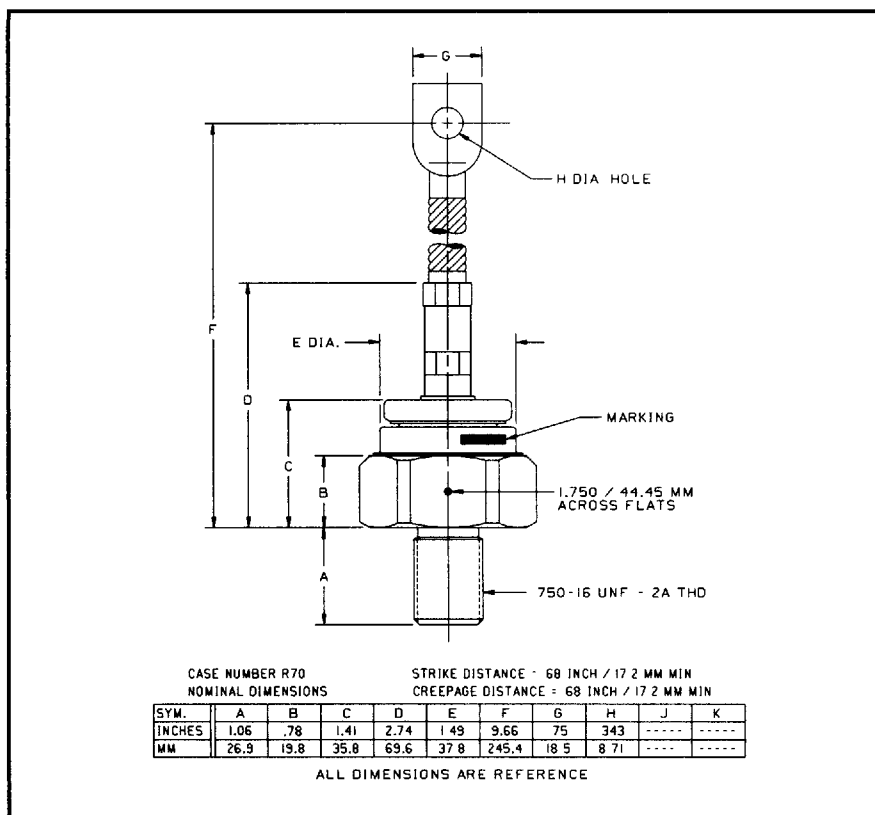


Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (412) 925-7272
Powerex, Europe, S.A. 428 Avenue G. Durand, BP107, 72003 Le Mans, France (43) 41.14.14

POWEREX INC

General Purpose Rectifier
300-550 Amperes Average
4400 Volts



R700/R701 (Outline Drawing)

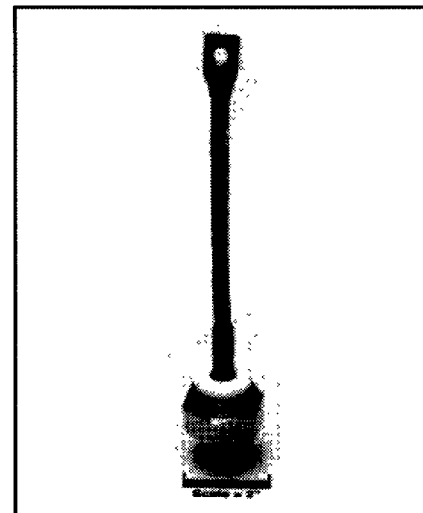
Ordering Information:

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
R700	100	01	300	03	15	X	JEDEC	X	R70	UA
Std.	200	02								
Polarity	400	04	450	04	11	X				
	600	06								
R701	800	08	550	05	9	X				
(Rev.	1000	10			(Typ.)					
Polarity)	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 R700 rated at 300A average with V_{RRM} = 4400V, and standard flexible lead, order as:

Type	Voltage	Current	Time	Circuit	Leads
R 7 0 0	4 4	0 3	X	X	U A



R700/R701

General Purpose Rectifier
300-550 Amperes Average, 4400 Volts

Features:

- ☐ Standard and Reverse Polarities
- ☐ Flag Lead and Stud Top Terminals Available (R780)
- ☐ Flat Base, Flange Mounted Design Available
- ☐ High Surge Current Ratings
- ☐ High Rated Blocking Voltages
- ☐ Electrical Selection for Parallel and Series Operation
- ☐ High Voltage Creepage and Strike Paths
- ☐ Compression Bonded Encapsulation

Applications:

- ☐ Welders
- ☐ Battery Chargers
- ☐ Electromechanical Refining
- ☐ Metal Reduction
- ☐ General Industrial High Current Rectification

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R700/R701
General Purpose Rectifier
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POWEREX INC

Absolute Maximum Ratings

Characteristics	Symbol	R700_03,	R700_04,	R700_05,	Units
		R701_03	R701_04	R701_05	
RMS Forward Current	$I_{F(rms)}$	470	700	865	Amperes
Average Forward Current	$I_{F(av)}$	300	450	550	Amperes
One-half Cycle Surge Current	I_{FSM}	7000	8500	10000	Amperes
3 Cycle Surge Current	I_{FSM}	5250	6400	7500	Amperes
10 Cycle Surge Current	I_{FSM}	4200	5100	6000	Amperes
I^2t (for Fusing), Times = 8.3 milliseconds	I^2t	204000	266000	416500	A ² sec
Storage Temperature	T_{stg}	-65 to +200	-65 to +200	-65 to +200	°C
Operating Temperature	T_j	Up to 1400V	1400V to 2200V	2200V to 4400V	°C
		-65 to +200	-65 to +175	-65 to +150	
Mounting Torque		360	360	360	in-lb

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R700/R701

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Electrical and Thermal Characteristics

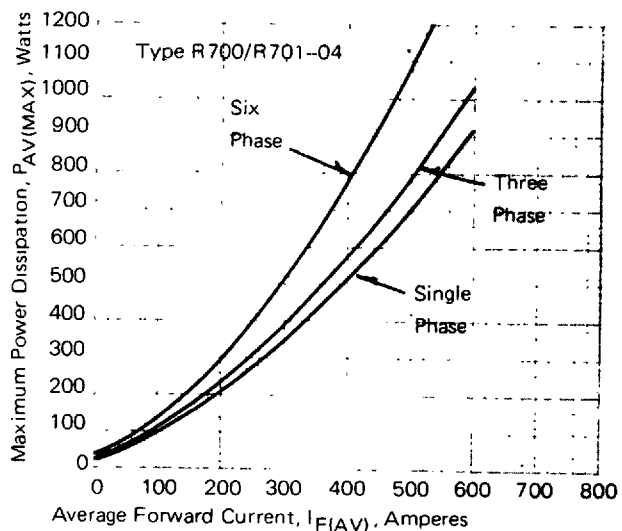
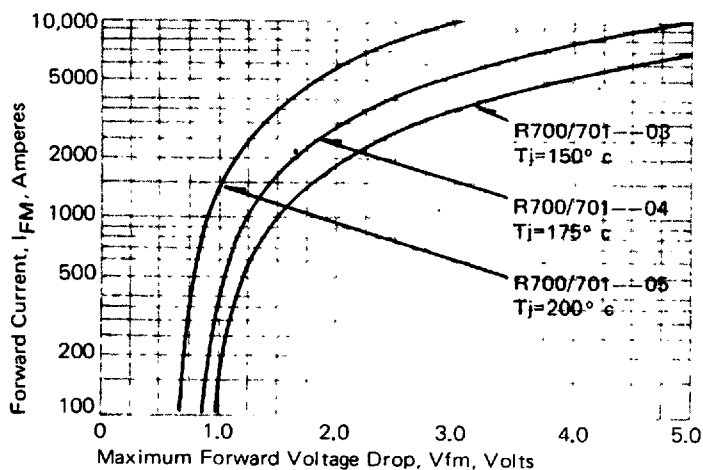
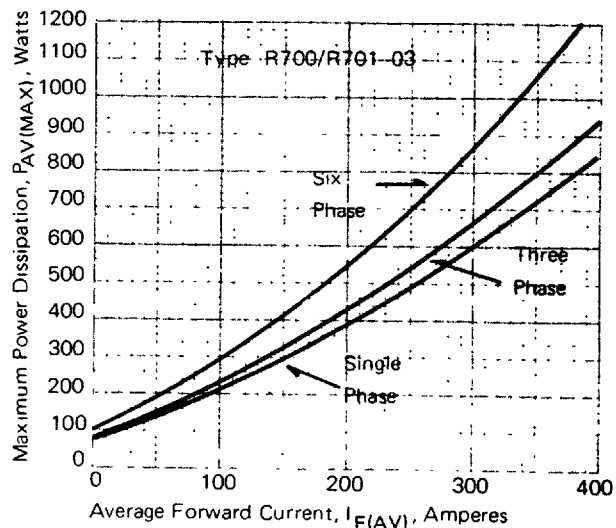
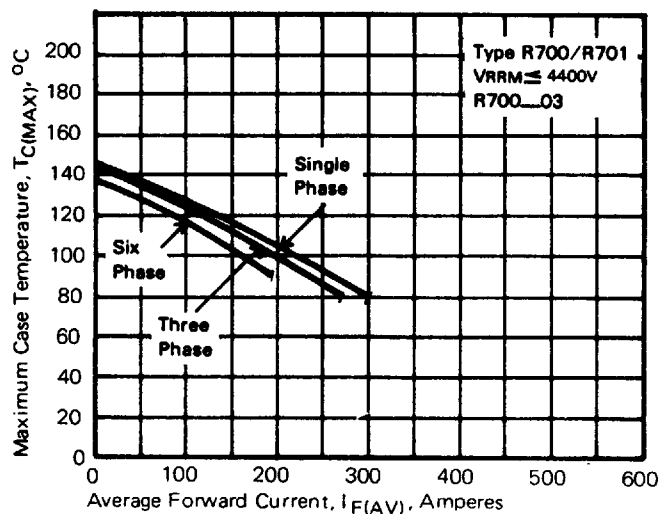
Electrical and Thermal Characteristics						
Characteristics	Symbol	Test Conditions	R700__03,	R700__04,	R700__05,	Units
			R701__03	R701__04	R701__05	
Current - Conducting State Maximums						
Forward Voltage Drop	V _{FM}	T _j = 25°C, I _{FM} = 1500A	2.15	1.60	1.20	Volts
Voltage - Blocking State Maximums						
Repetitive Peak Reverse Voltage (Rated Limit)	V _{RRM}		4400	2600	1600	Volts
Non-rep. Trans. Peak Rev. Voltage (Rated Limit)	V _{RSM}	t ≤ 5.0msec	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 = 190μsec, di _R /dt = 25A/μsec, T _C = 25°C	9	11	15	μsec
Thermal						
Maximum Resistance, Junction to Case	R _{θ(j-c)}		0.12	0.12	0.12	°C/Watt
Maximum Resistance, Case to Sink (Lubricated)	R _{θ(c-s)}		0.04	0.04	0.04	°C/Watt

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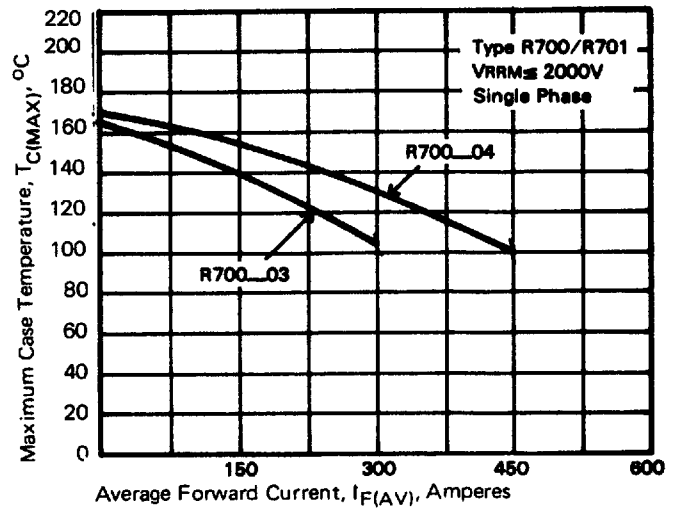
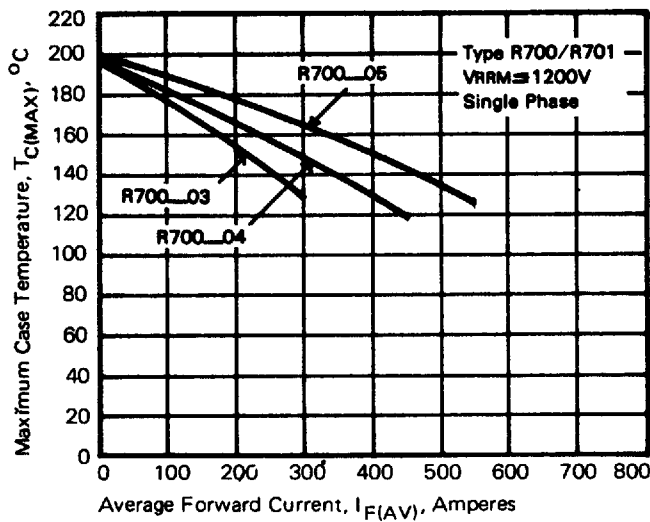
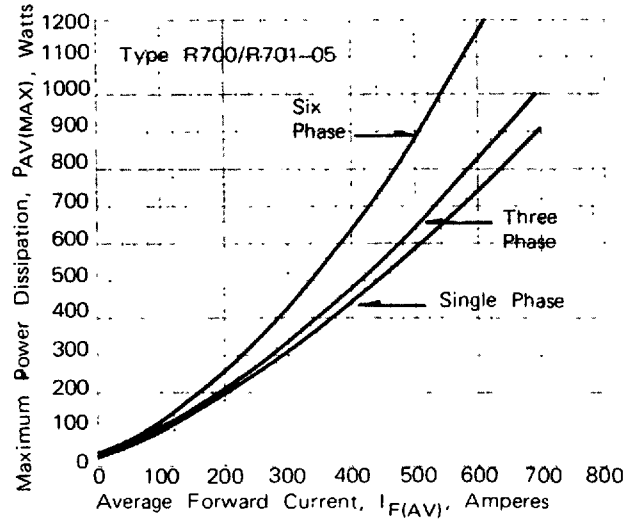
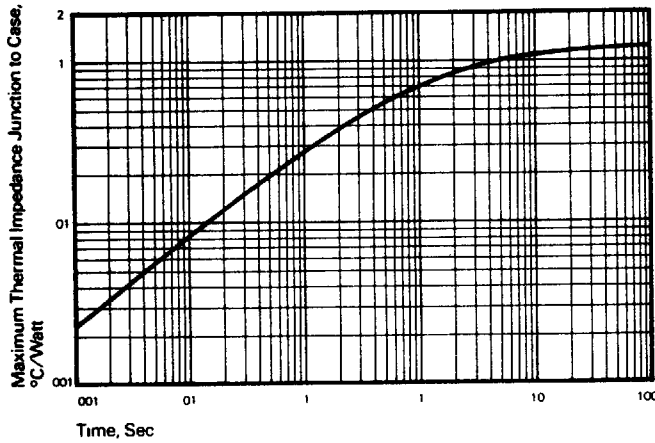


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