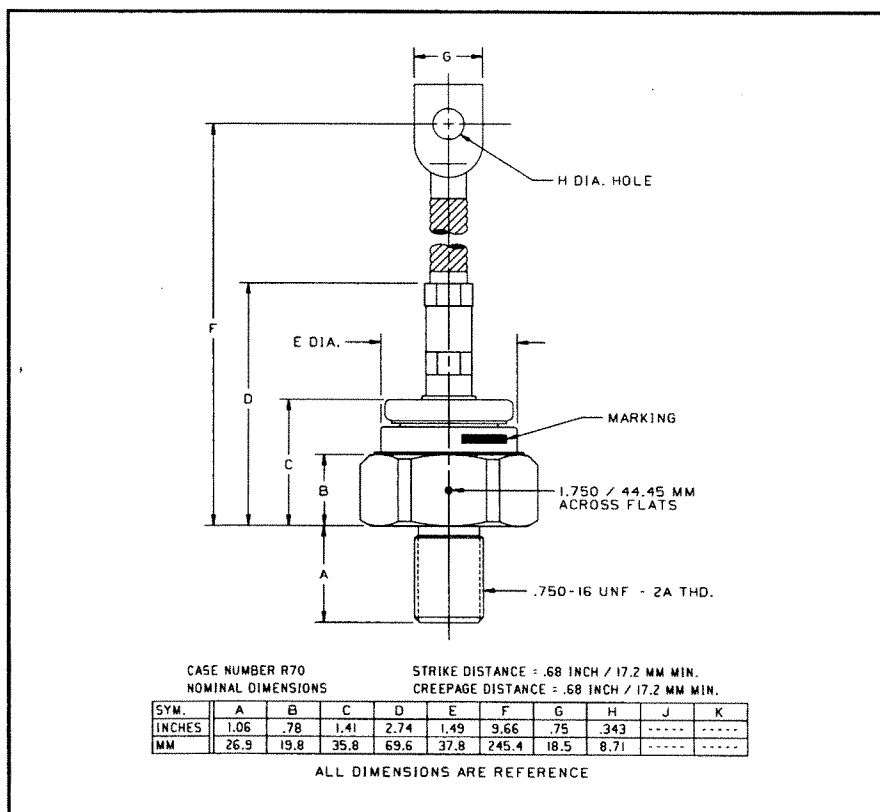


### General Purpose Rectifier

300-550 Amperes Average  
4400 Volts



R700/R701 (Outline Drawing)

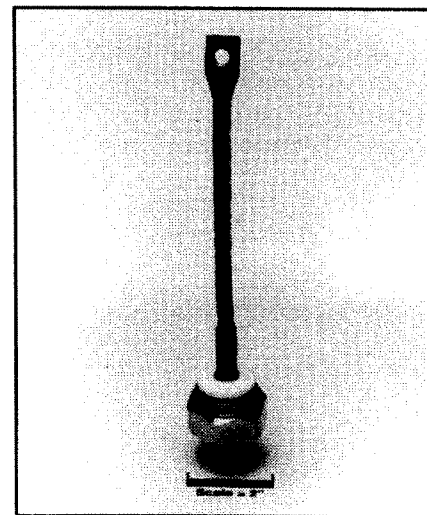
#### Ordering Information:

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

| Type                       | Voltage                     |      | Current                   |      | Recovery Time             |      | Recovery Time Circuit |      | Leads |      |
|----------------------------|-----------------------------|------|---------------------------|------|---------------------------|------|-----------------------|------|-------|------|
|                            | V <sub>RRM</sub><br>(Volts) | Code | I <sub>F(av)</sub><br>(A) | Code | t <sub>rr</sub><br>(μsec) | Code | Circuit               | Code | Case  | Code |
| R700<br>Std.<br>Polarity   | 100                         | 01   | 300                       | 03   | 15                        | X    | JEDEC                 | X    | R70   | UA   |
|                            | 200                         | 02   |                           |      |                           |      |                       |      |       |      |
|                            | 400                         | 04   | 450                       | 04   | 11                        | X    |                       |      |       |      |
|                            | 600                         | 06   |                           |      |                           |      |                       |      |       |      |
| R701<br>(Rev.<br>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<sub>RRM</sub> = 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 | $^{\circ}C$ |
|                                               |              | -65 to +200 | -65 to +175    | -65 to +150    |             |
| 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**

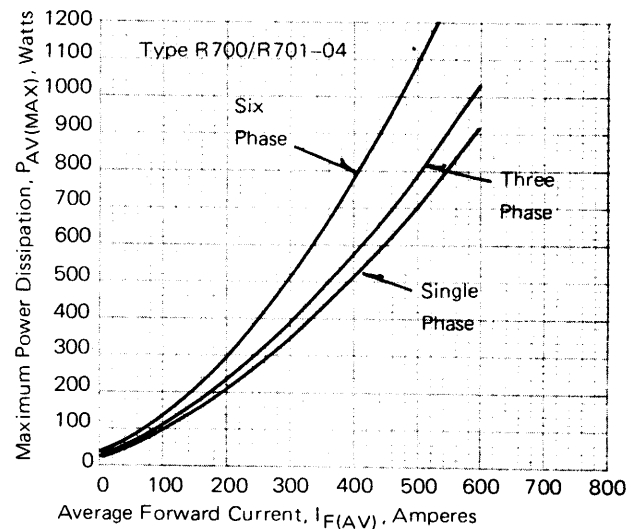
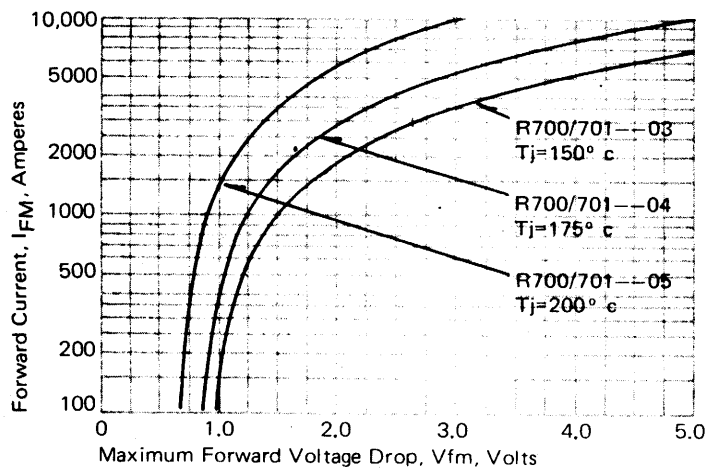
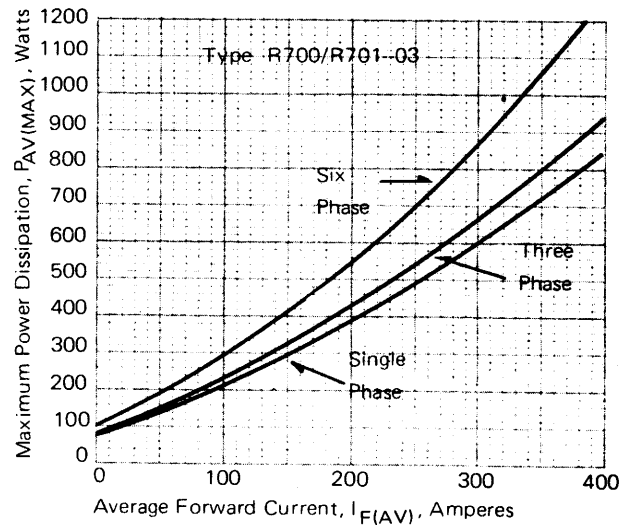
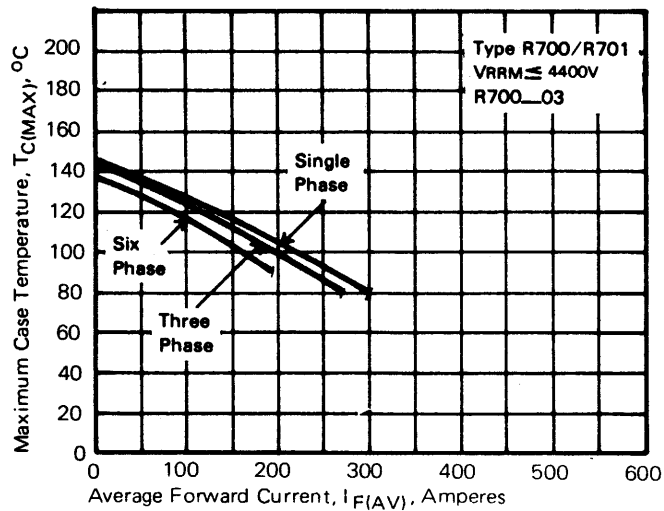
| Characteristics                                 | Symbol              | Test Conditions                                                                                             | R700_03, | R700_04, | R700_05, | Units   |
|-------------------------------------------------|---------------------|-------------------------------------------------------------------------------------------------------------|----------|----------|----------|---------|
|                                                 |                     |                                                                                                             | R701_03  | R701_04  | R701_05  |         |
| Current - Conducting State Maximums             |                     |                                                                                                             |          |          |          |         |
| Forward Voltage Drop                            | V <sub>FM</sub>     | T <sub>j</sub> = 25°C, I <sub>FM</sub> = 1500A                                                              | 2.15     | 1.60     | 1.20     | Volts   |
| Voltage - Blocking State Maximums               |                     |                                                                                                             |          |          |          |         |
| Repetitive Peak Reverse Voltage (Rated Limit)   | V <sub>RRM</sub>    |                                                                                                             | 4400     | 2600     | 1600     | Volts   |
| Non-rep. Trans. Peak Rev. Voltage (Rated Limit) | V <sub>RSM</sub>    | t ≤ 5.0msec                                                                                                 | 4600     | 2800     | 1800     | Volts   |
| Reverse Leakage Current                         | I <sub>RRM</sub>    | T <sub>j</sub> at max., V <sub>RRM</sub> Rated                                                              | 50       | 50       | 50       | mA      |
| Switching                                       |                     |                                                                                                             |          |          |          |         |
| Typical Reverse Recovery Time                   | t <sub>rr</sub>     | I <sub>FM</sub> = 1500A, t <sub>p</sub> = 190μsec,<br>di <sub>R</sub> /dt = 25A/μsec, T <sub>C</sub> = 25°C | 9        | 11       | 15       | μsec    |
| Thermal                                         |                     |                                                                                                             |          |          |          |         |
| Maximum Resistance, Junction to Case            | R <sub>θ(j-c)</sub> |                                                                                                             | 0.12     | 0.12     | 0.12     | °C/Watt |
| Maximum Resistance, Case to Sink (Lubricated)   | R <sub>θ(c-s)</sub> |                                                                                                             | 0.04     | 0.04     | 0.04     | °C/Watt |

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## R700/R701

### General Purpose Rectifier

300-550 Amperes Average, 4400 Volts

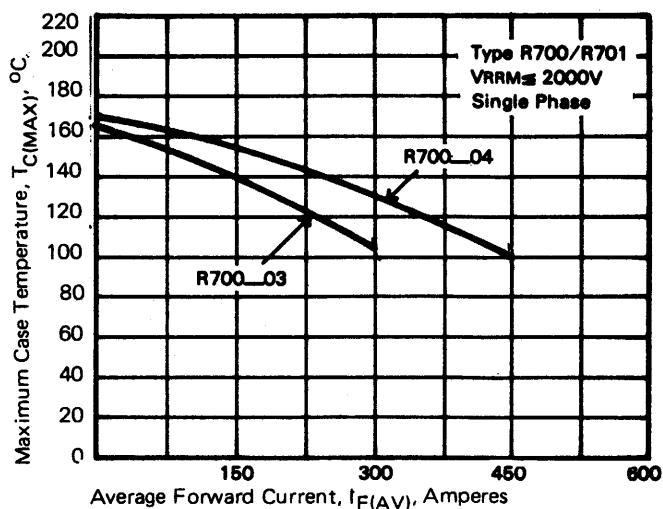
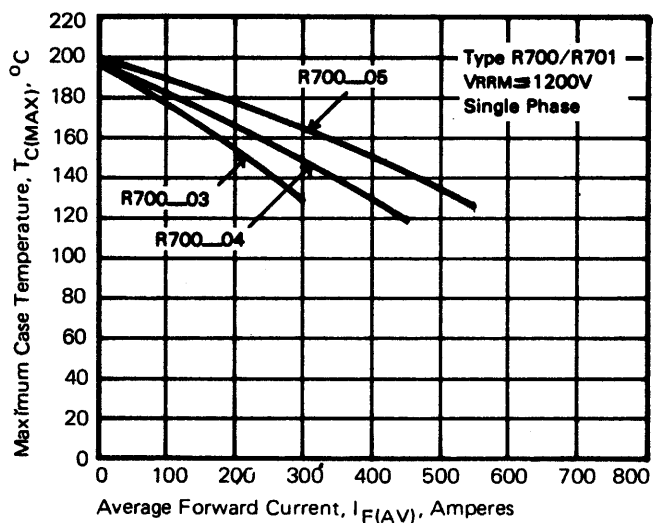
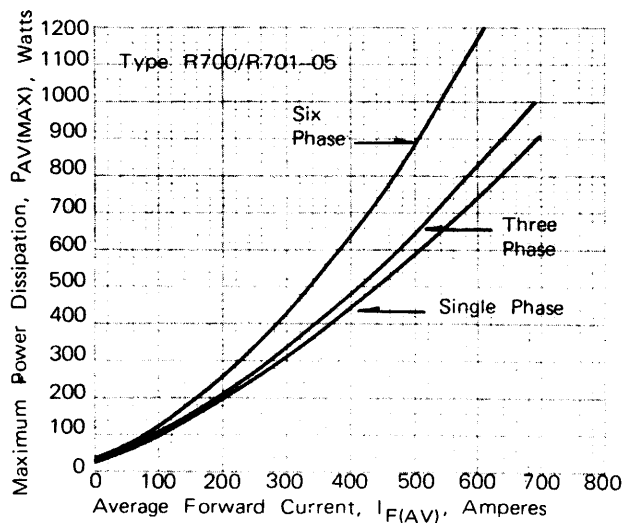
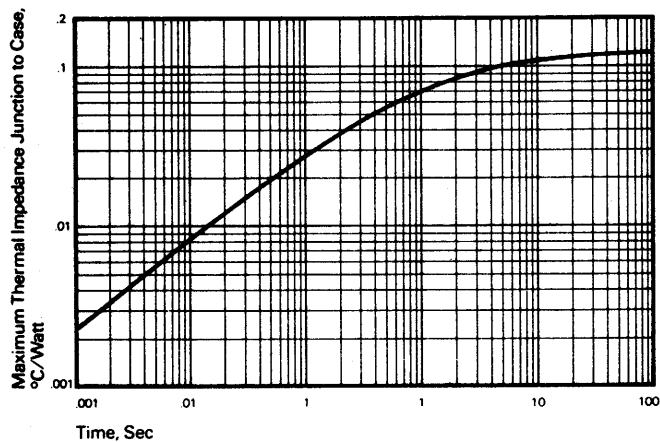


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## R700/R701

### General Purpose Rectifier

300-550 Amperes Average, 4400 Volts

