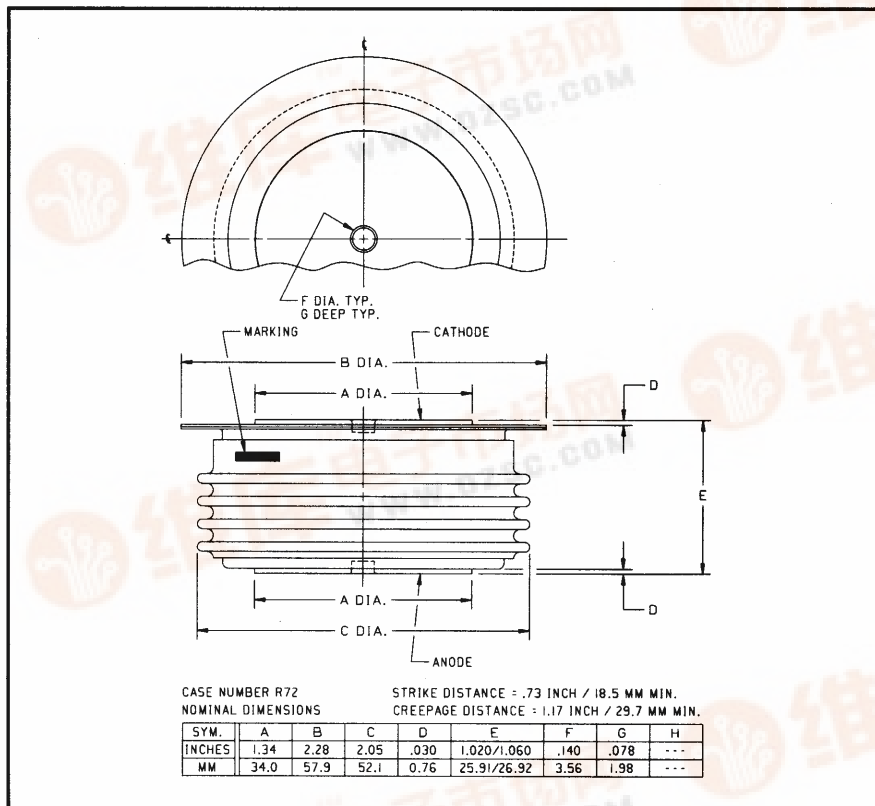


R720

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
General Purpose Rectifier
600-1200 Amperes, 4400 Volts

R720 (Outline Drawing)

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
R720	100	01	600	06	13	X	JEDEC	X	R72	OO
	200	02								
	400	04	900	09	10					
	600	06								
	800	08	1200	12	7					
	1000	10			(Typical)					
	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

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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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 ² sec
Max. I^2t of Package ($t = 8.3ms$)	I^2t	80×10^6	80×10^6	80×10^6	A ² sec
Storage Temperature	T_{stg}	-65 to +200	-65 to +200	-65 to +200	°C
Operating Temperature	T_j	Up to 1400V -65 to +200	1400V to 2200V -65 to +175	2200V to 4600V -65 to +150	°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}	$T_j = 25^\circ\text{C}$, $I_{FM} = 1500\text{A}$	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}	$t \leq 5.0\mu\text{sec}$	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}	$I_{FM} = 1500\text{A}$, $t_p = 190\mu\text{sec}$, $di_F/dt = 25\text{A/msec}$, $T_C = 25^\circ\text{C}$	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	°C/Watt
Maximum Resistance, Case to Sink (Lubricated)	$R_{\theta(c-s)}$		0.02	0.02	0.02	°C/Watt

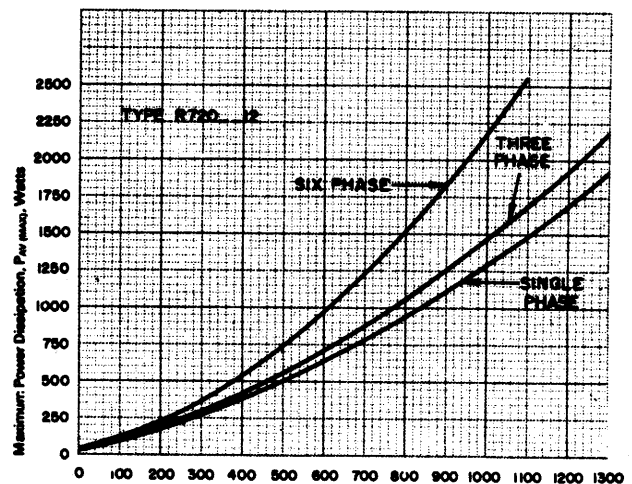
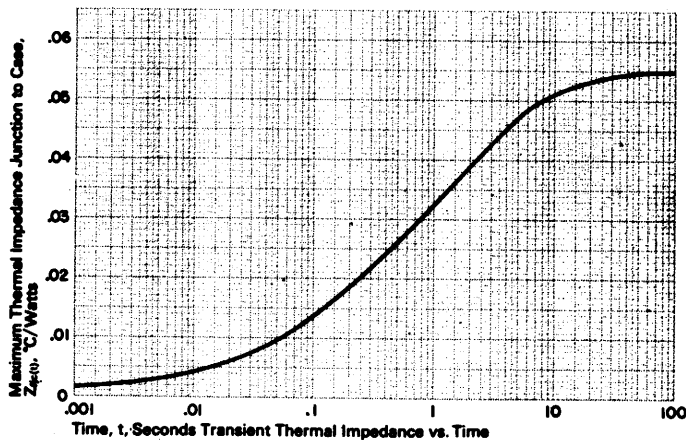
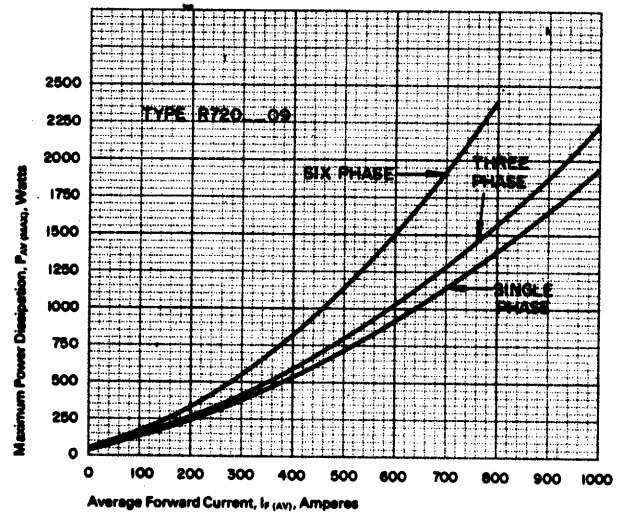
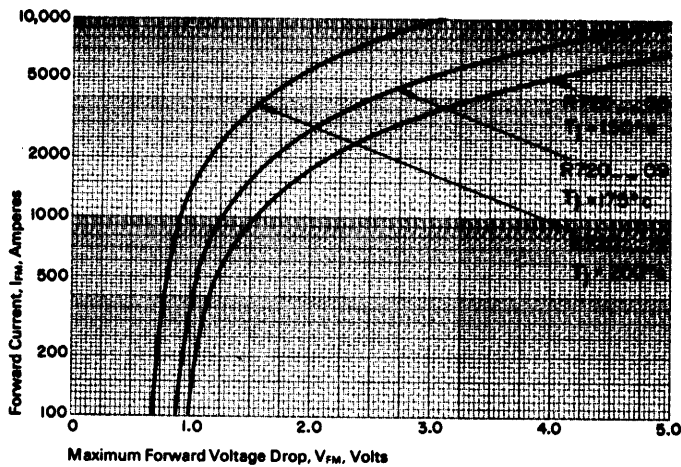
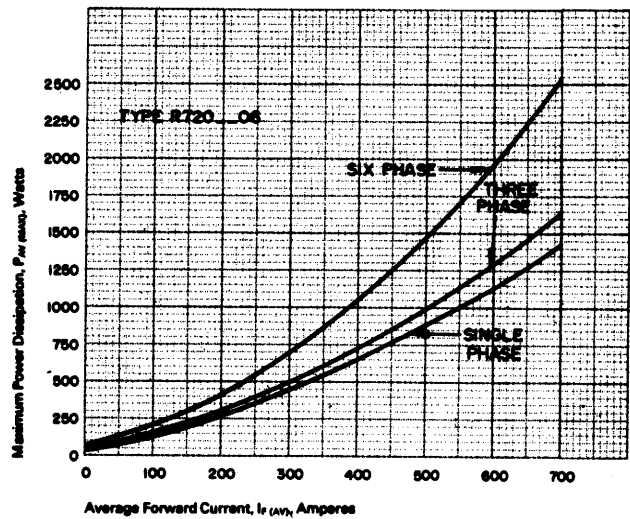
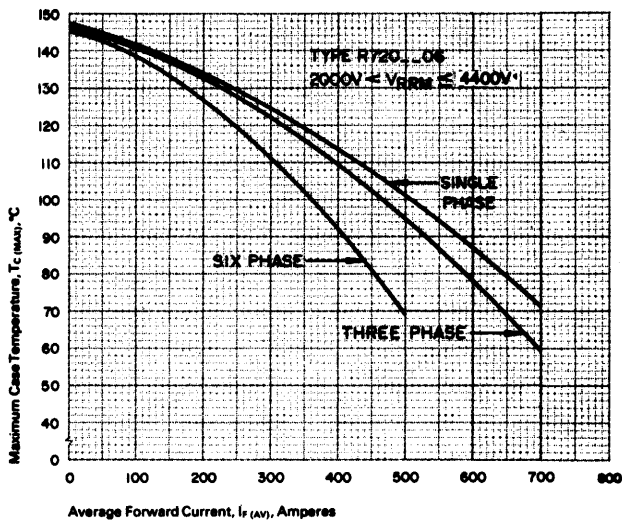


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