

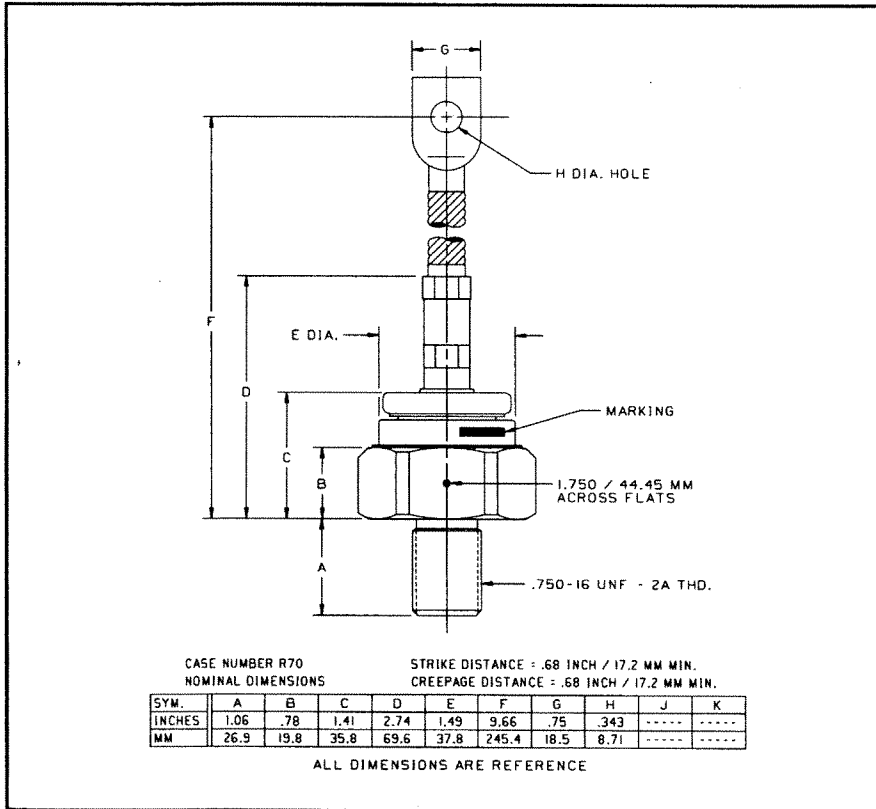


**THE DATASHEET OF
R7013003XXUA**



General Purpose Rectifier

300-550 Amperes Average
4400 Volts



R700/R701 (Outline Drawing)

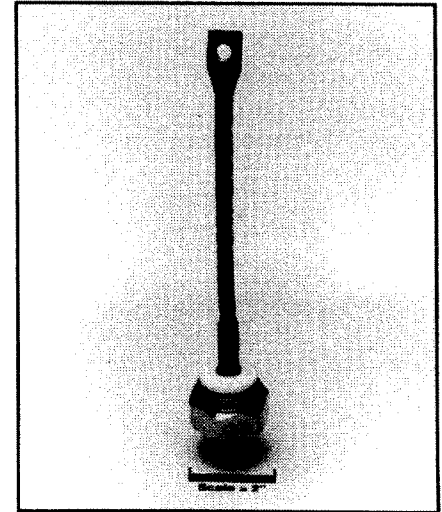
Ordering Information:

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} (μ sec)	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



R700/R701

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Features:

- Standard and Reverse Polarities
- Stud Top Terminals Available
- 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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Powerex, Europe, S.A. 428 Avenue G. Durand, BP107, 72003 Le Mans, France (43) 41.14.14

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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	$I_F(\text{rms})$	470	700	865	Amperes
Average Forward Current	$I_F(\text{av})$	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	$A^2\text{sec}$
Storage Temperature	T_{stg}	-65 to +200	-65 to +200	-65 to +200	$^{\circ}\text{C}$
Operating Temperature	T_j	Up to 1400V	1400V to 2200V	2200V to 4400V	
		-65 to +200	-65 to +175	-65 to +150	$^{\circ}\text{C}$
Mounting Torque		360	360	360	in-lb



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Electrical and Thermal Characteristics

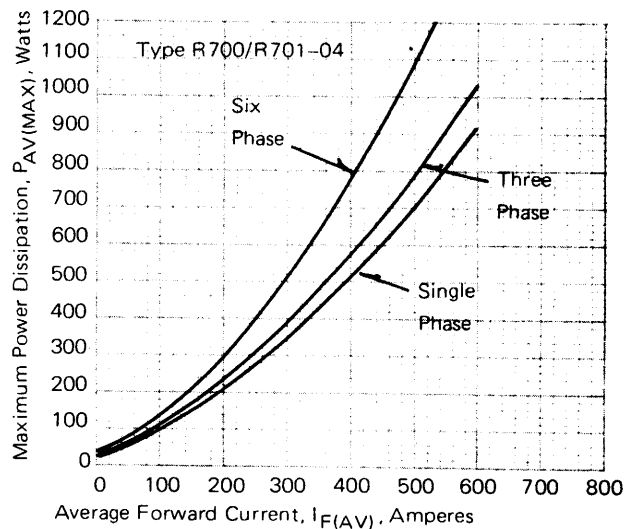
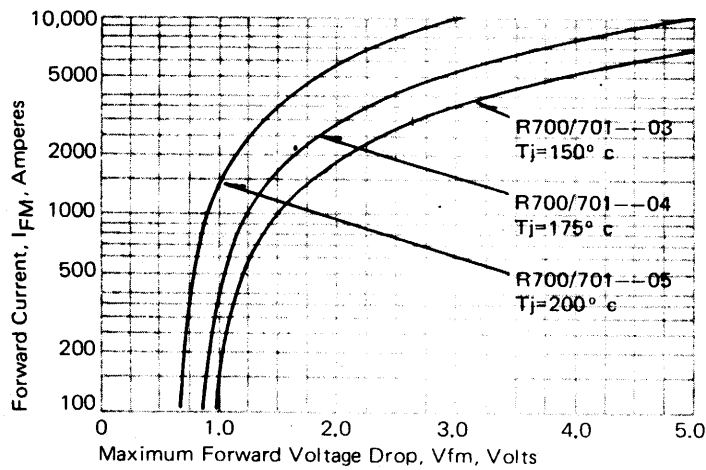
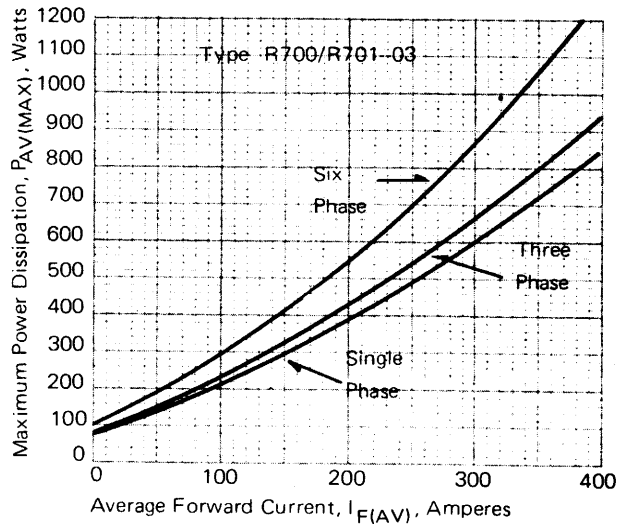
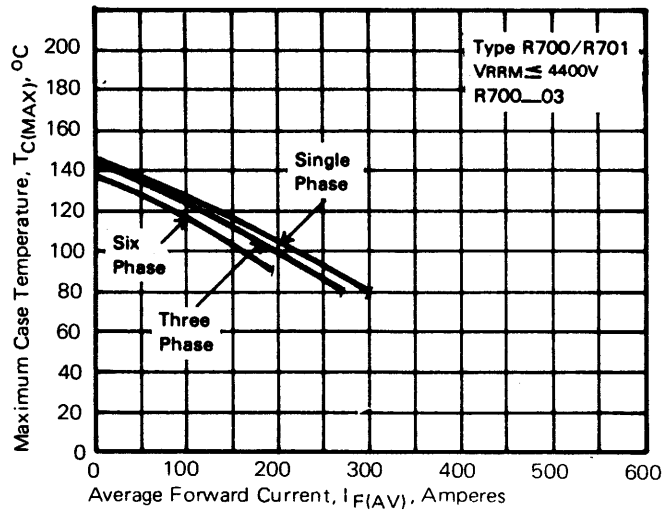
Characteristics	Symbol	Test Conditions	R700__03,	R700__04,	R700__05,	Units
			R701__03	R701__04	R701__05	
Current - Conducting State Maximums						
Forward Voltage Drop	V_{FM}	$T_j = 25^\circ\text{C}, I_{FM} = 1500\text{A}$	2.15	1.60	1.20	Volts
Voltage - Blocking State Maximums						
Repetitive Peak Reverse Voltage (Rated Limit)	V_{RRM}		4400	2600	1600	Volts
Non-rep. Trans. Peak Rev. Voltage (Rated Limit)	V_{RSM}	$t \leq 5.0\text{msec}$	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}	$I_{FM} = 1500\text{A}, t_p = 190\mu\text{sec},$ $di_F/dt = 25\text{A}/\mu\text{sec}, T_C = 25^\circ\text{C}$	9	11	15	μsec
Thermal						
Maximum Resistance, Junction to Case	$R_{\theta(j-c)}$		0.12	0.12	0.12	$^\circ\text{C}/\text{Watt}$
Maximum Resistance, Case to Sink (Lubricated)	$R_{\theta(c-s)}$		0.04	0.04	0.04	$^\circ\text{C}/\text{Watt}$

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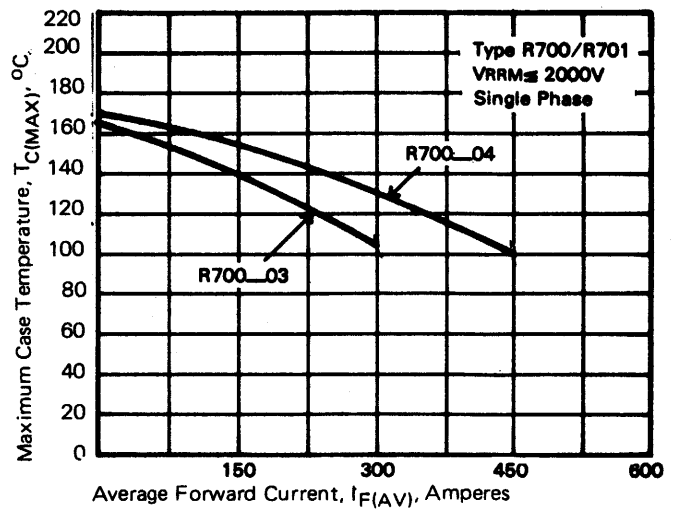
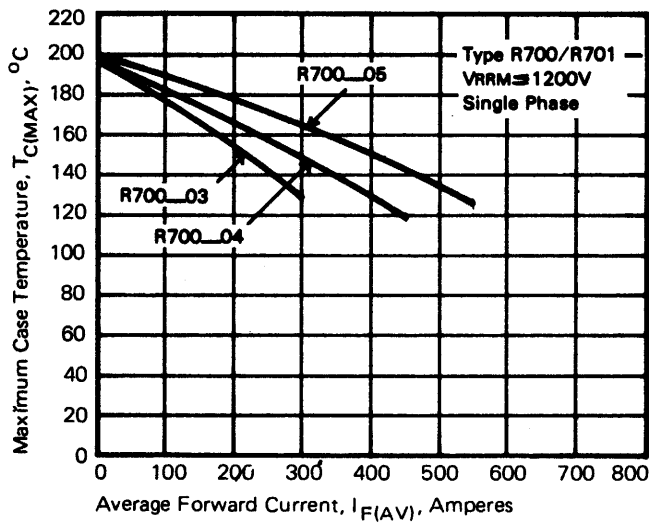
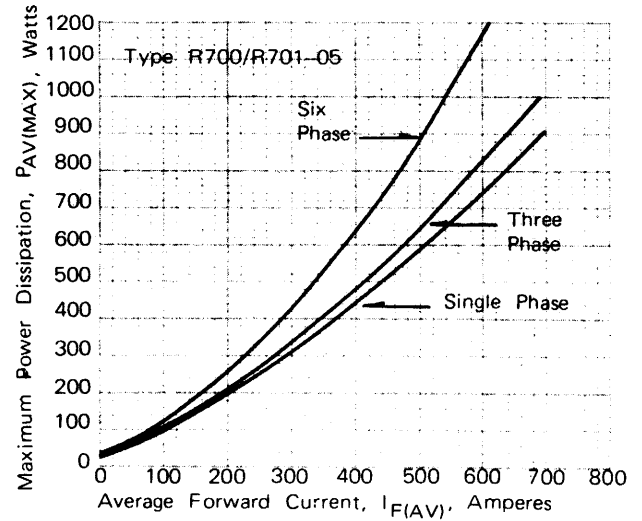
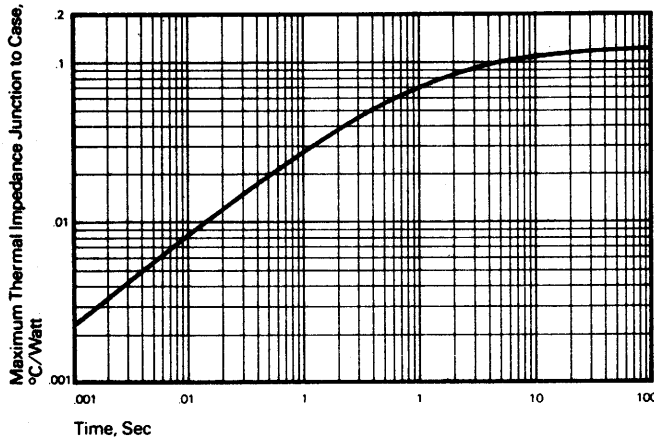
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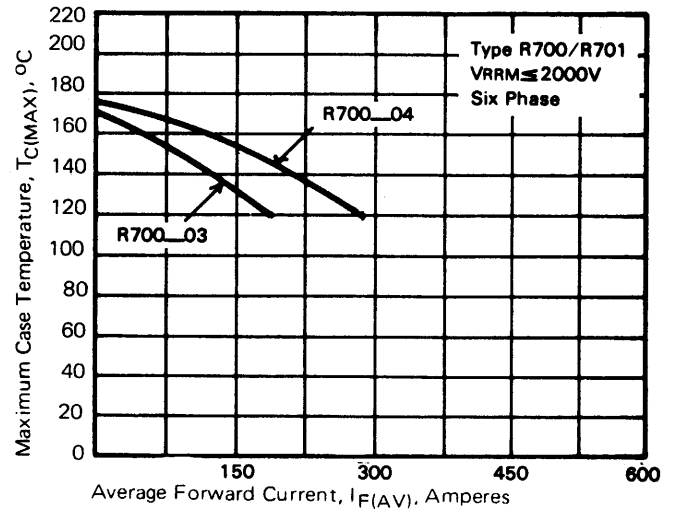
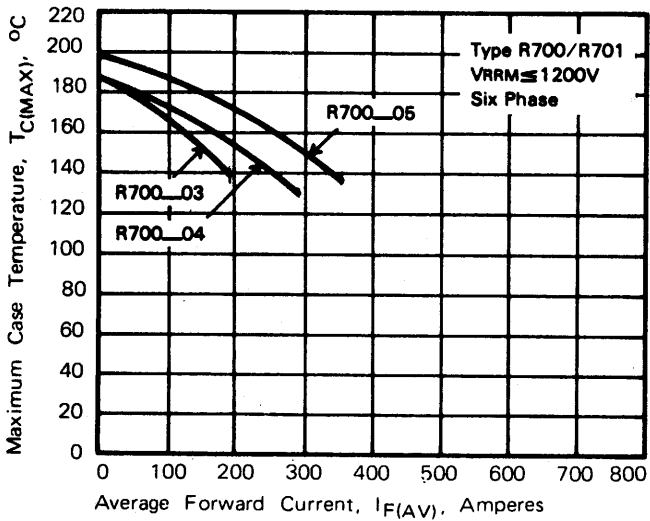
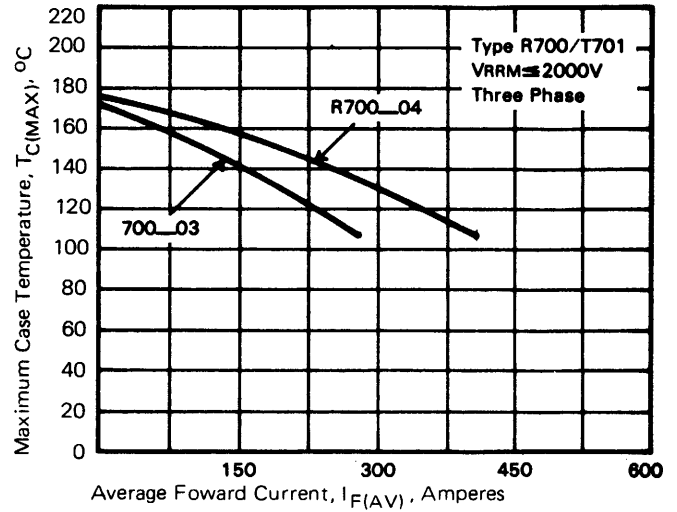
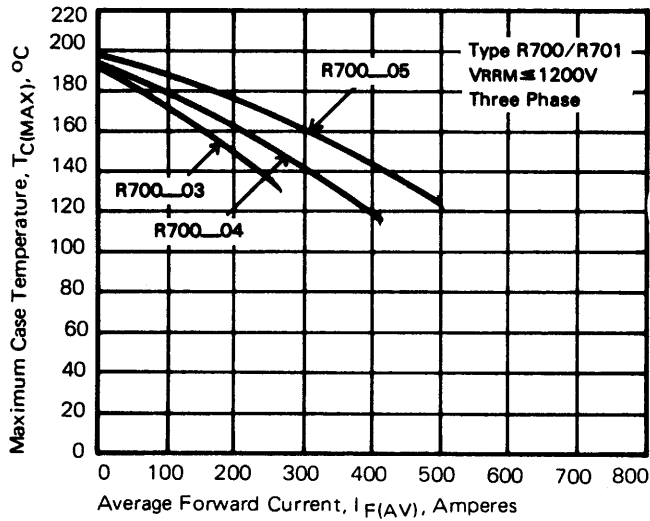
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