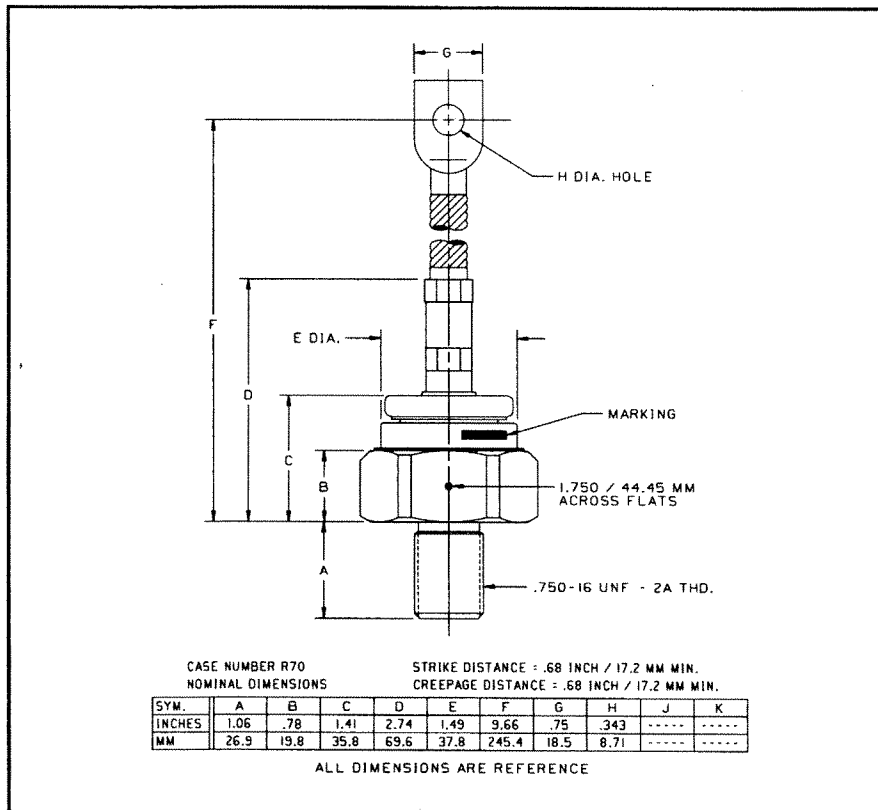


General Purpose Rectifier

300-550 Amperes Average
4400 Volts



R700/R701 (Outline Drawing)

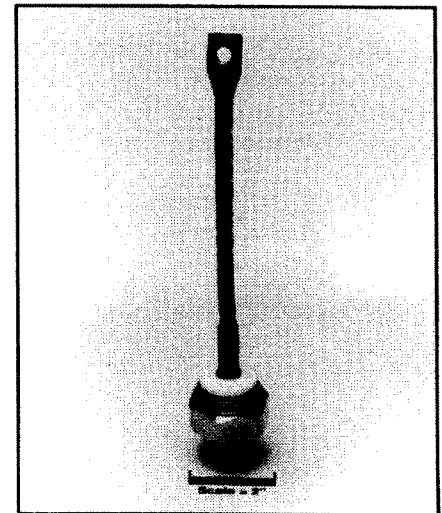
Ordering Information:

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 | | | | | | | | |
| R701 (Rev. Polarity) | 600 | 06 | 450 | 04 | 11 | X | | | | |
| | 800 | 08 | | | | | | | | |
| | 1000 | 10 | 550 | 05 | 9 (Typ.) | X | | | | |
| | 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
- 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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R700/R701
General Purpose Rectifier
300-550 Amperes Average, 4400 Volts

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 | $^{\circ}C$ |
| Operating Temperature | T_j | Up to 1400V | 1400V to 2200V | 2200V to 4400V | |
| | | -65 to +200 | -65 to +175 | -65 to +150 | $^{\circ}C$ |
| Mounting Torque | | 360 | 360 | 360 | in-lb |



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R700/R701

General Purpose Rectifier

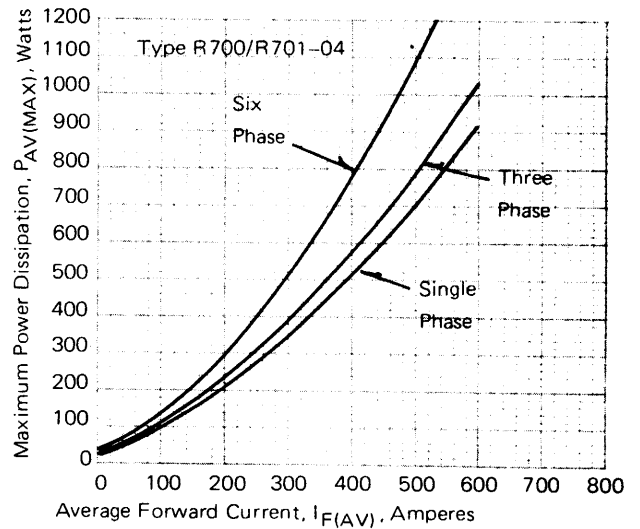
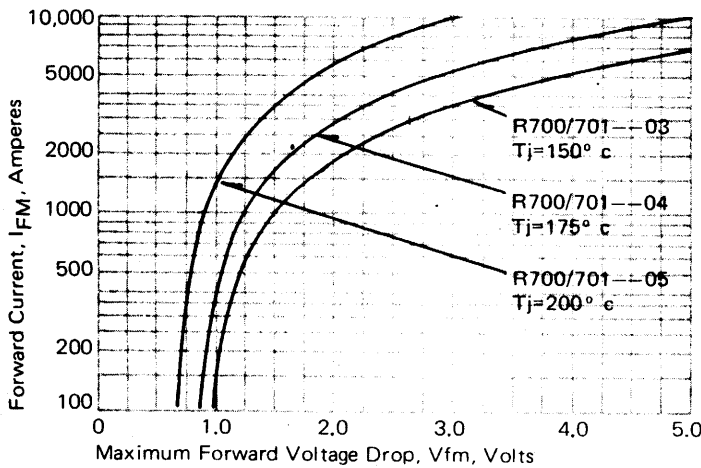
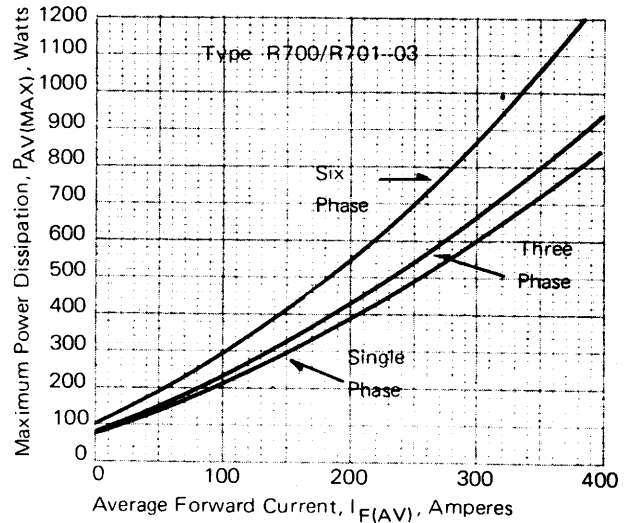
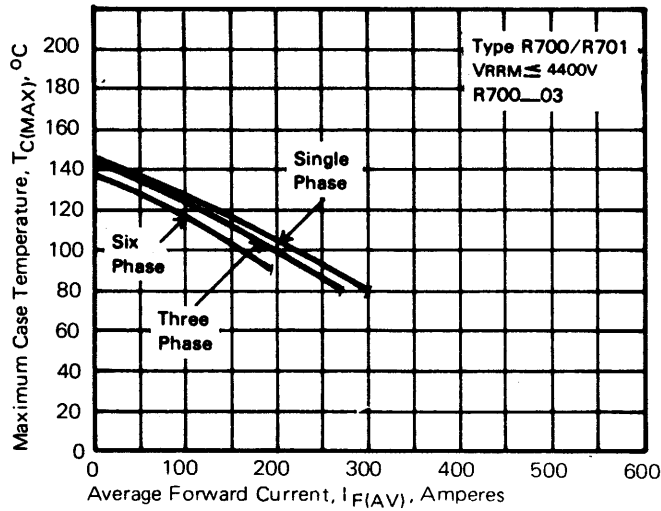
300-550 Amperes Average, 4400 Volts

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} | $I_{FM} = 1500\text{A}, t_p = 190\mu\text{sec},$ $di_R/dt = 25\text{A}/\mu\text{sec}, T_C = 25^\circ\text{C}$ | 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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R700/R701
General Purpose Rectifier
 300-550 Amperes Average, 4400 Volts

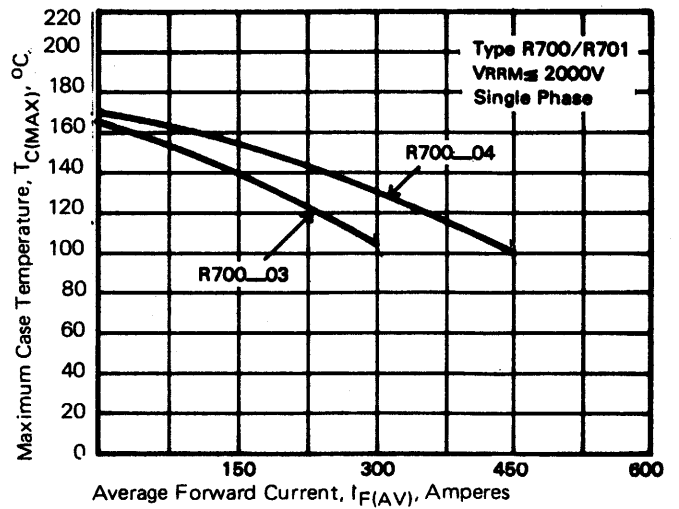
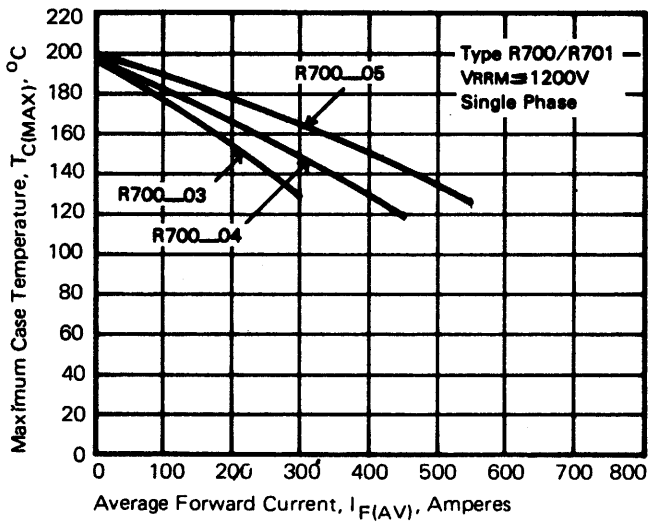
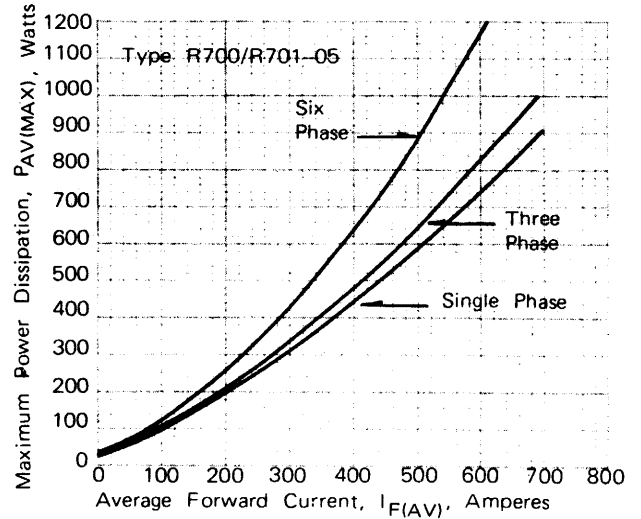
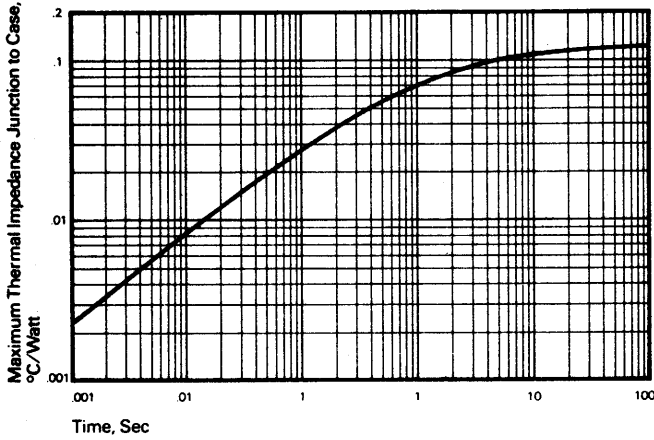


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R700/R701

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