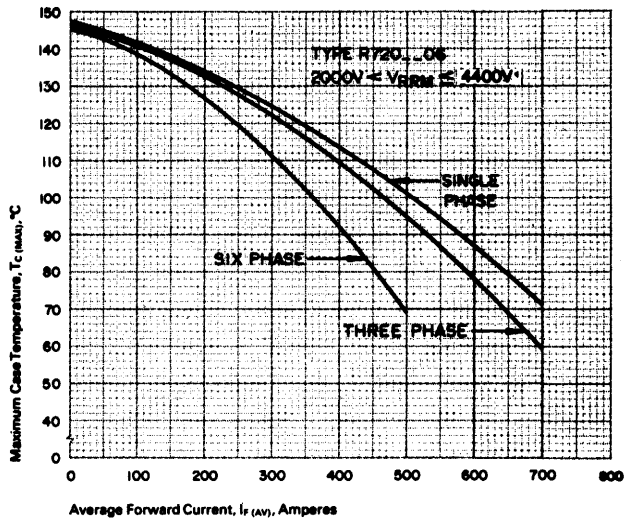
Characteristics	Symbol	Test Conditions	R720_06	R720_09	R720_12	Units
Current - Conducting State Maximums						
Forward Voltage Drop	V_{FM}	$T_j = 25^{\circ}C$, $I_{FM} = 1500A$	2.15	1.60	1.20	Volts
Voltage - Blocking State Maximums						
Repetitive Peak Reverse Voltage (Rated Limit)	V_{RRM}		4400	2600	1600	Volts
Non-rep. Trans. Peak Rev. Voltage (Rated Limit)	V_{RSM}	$t \leq 5.0\mu sec$	4600	2800	1800	Volts
Reverse Leakage Current	I_{RRM}	T_j at max., V_{RRM} Rated	50	50	50	mA
Switching						
Typical Reverse Recovery Time	t_{rr}	$I_{FM} = 1500A$, $t_p = 190\mu sec$, $di_F/dt = 25A/msec$, $T_C = 25^{\circ}C$	Up to 1400V 7	1400V to 2200V 10	2200V to 4600V 13	μsec
Thermal						
Maximum Resistance, Double-sided Cooling, Junction to Case	$R_{\theta(j-c)}$		0.055	0.055	0.055	$^{\circ}C/Watt$
Maximum Resistance, Case to Sink (Lubricated)	$R_{\theta(c-s)}$		0.02	0.02	0.02	$^{\circ}C/Watt$

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