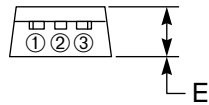
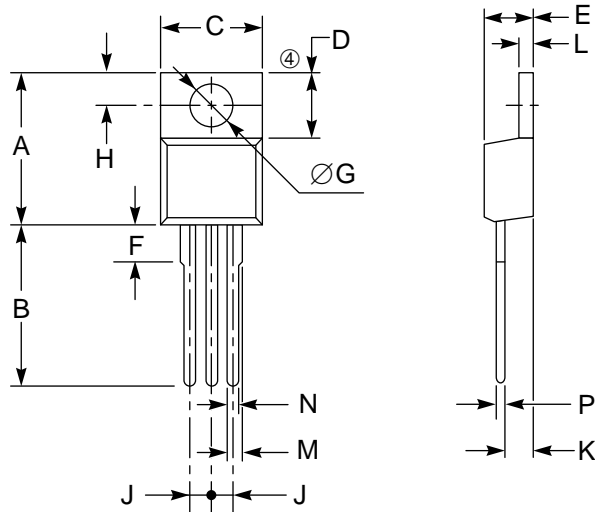


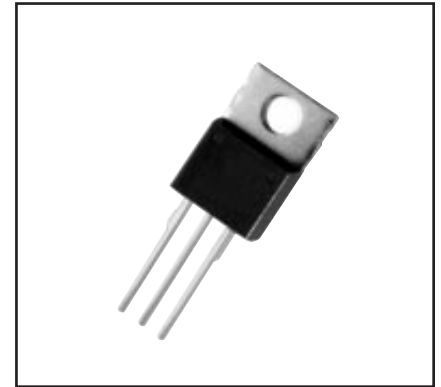
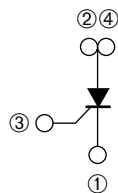
Lead-mount, Phase Control SCR 6 Amperes/400-600 Volts

OUTLINE DRAWING



CONNECTION DIAGRAM

- ① CATHODE
- ② ANODE
- ③ GATE
- ④ ANODE



Description:

The Powerex CR6CM Lead-mount Phase Control SCRs are glass passivated thyristors for use in medium power control and rectification. These devices are molded plastic types.

Features:

- Easy Application for Printed Circuits
- Glass Passivated
- High Surge Current

Applications:

- Heater Control
- Motor Control
- Switching Mode Power Supply
- ECR
- Regulator for Motorcycles

Ordering Information:

Example: Select the complete six or seven digit part number you desire from the table - i.e. CR6CM-8 is a 400 Volt, 6 Ampere Phase Control SCR.

| Type | V _{DRM} /V _{RRM} Volts | Code |
|-------|---|------|
| CR6CM | 400 | -8 |
| | 600 | -12 |

Outline Drawing (Conforms to TO-220)

| Dimensions | Inches | Millimeters |
|------------|--------------------|----------------|
| A | 0.63 Max. | 16 Max. |
| B | 0.49 Min. | 12.5 Min. |
| C | 0.41 | 10.5 |
| D | 0.28 | 7 |
| E | 0.18 | 4.5 |
| F | 0.15 Max. | 3.8 Max. |
| G | 0.142 ± 0.008 Dia. | 3.6 ± 0.2 Dia. |

| Dimensions | Inches | Millimeters |
|------------|---------------|-------------|
| H | 0.125 ± 0.008 | 3.2 ± 0.2 |
| J | 0.102 ± 0.016 | 2.6 ± 0.4 |
| K | 0.10 | 2.5 |
| L | 0.051 | 1.3 |
| M | 0.039 | 1.0 |
| N | 0.031 | 0.8 |
| P | 0.020 | 0.5 |



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CR6CM

Lead-mount, Phase Control SCR

6 Amperes/400-600 Volts

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

| Ratings | Symbol | CR6CM-8 | CR6CM-12 | Units |
|---|--------------|------------|------------|------------------------|
| Repetitive Peak Off-state Voltage | V_{DRM} | 400 | 600 | Volts |
| Repetitive Peak Reverse Voltage | V_{RRM} | 400 | 600 | Volts |
| Non-repetitive Peak Reverse Voltage | V_{RSM} | 500 | 720 | Volts |
| DC Reverse Voltage | $V_{R(DC)}$ | 320 | 480 | Volts |
| DC Forward Voltage | $V_{D(DC)}$ | 320 | 480 | Volts |
| RMS On-state Current | $I_{T(RMS)}$ | 9.4 | 9.4 | Amperes |
| Average On-state Current (Nominal, See Graphs) $T_C = 88^\circ\text{C}$ | $I_{T(avg)}$ | 6 | 6 | Amperes |
| Non-repetitive Peak Surge, On-state Current One Cycle (60 Hz) | I_{TSM} | 90 | 90 | Amperes |
| I^2t for Fusing, $t = 8.3$ msec | I^2t | 34 | 34 | A^2sec |
| Peak Gate Power Dissipation | P_{GM} | 5 | 5 | Watts |
| Average Gate Power Dissipation | $P_{G(avg)}$ | 0.5 | 0.5 | Watts |
| Peak Forward Gate Current | I_{FGM} | 2 | 2 | Amperes |
| Peak Forward Gate Voltage | V_{FGM} | 6 | 6 | Volts |
| Peak Reverse Gate Voltage | V_{RGM} | 10 | 10 | Volts |
| Storage Temperature | T_{stg} | -40 to 125 | -40 to 125 | $^\circ\text{C}$ |
| Operating Junction Temperature | T_j | -40 to 125 | -40 to 125 | $^\circ\text{C}$ |
| Weight | – | 2.3 | 2.3 | Grams |



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CR6CM

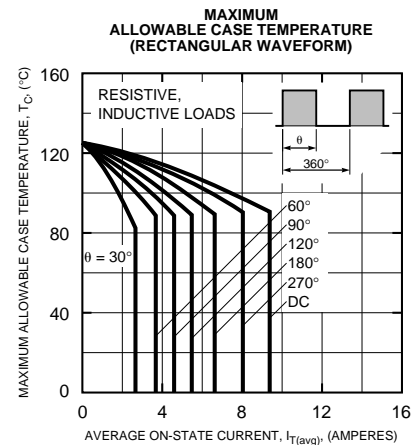
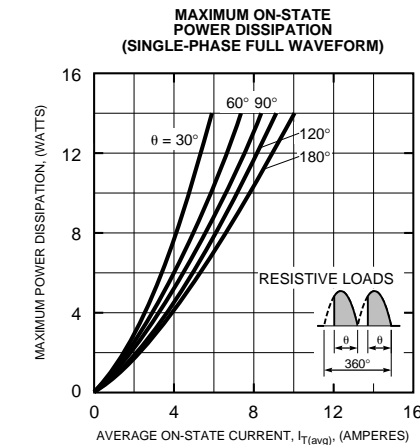
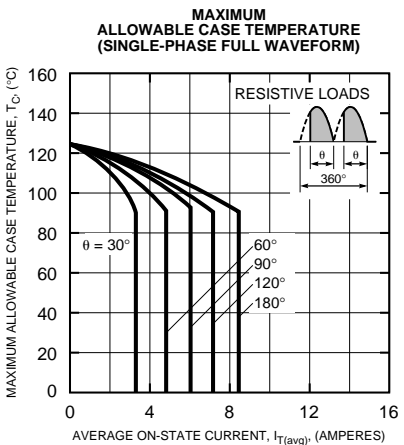
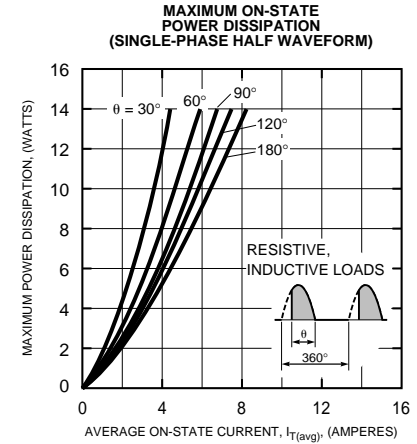
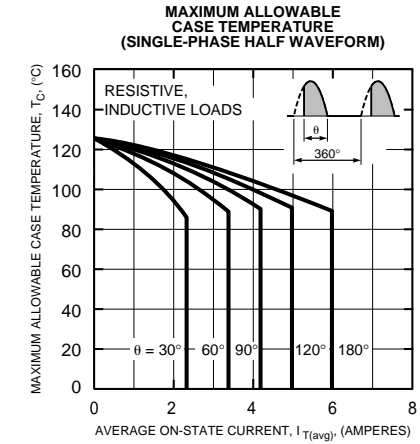
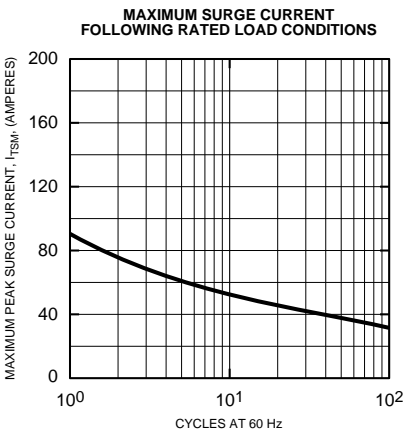
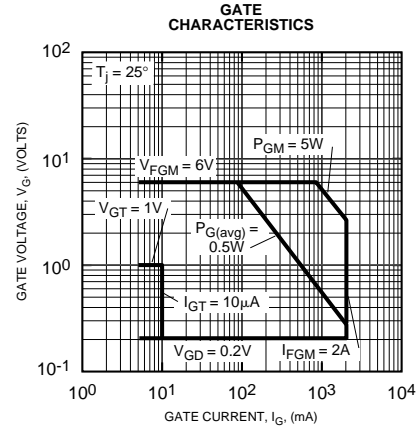
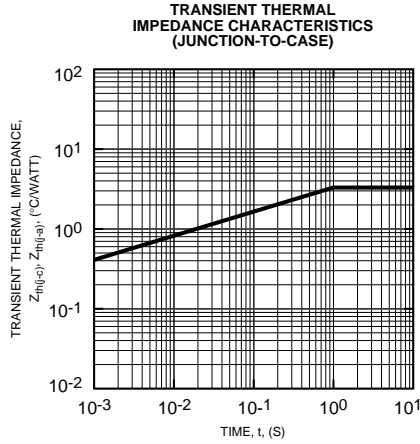
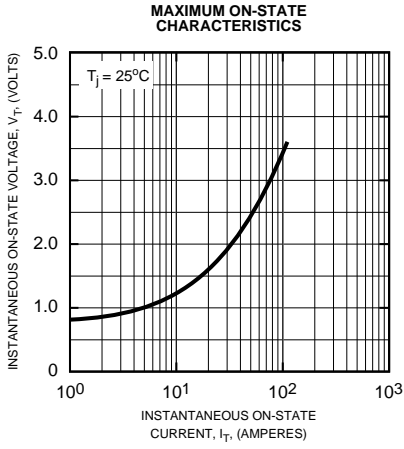
Lead-mount, Phase Control SCR

6 Amperes/400-600 Volts

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

| Characteristics | Symbol | Test Conditions | Min. | Typ. | Max. | Units |
|--|----------------------|---|------|------|------|--------------------|
| Voltage – Blocking State | | | | | | |
| Peak Forward Leakage | I_{DRM} | $T_j = 125^\circ\text{C}, V_D = V_{\text{DRM}}$ | – | – | 2 | mA |
| Peak Reverse Leakage | I_{RRM} | $T_j = 125^\circ\text{C}, V_R = V_{\text{RRM}}$ | – | – | 2 | mA |
| Current – Conducting State | | | | | | |
| Peak On-state Voltage | V_{TM} | $T_C = 25^\circ\text{C}, I_{\text{TM}} = 20\text{A Peak}$ | – | – | 1.7 | Volts |
| DC Holding Current | I_{H} | $V_D = 12\text{V}, T_j = 25^\circ\text{C}$ | – | 15 | – | mA |
| Thermal Resistance Junction-to-case | $R_{\text{th(j-c)}}$ | – | – | – | 3 | $^\circ\text{C/W}$ |
| Gate– Parameters | | | | | | |
| Gate Current to Trigger | I_{GT} | $V_D = 6\text{V}, R_L = 6\Omega, T_j = 25^\circ\text{C}$ | – | – | 10 | mA |
| Gate Voltage to Trigger | V_{GT} | $V_D = 6\text{V}, R_L = 6\Omega, T_j = 25^\circ\text{C}$ | – | – | 1.0 | Volts |
| Non-triggering Gate Voltage | V_{GD} | $V_D = 1/2V_{\text{DRM}}, T_j = 125^\circ\text{C}$ | 0.2 | – | – | Volts |

CR6CM
Lead-mount, Phase Control SCR
 6 Amperes/400-600 Volts

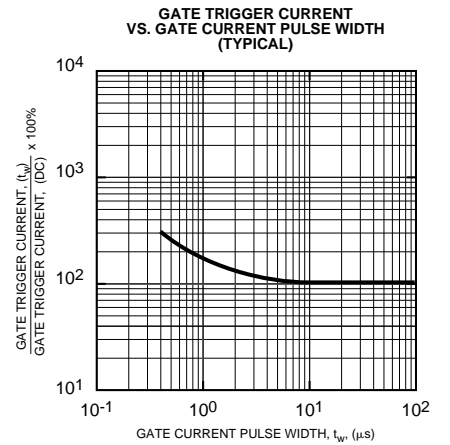
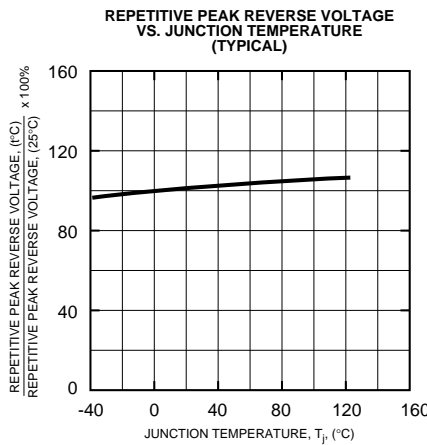
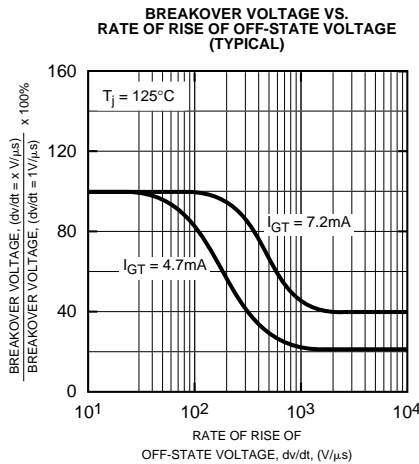
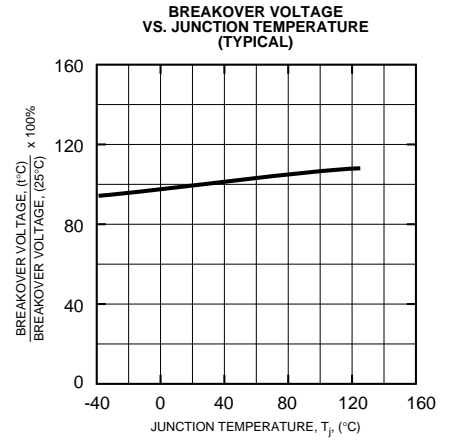
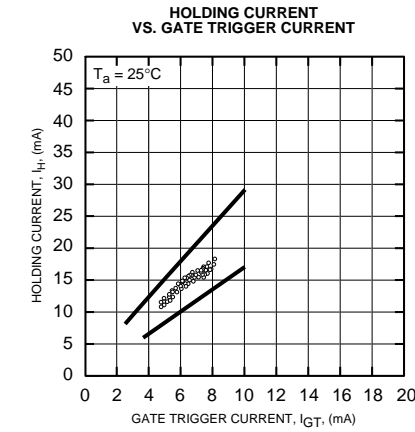
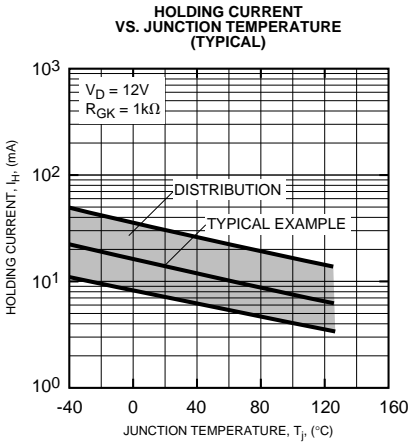
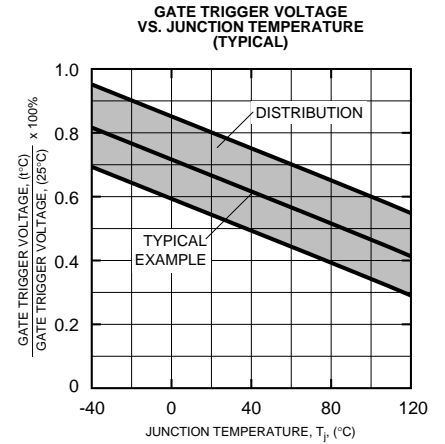
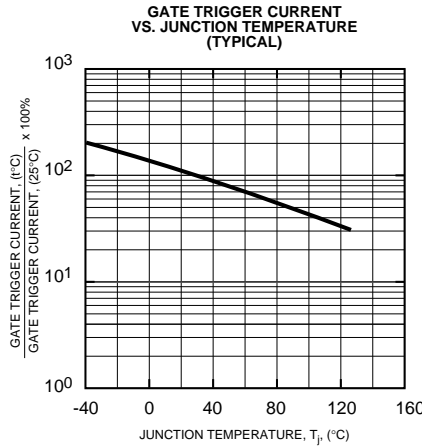
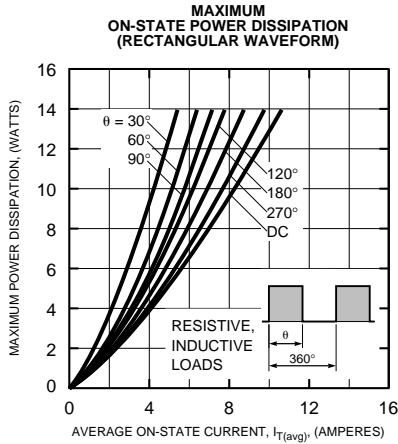




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6 Amperes/400-600 Volts



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