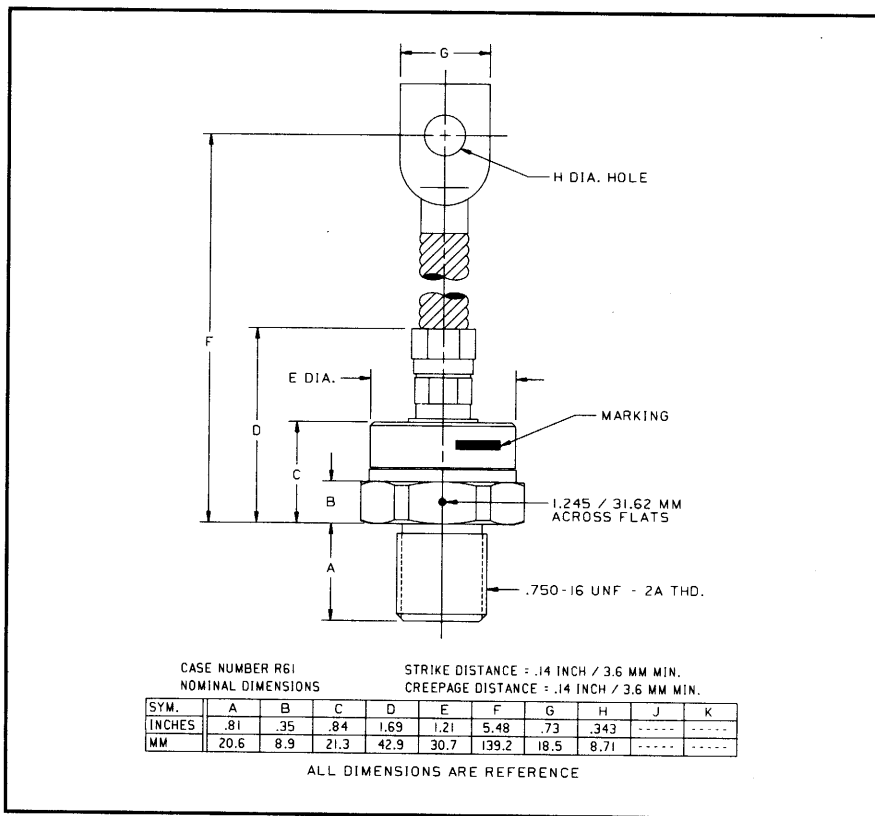
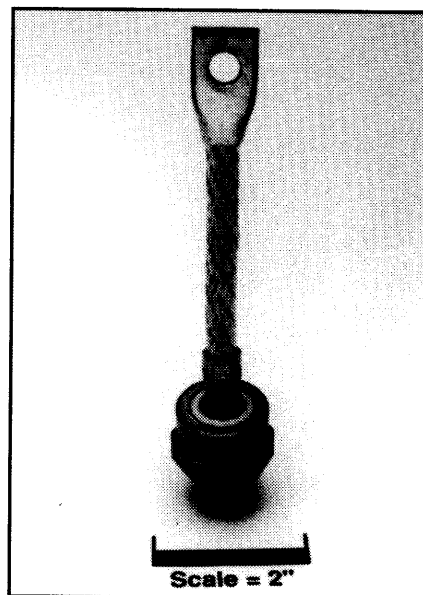


Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (412) 925-7272
 Powerex, Europe, S.A. 428 Avenue G. Durand, BP107, 72003 Le Mans, France (43) 41.14.14

General Purpose Rectifier
 200-300 Amperes Average
 1200 Volts



R610/R611 (Outline Drawing)



R610/R611
 General Purpose Rectifier
 200-300 Amperes Average, 1200 Volts

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 |
| R610 (Std. Polarity) | 100 | 01 | 200 | 20 | 13 | X | JEDEC | X | DO-9 | YZ |
| | 200 | 02 | 250 | 25 | 11 | X | | | | |
| | 400 | 04 | | | | | | | | |
| R611 (Rev. Polarity) | 600 | 06 | 300 | 30 | 9 | X | (Typical) | | | |
| | 800 | 08 | | | | | | | | |
| | 1000 | 10 | | | | | | | | |
| | 1200 | 12 | | | | | | | | |

Example: Type R610 rated at 250A average with $V_{RRM} = 800V$, and standard flexible lead, order as:

| Type | Voltage | Current | Time | Circuit | Leads |
|---------|---------|---------|------|---------|-------|
| R 6 1 0 | 0 8 | 2 5 | X | X | Y Z |

Features:

- Standard and Reverse Polarities
- Flag Lead and Stud Top Terminals Available
- High Surge Current Ratings
- High Rated Blocking Voltages
- Special Electrical Selection for Parallel and Series Operation
- Compression Bonded Encapsulation
- JAN Types Available

Applications:

- Welders
- Battery Chargers
- Electromechanical Refining
- Metal Reduction
- General Industrial High Current Rectification



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R610/R611
General Purpose Rectifier
200-300 Amperes Average, 12600 Volts

Absolute Maximum Ratings

| Characteristics | Symbol | R610_20, | R610_25, | R610_30, | Units |
|-----------------------------------------------|--------------|-------------|-------------|-------------|-------------|
| | | R611_20 | R611_25 | R611_30 | |
| RMS Forward Current | $I_{F(rms)}$ | 315 | 400 | 470 | Amperes |
| Average Forward Current | $I_{F(av)}$ | 200 | 250 | 300 | Amperes |
| One-half Cycle Surge Current | I_{FSM} | 5500 | 6000 | 6500 | Amperes |
| 3 Cycle Surge Current | I_{FSM} | 4300 | 4700 | 5050 | Amperes |
| 10 Cycle Surge Current | I_{FSM} | 3300 | 3600 | 3900 | Amperes |
| i^2t (for Fusing), Times = 8.3 milliseconds | i^2t | 125000 | 150000 | 175000 | A^2sec |
| Storage Temperature | T_{stg} | -65 to +190 | -65 to +190 | -65 to +190 | $^{\circ}C$ |
| Operating Temperature | T_j | -65 to +190 | -65 to +190 | -65 to +190 | $^{\circ}C$ |
| Mounting Torque (Lubricated) | | 360 | 360 | 360 | in-lb |



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R610/R611
 General Purpose Rectifier
 200-300 Amperes Average, 1200 Volts

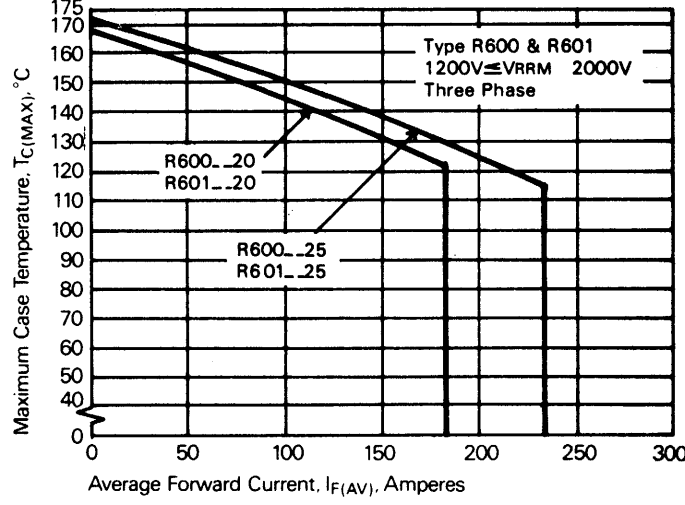
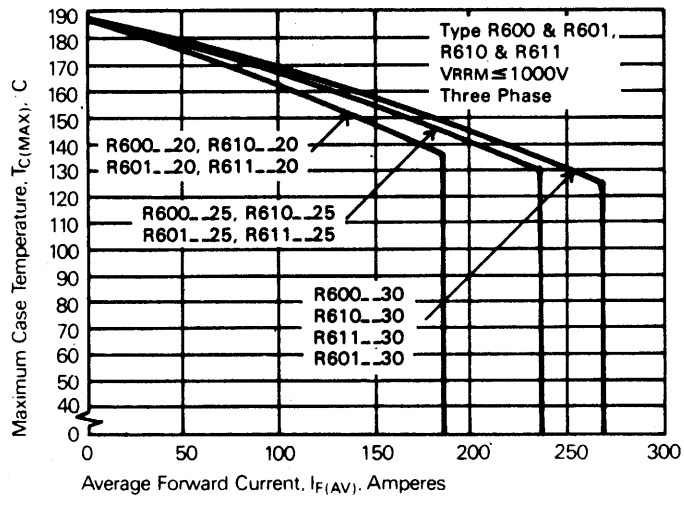
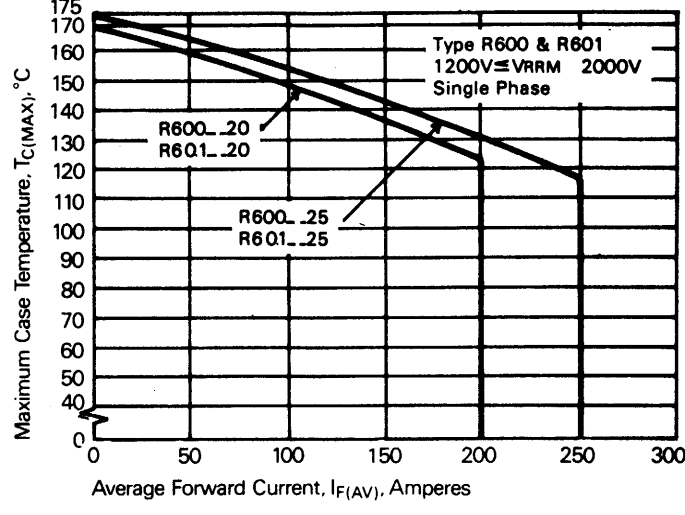
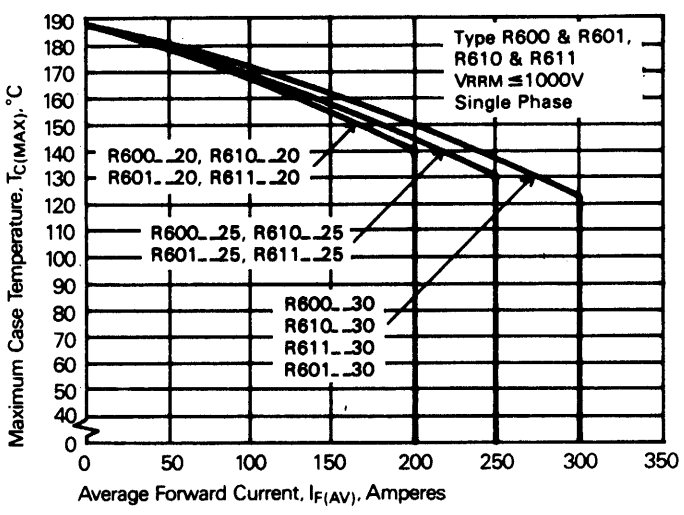
Electrical and Thermal Characteristics

| Characteristics | Symbol | Test Conditions | R610_20, | R610_25, | R610_30, | Units |
|-------------------------------------------------|-------------------|--------------------------------------------------------------------------------------------------------|----------|----------|----------|-----------------------|
| | | | R611_20 | R611_25 | R611_30 | |
| Current - Conducting State Maximums | | | | | | |
| Forward Voltage Drop | V_{FM} | $T_j = 25^\circ\text{C}, I_{FM} = 800\text{A}$ | 1.70 | 1.50 | 1.40 | Volts |
| Voltage - Blocking State Maximums | | | | | | |
| Repetitive Peak Reverse Voltage (Rated Limit) | V_{RRM} | | 1200 | 1200 | 1200 | Volts |
| Non-rep. Trans. Peak Rev. Voltage (Rated Limit) | V_{RSM} | $V \leq 5.0\text{msec}$ | 1300 | 1300 | 1300 | Volts |
| Reverse Leakage Current | I_{RRM} | T_j at max., V_{RRM} Rated | 50 | 50 | 50 | mA |
| Switching | | | | | | |
| Typical Reverse Recovery Time | t_{rr} | $I_{FM} = 785\text{A}, t_p = 100\mu\text{sec},$ $di_F/dt = 25\text{A/msec}, T_C = 25^\circ\text{C}$ | 9 | 11 | 13 | μsec |
| Thermal | | | | | | |
| Maximum Resistance, Case to Sink (Lubricated) | $R_{\theta(c-s)}$ | | 0.10 | 0.10 | 0.10 | $^\circ\text{C/Watt}$ |



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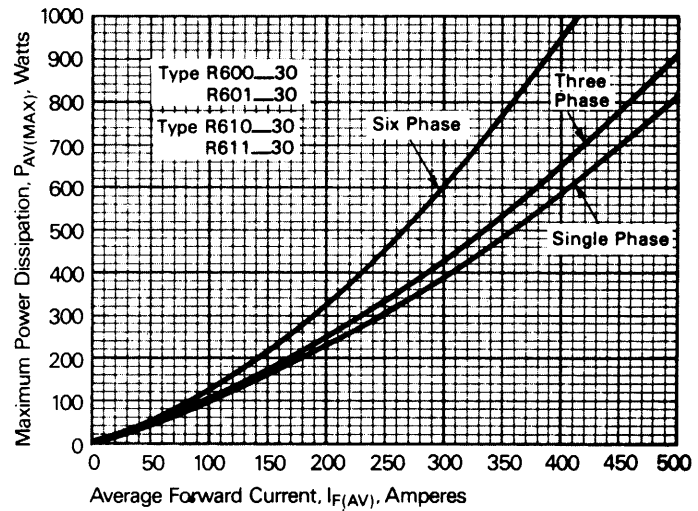
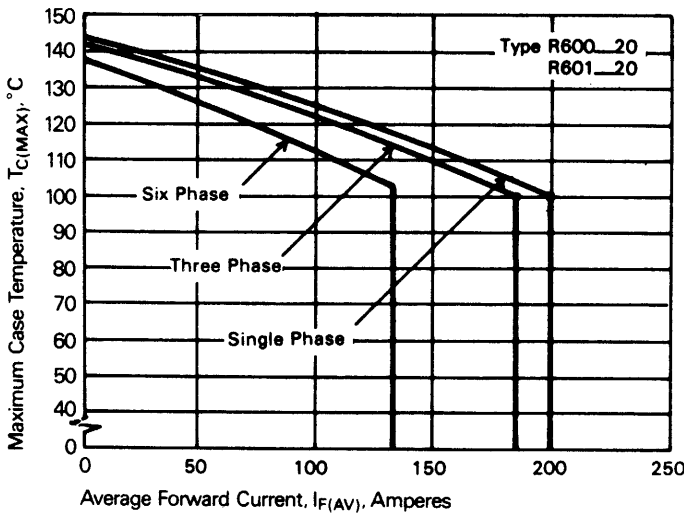
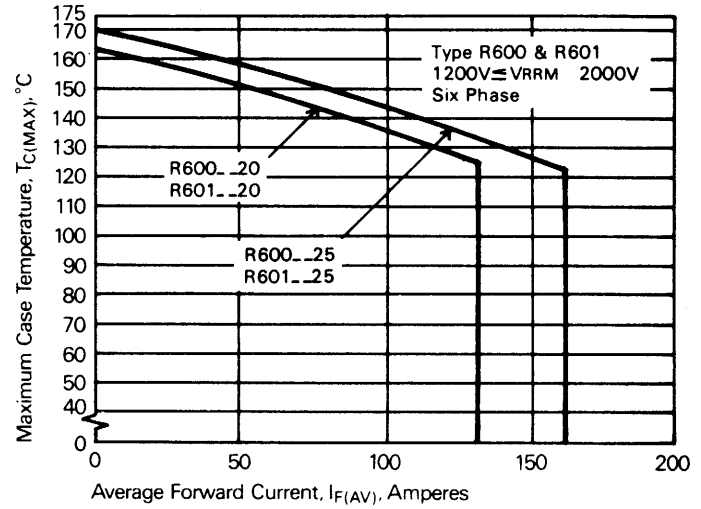
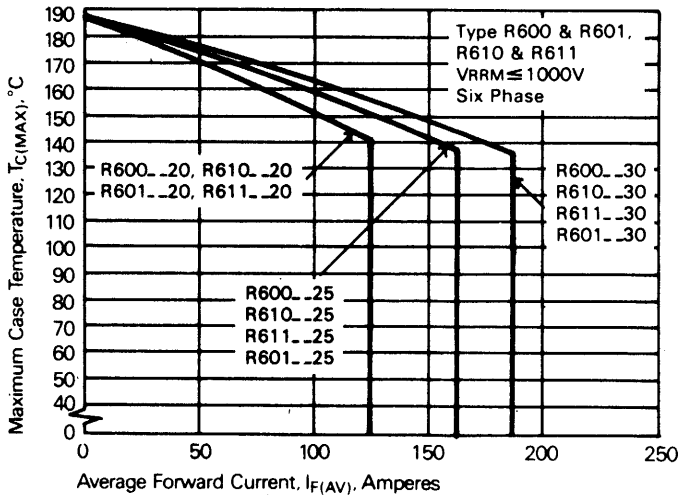


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