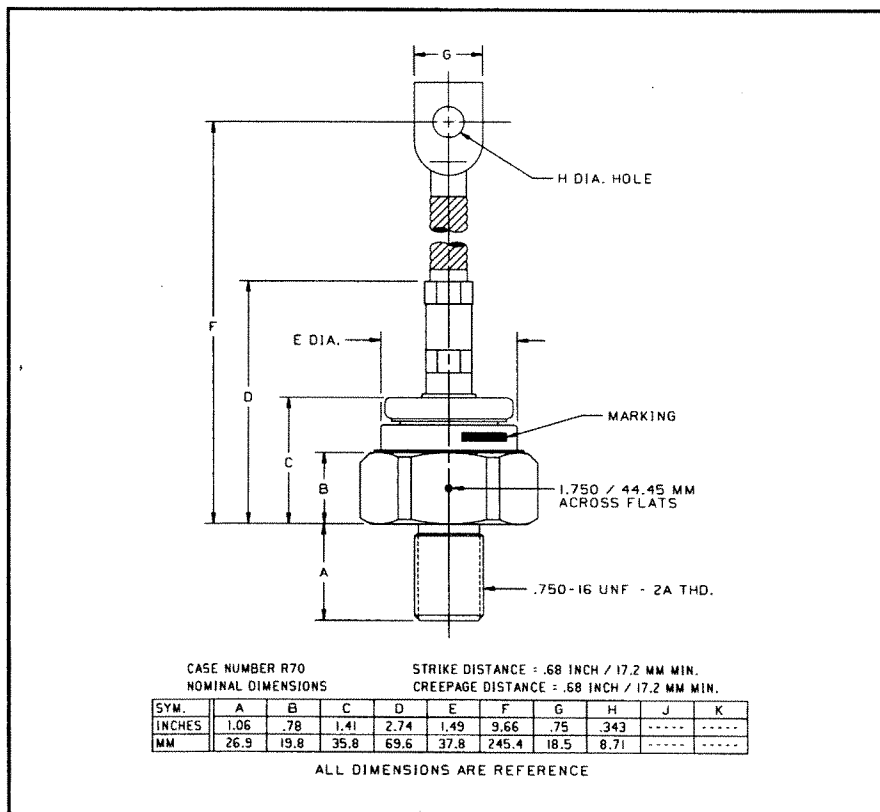


### General Purpose Rectifier

300-550 Amperes Average  
4400 Volts



R700/R701 (Outline Drawing)

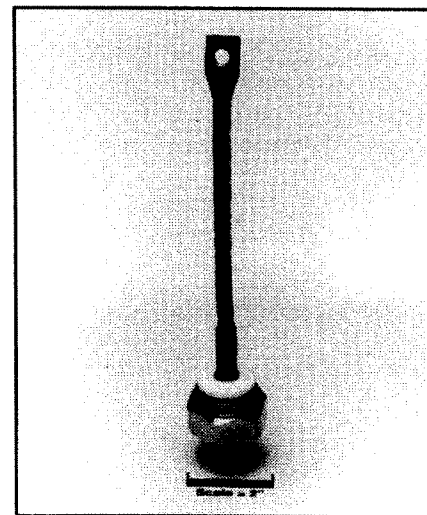
#### Ordering Information:

Select the complete part number you desire from the following table:

| Type                       | Voltage              |      | Current            |      | Recovery Time            |      | Recovery Time Circuit |      | Leads |      |
|----------------------------|----------------------|------|--------------------|------|--------------------------|------|-----------------------|------|-------|------|
|                            | $V_{RRM}$<br>(Volts) | Code | $I_{F(av)}$<br>(A) | Code | $t_{rr}$<br>( $\mu$ sec) | Code | Circuit               | Code | Case  | Code |
| R700<br>Std.<br>Polarity   | 100                  | 01   | 300                | 03   | 15                       | X    | JEDEC                 | X    | R70   | UA   |
|                            | 200                  | 02   |                    |      |                          |      |                       |      |       |      |
|                            | 400                  | 04   |                    |      |                          |      |                       |      |       |      |
| R701<br>(Rev.<br>Polarity) | 600                  | 06   | 550                | 05   | 9<br>(Typ.)              | X    |                       |      |       |      |
|                            | 800                  | 08   |                    |      |                          |      |                       |      |       |      |
|                            | 1000                 | 10   |                    |      |                          |      |                       |      |       |      |
|                            | 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**

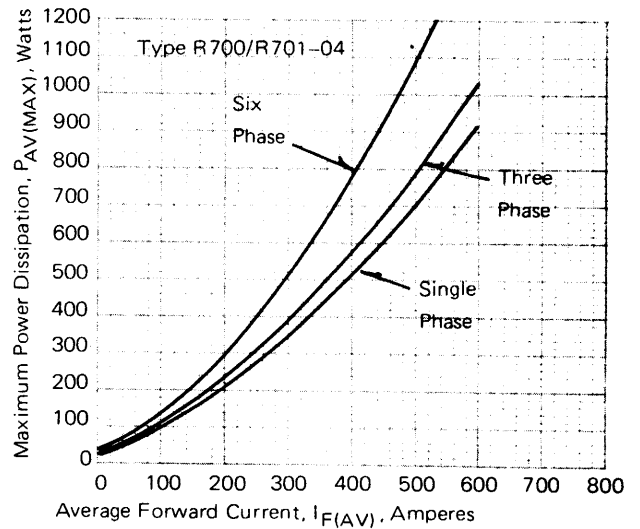
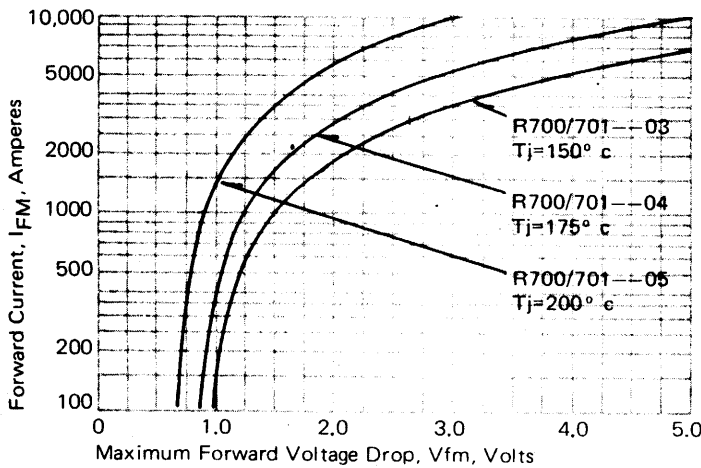
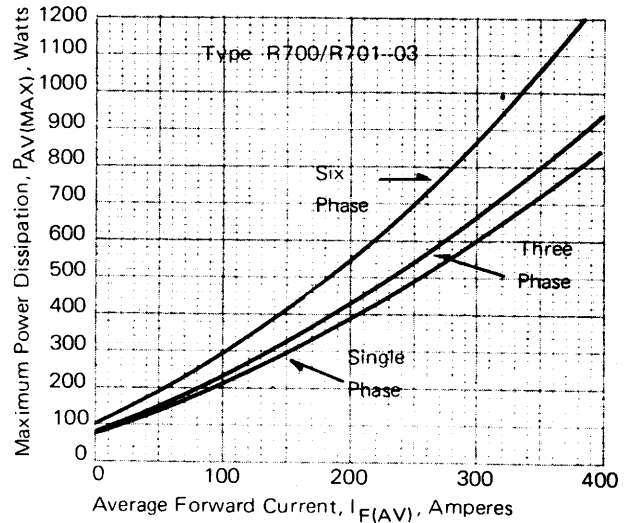
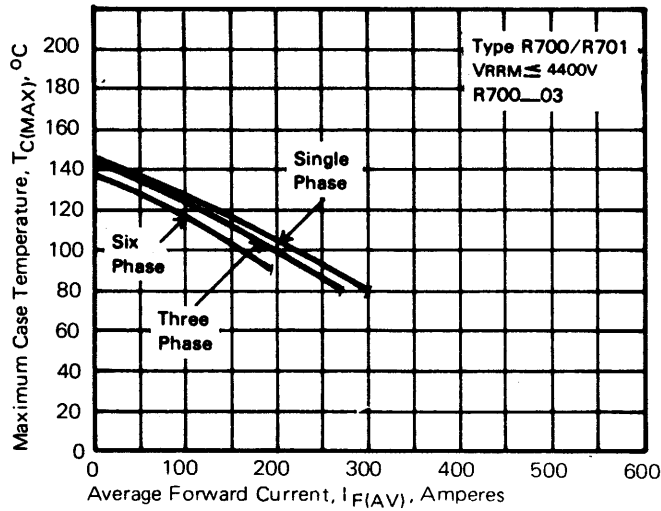
300-550 Amperes Average, 4400 Volts

**Electrical and Thermal Characteristics**

| Characteristics                                 | Symbol            | Test Conditions  | R700_03, | R700_04, | R700_05, | Units                        |
|---|-------------------|--|----------|----------|----------|------------------------------|
|   |                   |  | R701_03  | R701_04  | R701_05  |                              |
| <b>Current - Conducting State Maximums</b>      |                   |  |          |          |          |                              |
| Forward Voltage Drop                            | $V_{FM}$          | $T_j = 25^\circ\text{C}, I_{FM} = 1500\text{A}$  | 2.15     | 1.60     | 1.20     | Volts                        |
| <b>Voltage - Blocking State Maximums</b>        |                   |  |          |          |          |                              |
| 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                           |
| <b>Switching</b>                                |                   |  |          |          |          |                              |
| Typical Reverse Recovery Time                   | $t_{rr}$          | $I_{FM} = 1500\text{A}, t_p = 190\mu\text{sec},$<br>$di_R/dt = 25\text{A}/\mu\text{sec}, T_C = 25^\circ\text{C}$ | 9        | 11       | 15       | $\mu\text{sec}$              |
| <b>Thermal</b>                                  |                   |  |          |          |          |                              |
| 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

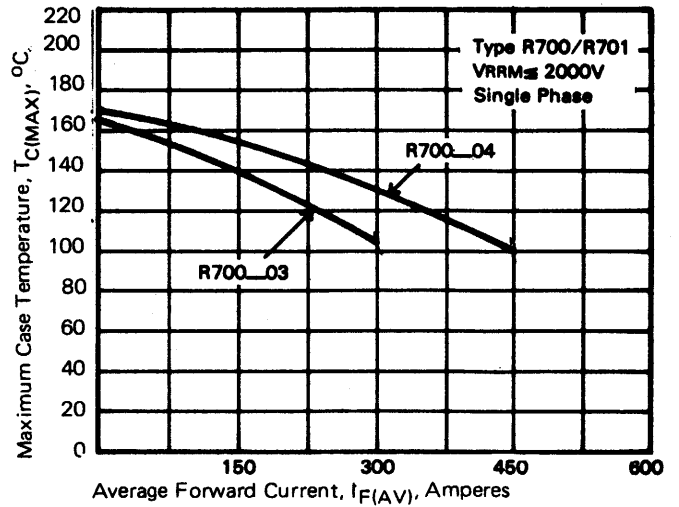
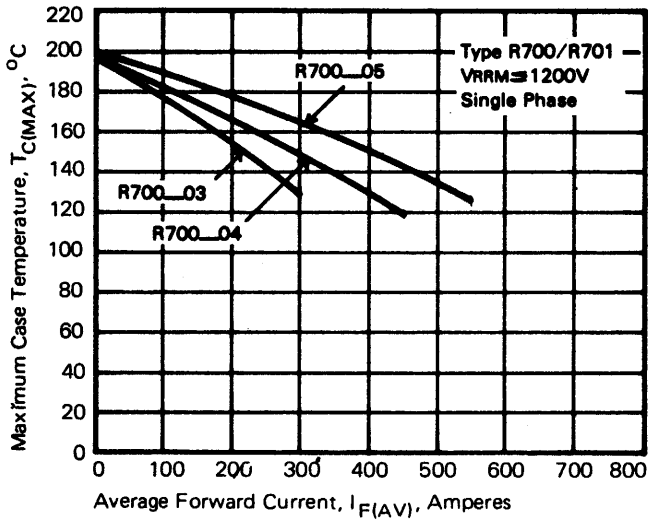
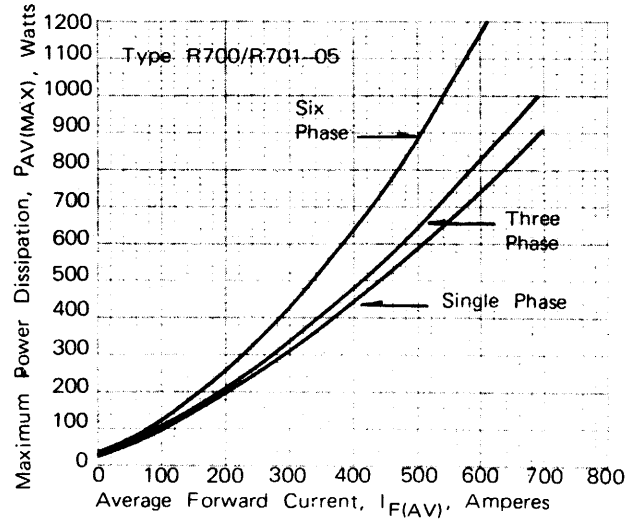
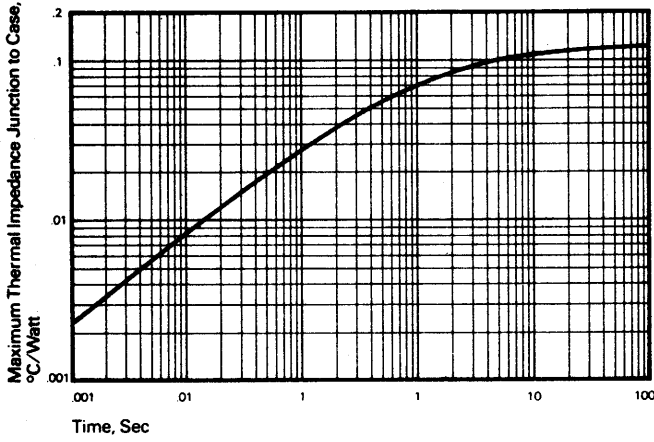


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## R700/R701

### General Purpose Rectifier

300-550 Amperes Average, 4400 Volts



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**R700/R701**  
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