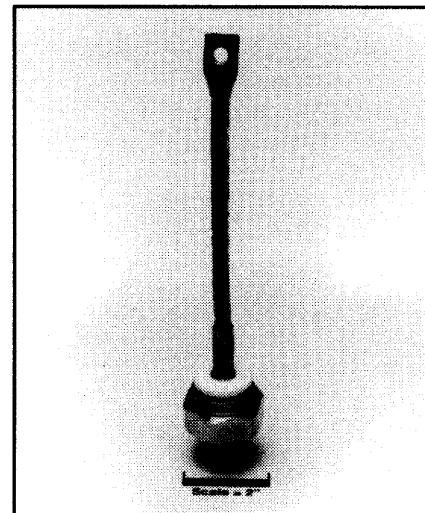
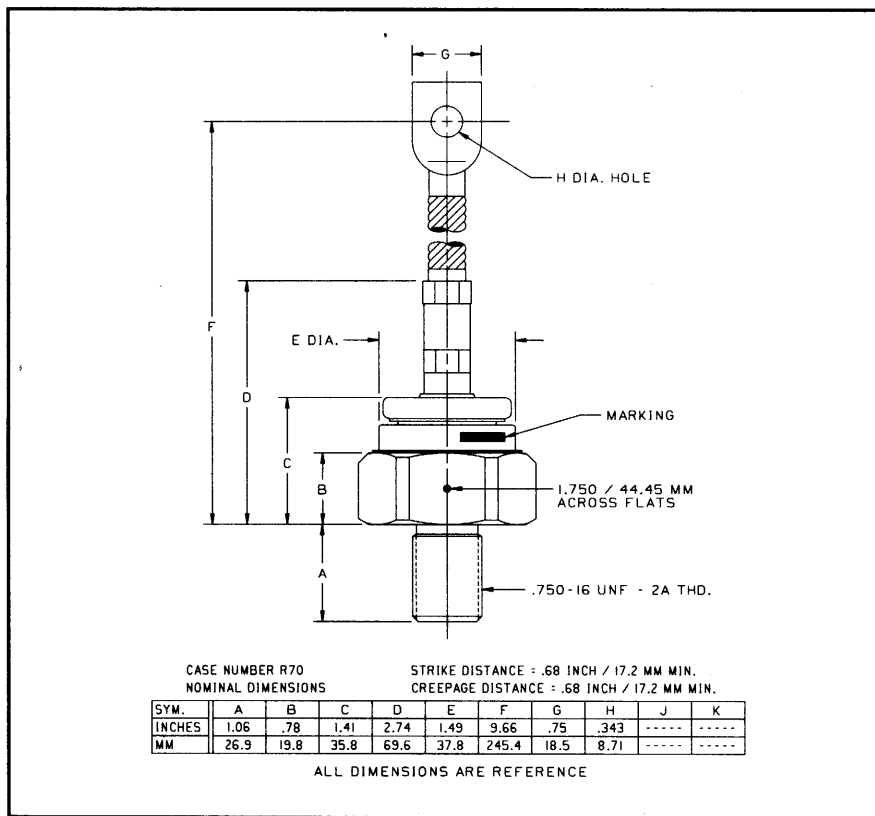


Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (412) 925-7272
Powerex, Europe, S.A. 428 Avenue G. Durand, BP107, 72003 Le Mans, France (43) 41.14.14

General Purpose Rectifier
300-550 Amperes Average
4400 Volts



R700/R701
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:

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
R700 Std. Polarity	100	01	300	03	15	X	JEDEC	X	R70	UA
	200	02								
	400	04	450	04	11	X				
	600	06								
R701 (Rev. Polarity)	800	08	550	05	9	X				
	1000	10			(Typ.)					
	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

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

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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^2sec
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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Electrical and Thermal Characteristics

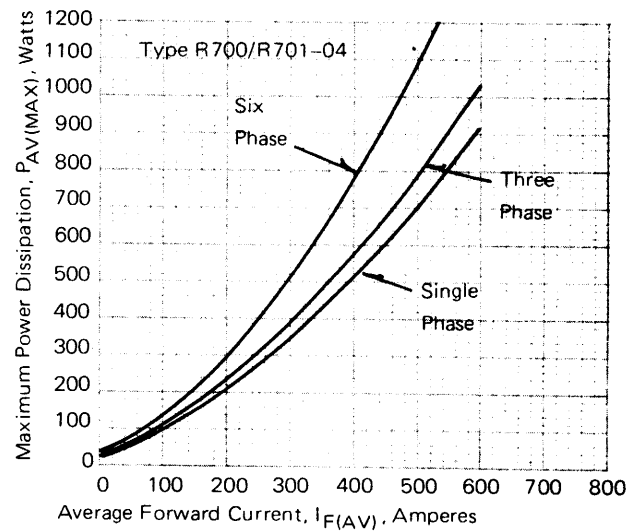
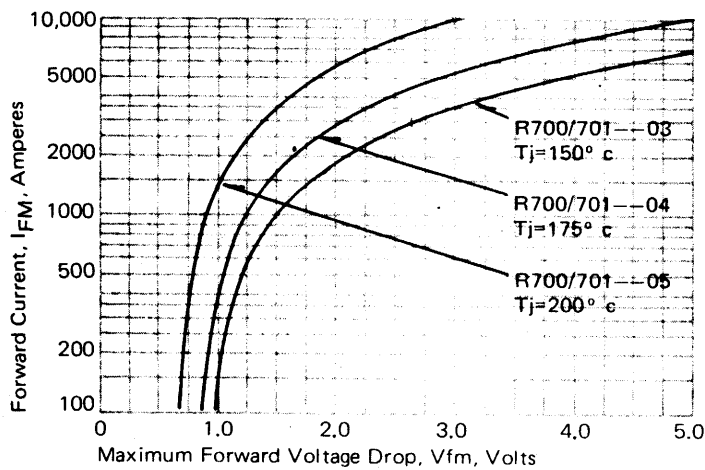
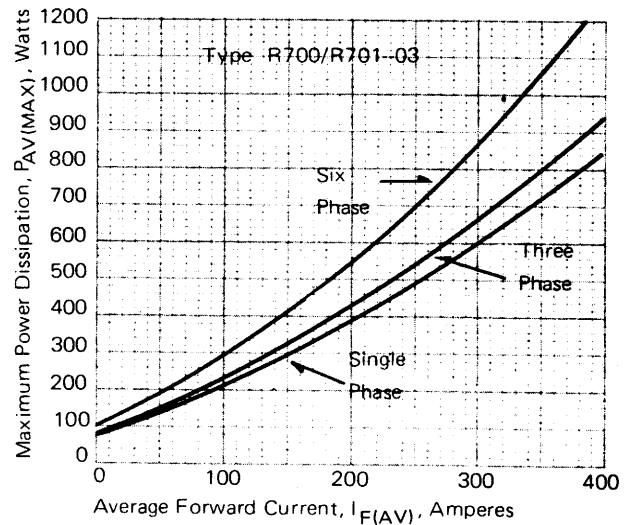
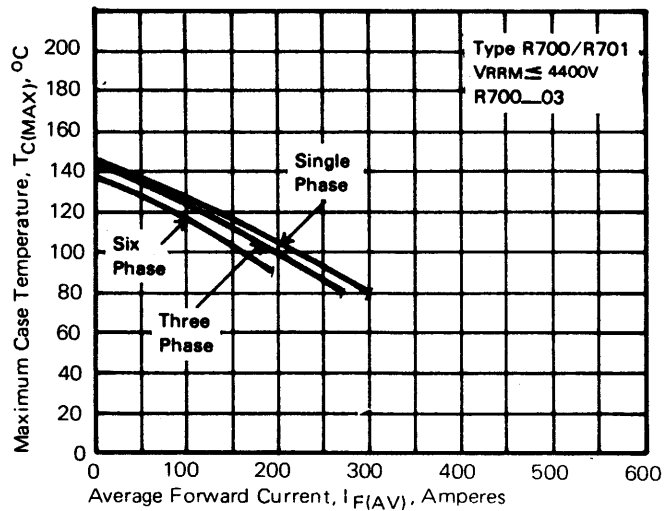
Characteristics	Symbol	Test Conditions	R700_03,	R700_04,	R700_05,	Units
			R701_03	R701_04	R701_05	
Current - Conducting State Maximums						
Forward Voltage Drop	V _{FM}	T _j = 25°C, I _{FM} = 1500A	2.15	1.60	1.20	Volts
Voltage - Blocking State Maximums						
Repetitive Peak Reverse Voltage (Rated Limit)	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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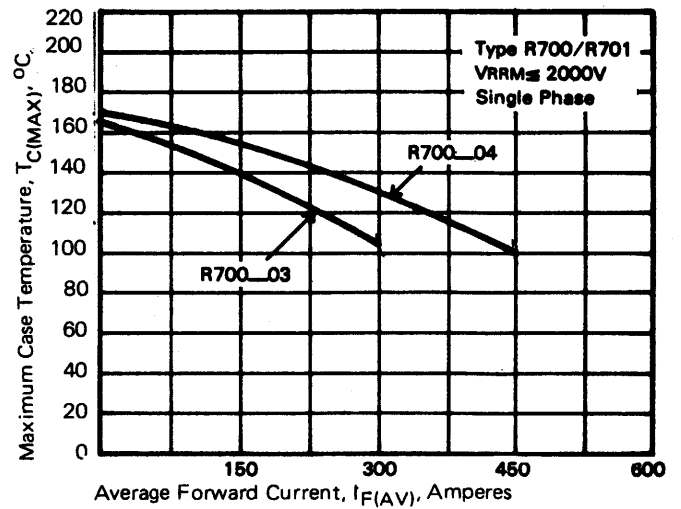
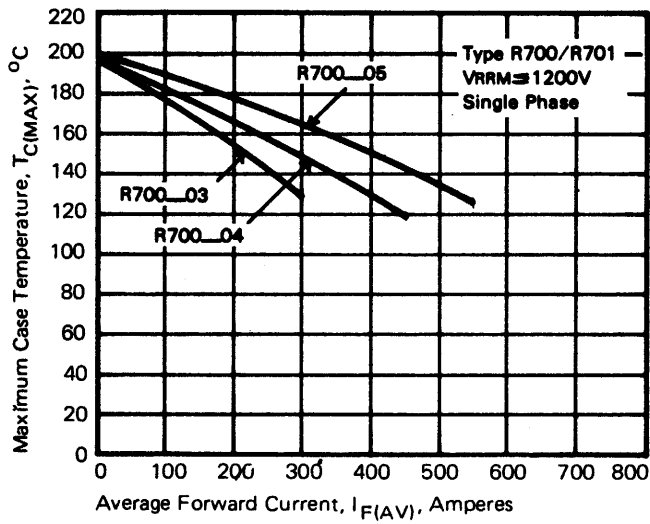
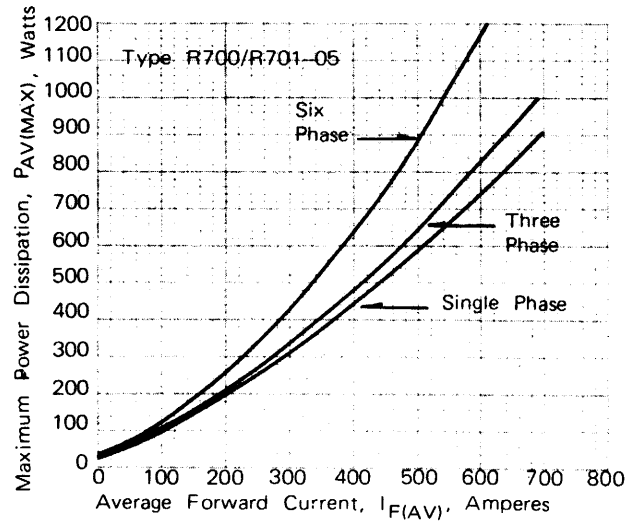
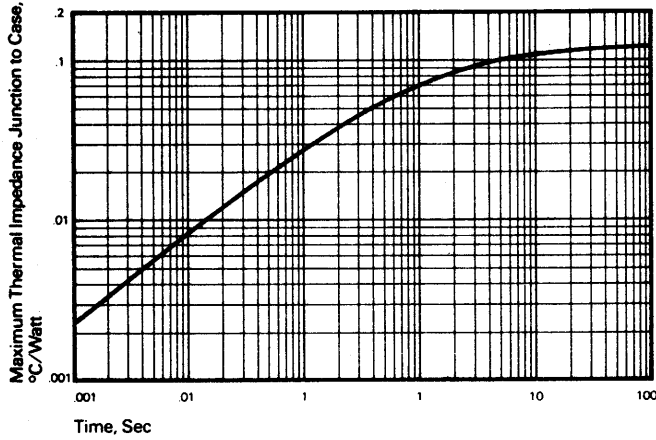


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