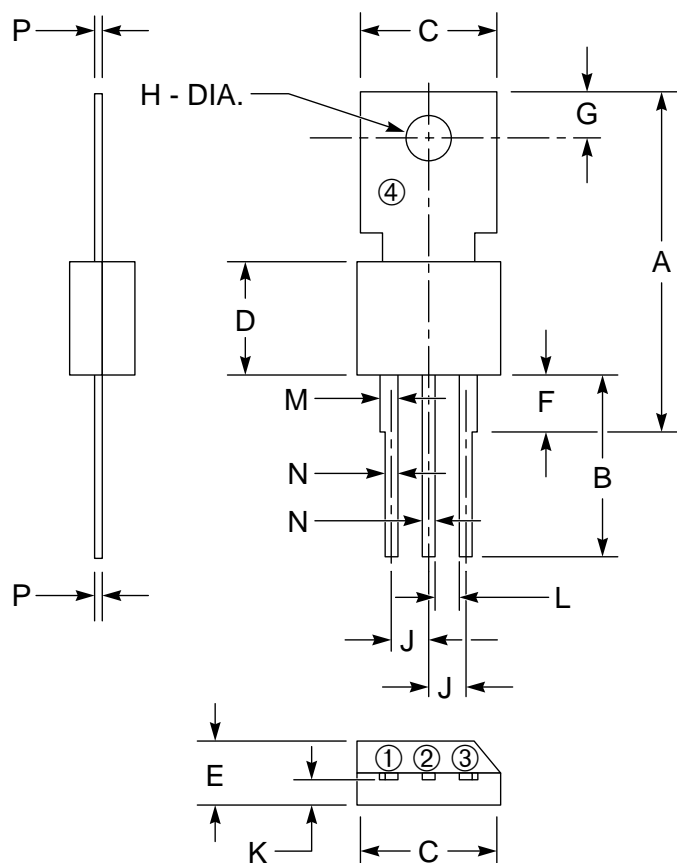


### Triac

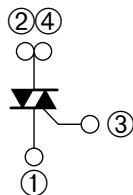
3 Amperes/400-600 Volts

#### OUTLINE DRAWING



#### CONNECTION DIAGRAM

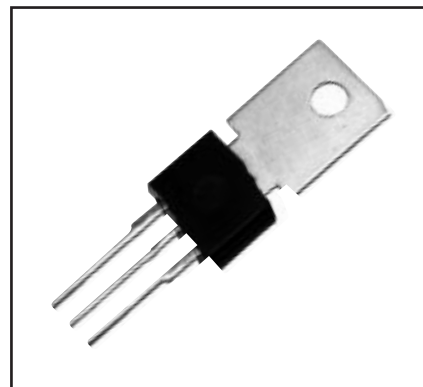
- ① T1 TERMINAL
- ② T2 TERMINAL
- ③ GATE TERMINAL
- ④ T2 TERMINAL



Outline Drawing (Conforms to TO-202)

| Dimensions | Inches        | Millimeters |
|------------|---------------|-------------|
| A          | 0.93 ± 0.02   | 23.7 ± 0.5  |
| B          | 0.47 Min.     | 12.0 Min.   |
| C          | 0.39 Max.     | 10.0 Max.   |
| D          | 0.31 Max.     | 8.0 Max.    |
| E          | 0.18          | 4.5         |
| F          | 0.16 Max.     | 4.0 Max.    |
| G          | 0.126 ± 0.008 | 3.2 ± 0.2   |

| Dimensions | Inches             | Millimeters    |
|------------|--------------------|----------------|
| H          | 0.126 ± 0.004 Dia. | 3.2 ± 0.1 Dia. |
| J          | 0.10               | 2.5            |
| K          | 0.061              | 1.55           |
| L          | 0.059 Max.         | 1.5 Max.       |
| M          | 0.047              | 1.2            |
| N          | 0.035              | 0.8            |
| P          | 0.02               | 0.5            |



#### Description:

A triac is a solid state silicon AC switch which may be gate triggered from an off-state to an on-state for either polarity of applied voltage.

#### Features:

- ☐ Glass Passivation

#### Applications:

- ☐ AC Switch
- ☐ Motor Controls
- ☐ Lighting
- ☐ Solid State Relay

#### Ordering Information:

Example: Select the complete seven or eight digit part number you desire from the table - i.e. BCR3AM-8 is a 400 Volt, 3 Ampere Triac.

| Type   | V <sub>DRM</sub><br>Volts | Code |
|--------|---------------------------|------|
| BCR3AM | 400                       | -8   |
|        | 600                       | -12  |

## BCR3AM

### Triac

3 Amperes/400-600 Volts

### Absolute Maximum Ratings, $T_a = 25^\circ\text{C}$ unless otherwise specified

| Ratings                                      | Symbol    | BCR3AM-8   | BCR3AM-12  | Units              |
|--|-----------|------------|------------|--------------------|
| Repetitive Peak Off-state Voltage            | VDRM      | 400        | 600        | Volts              |
| Non-repetitive Peak Off-state Voltage        | VDSM      | 500        | 720        | Volts              |
| On-state Current, $T_c = 86^\circ\text{C}$   | IT(RMS)   | 3          | 3          | Amperes            |
| Non-repetitive Peak Surge, One Cycle (60 Hz) | ITSM      | 30         | 30         | Amperes            |
| $I^2t$ for Fusing, $t = 8.3$ msec            | $I^2t$    | 3.7        | 3.7        | A <sup>2</sup> sec |
| Peak Gate Power Dissipation, 20 msec         | PGM       | 3          | 3          | Watts              |
| Average Gate Power Dissipation               | PG(avg)   | 0.3        | 0.3        | Watts              |
| Peak Gate Current                            | IGM       | 0.5        | 0.5        | Amperes            |
| Peak Gate Voltage                            | VGM       | 6          | 6          | Volts              |
| Storage Temperature                          | $T_{stg}$ | -40 to 125 | -40 to 125 | $^\circ\text{C}$   |
| Operating Temperature                        | $T_j$     | -40 to 125 | -40 to 125 | $^\circ\text{C}$   |
| Weight                                       | —         | 1.6        | 1.6        | Grams              |

### Electrical and Thermal Characteristics, $T_j = 25^\circ\text{C}$ unless otherwise specified

| Characteristics*            | Symbol          | Test Conditions (Trigger Mode) |                |                |                | BCR3AM |      |      |       |
|-----------------------------|-----------------|--------------------------------|----------------|----------------|----------------|--------|------|------|-------|
|                             |                 | V <sub>D</sub>                 | R <sub>L</sub> | R <sub>G</sub> | T <sub>j</sub> | Min.   | Typ. | Max. | Units |
| Gate Parameters             |                 |                                |                |                |                |        |      |      |       |
| DC Gate Trigger Current     |                 |                                |                |                |                |        |      |      |       |
| MT2+ Gate+                  | I <sub>GT</sub> | 6V                             | 6Ω             | 330Ω           | 25°C           | —      | —    | 30   | mA    |
| MT2+ Gate−                  |                 | 6V                             | 6Ω             | 330Ω           | 25°C           | —      | —    | 30   | mA    |
| MT2− Gate−                  |                 | 6V                             | 6Ω             | 330Ω           | 25°C           | —      | —    | 30   | mA    |
| DC Gate Trigger Voltage     |                 |                                |                |                |                |        |      |      |       |
| MT2+ Gate+                  | V <sub>GT</sub> | 6V                             | 6Ω             | 330Ω           | 25°C           | —      | —    | 1.5  | Volts |
| MT2+ Gate−                  |                 | 6V                             | 6Ω             | 330Ω           | 25°C           | —      | —    | 1.5  | Volts |
| MT2− Gate−                  |                 | 6V                             | 6Ω             | 330Ω           | 25°C           | —      | —    | 1.5  | Volts |
| DC Gate Non-trigger Voltage |                 |                                |                |                |                |        |      |      |       |
| All                         | V <sub>GD</sub> | 1/2 V <sub>DRM</sub>           | —              | —              | 125°C          | 0.2    | —    | —    | Volts |

\*Characteristic values apply for either polarity of Main Terminal 2 referenced to Main Terminal 1.

| Characteristics  | Symbol        | Test Conditions   | Min. | Typ. | Max. | Units                     |
|--|---------------|---|------|------|------|---------------------------|
| Thermal Resistance, Junction-to-case   | $R_{th(j-c)}$ | —   | —    | —    | 10   | $^\circ\text{C}/\text{W}$ |
| Steady State Thermal Resistance, Junction-to-ambient   | $R_{th(j-a)}$ | —   | —    | —    | 80   | $^\circ\text{C}/\text{W}$ |
| Voltage – Blocking State<br>Repetitive Off-state Current                                     | $I_{DRM}$     | Gate Open Circuited,<br>$V_D = V_{DRM}$ , $T_j = 125^\circ\text{C}$   | —    | —    | 2    | mA                        |
| Current – Conducting State<br>Peak On-state Voltage  | $V_{TM}$      | $T_c = 25^\circ\text{C}$ ,<br>$I_{TM} = 4.5\text{A}$  | —    | —    | 1.5  | Volts                     |
| Critical Rate-of-rise of Commutating<br>Off-state Voltage (Commutating dv/dt)<br>(Switching) | $(dv/dt)_c$   | $T_j = 125^\circ\text{C}$ , $V_D = 400\text{V}$ , Gate Open<br>Circuited, Commutating $(di/dt) = -2\text{A/ms}$ | 5    | —    | —    | $\text{V}/\mu\text{s}$    |

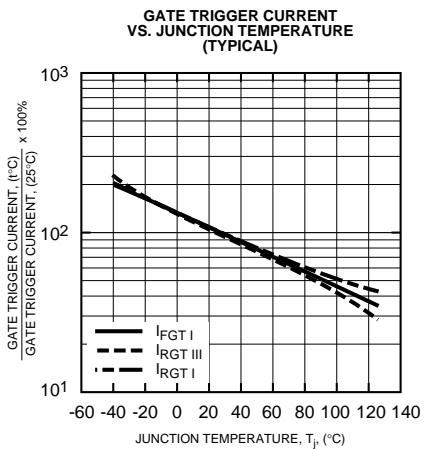
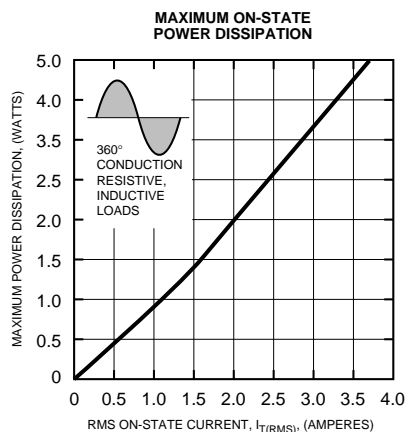
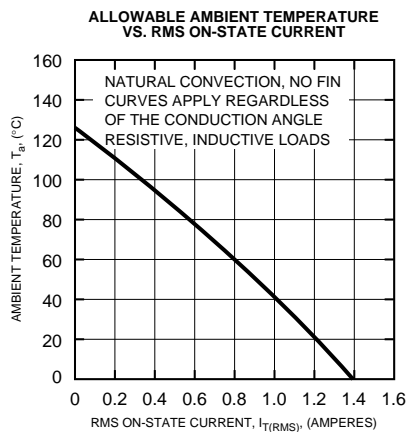
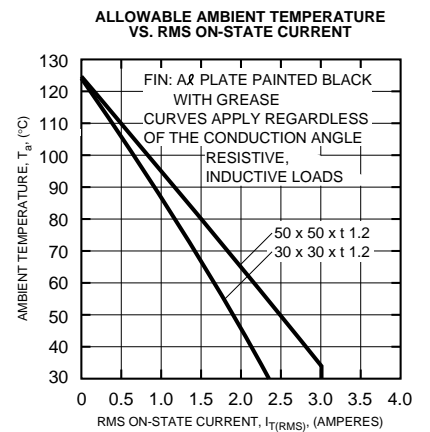
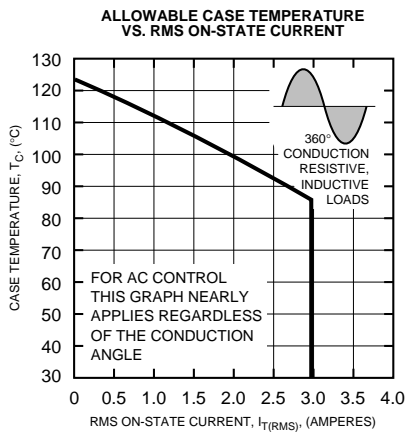
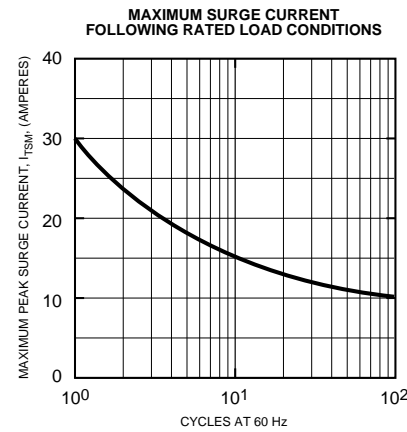
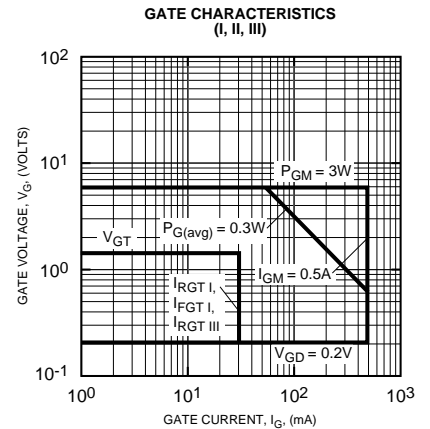
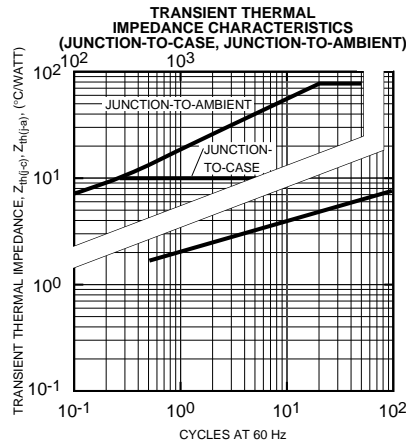
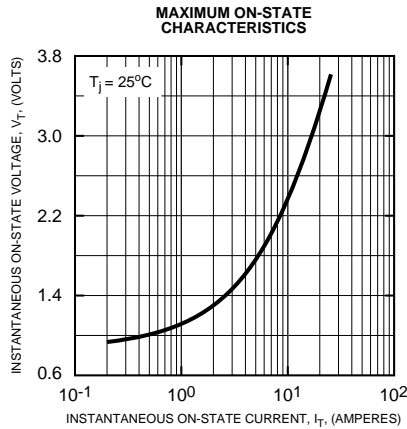


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## BCR3AM

### Triac

3 Amperes/400-600 Volts



## BCR3AM

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3 Amperes/400-600 Volts

