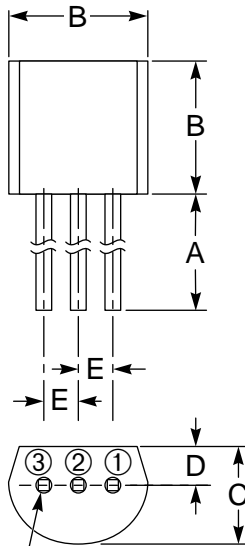


### Lead-Mount, Phase Control SCR 0.3 Amperes/400 Volts

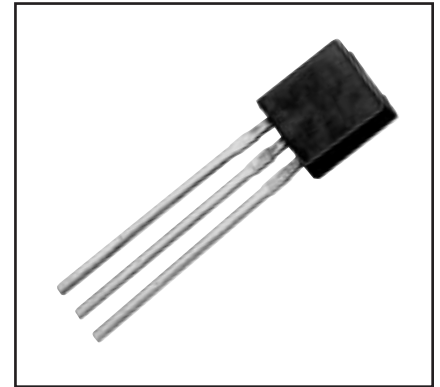
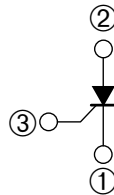
#### OUTLINE DRAWING



CIRCUMSCRIBE  
CIRCLE F - DIA.

#### CONNECTION DIAGRAM

- ① CATHODE
- ② ANODE
- ③ GATE



#### Description:

The Powerex CR02AM Phase Control SCRs are planar passivated thyristors for use in low power control and rectification. These devices are molded silicone plastic types.

#### Features:

- Planar Passivation
- Short Turn-on Time – Suitable to Pulse Use

#### Applications:

- Phase Control
- Triggering of High Power Thyristors, Pulse Generators and Counters
- Static Switch
- Motor Control
- Strobe Flasher

#### Ordering Information:

Example: Select the complete seven digit part number you desire from the table - i.e. CR02AM-8 is a 400 Volt, 0.3 Ampere Phase Control SCR.

Type	V <sub>DRM</sub> /V <sub>RRM</sub> Volts	Code
CR02AM	400	-8

Outline Drawing (Conforms to JEDEC TO-92)

Dimensions	Inches	Millimeters
A	0.49 Min.	12.5 Min.
B	0.20 Max.	5.0 Max.
C	0.15 Max.	3.9 Max.
D	0.05	1.3
E	0.049	1.25
F	0.028 Dia.	0.7 Dia.



Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (412) 925-7272

**CR02AM**

**Lead-Mount, Phase Control SCR**

0.3 Amperes/400 Volts

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

Ratings	Symbol	CR02AM-8	Units
Repetitive Peak Off-state Voltage	$V_{DRM}$	400	Volts
Repetitive Peak Reverse Voltage	$V_{RRM}$	400	Volts
Non-repetitive Peak Reverse Voltage	$V_{RSM}$	500	Volts
DC Reverse Voltage	$V_{R(DC)}$	320	Volts
DC Forward Voltage	$V_{D(DC)}$	320	Volts
RMS On-state Current	$I_{T(RMS)}$	0.47	Amperes
Average On-state Current (Nominal, See Graphs) $T_a = 30\text{ }^\circ\text{C}$	$I_{T(avg)}$	0.3	Amperes
Non-repetitive Peak Surge, On-state Current One Cycle (60 Hz)	$I_{TSM}$	10	Amperes
$I^2t$ for Fusing, $t = 8.3\text{ msec}$	$I^2t$	0.4	$A^2\text{sec}$
Peak Gate Power Dissipation	$P_{GM}$	0.1	Watts
Average Gate Power Dissipation	$P_{G(avg)}$	0.01	Watts
Peak Forward Gate Current	$I_{FGM}$	0.1	Amperes
Peak Forward Gate Voltage	$V_{FGM}$	6	Volts
Peak Reverse Gate Voltage	$V_{RGM}$	6	Volts
Storage Temperature	$T_{stg}$	-40 to 125	$^\circ\text{C}$
Operating Temperature	$T_j$	-40 to 125	$^\circ\text{C}$
Weight	–	0.23	Grams

**CR02AM**

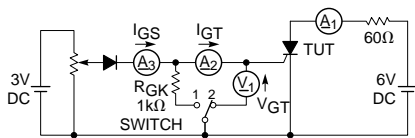
**Lead-Mount, Phase Control SCR**

0.3 Amperes/400 Volts

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

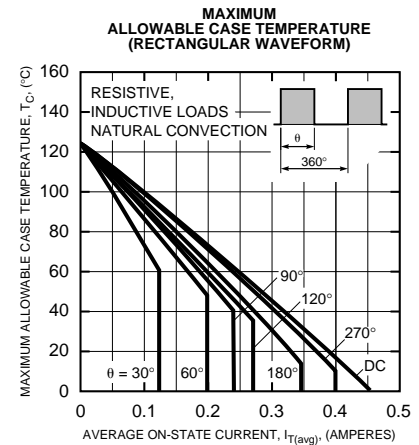
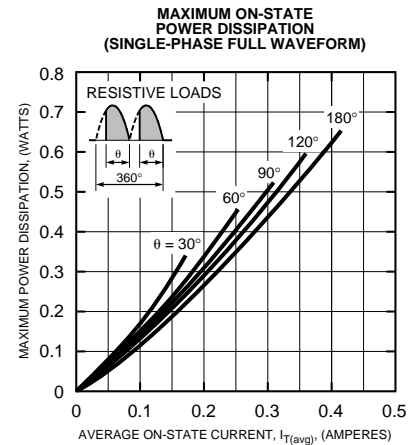
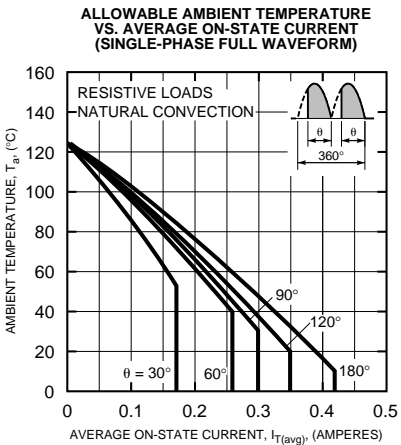
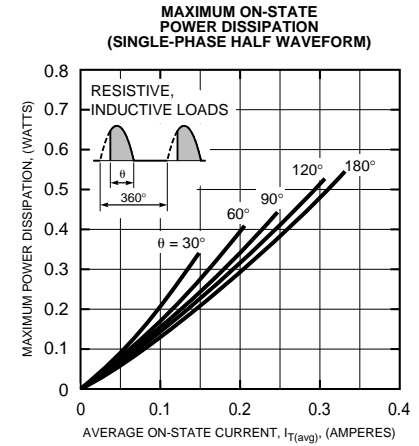
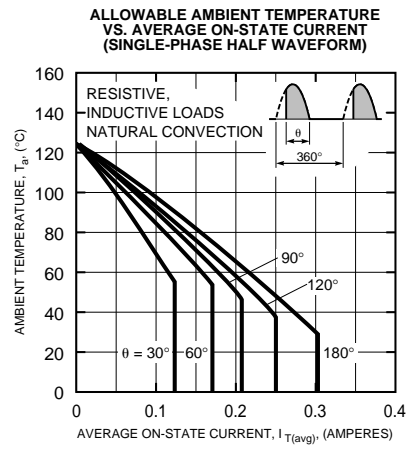
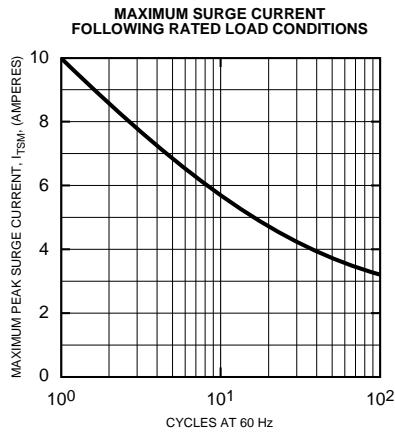
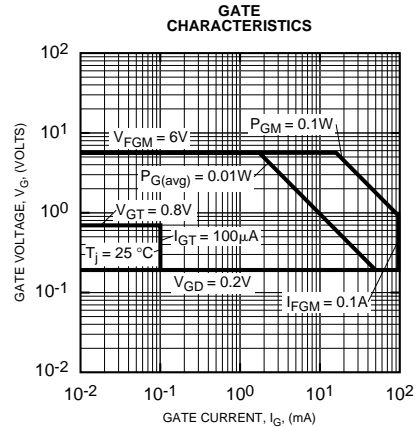
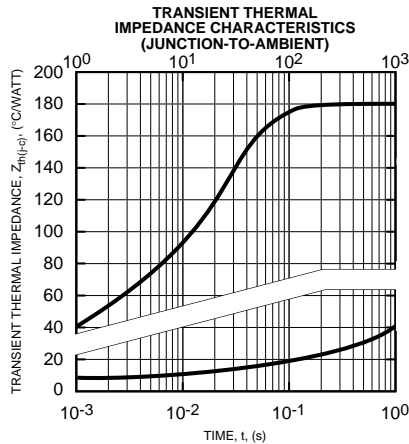
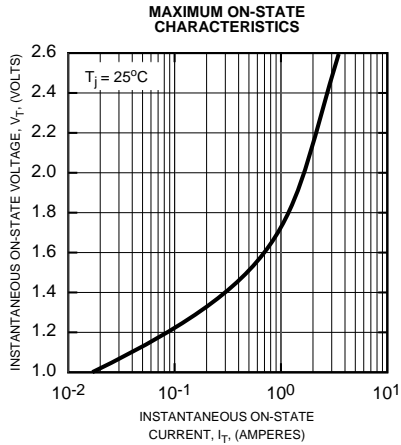
Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Voltage – Blocking State						
Peak Forward Leakage	$I_{DRM}$	$T_j = 125^\circ\text{C}, V_D = V_{DRM}$	–	–	0.1	mA
Peak Reverse Leakage	$I_{RRM}$	$T_j = 125^\circ\text{C}, V_R = V_{RRM}$	–	–	0.1	mA
Current – Conducting State						
Peak On-state Voltage	$V_{TM}$	$T_a = 25^\circ\text{C}, I_{TM} = 0.6\text{A}$	–	–	1.6	Volts
DC Holding Current	$I_H$	$V_D = 12\text{V}, R_{GK} = 1\text{k}\Omega, T_j = 25^\circ\text{C}$	–	–	3.0	mA
Thermal Resistance, Junction-to-ambient	$R_{th(j-a)}$	–	–	–	180	$^\circ\text{C/W}$
Gate – Parameters						
Gate Current to Trigger†	$I_{GT}$	$V_D = 6\text{V}, R_L = 60\Omega, T_j = 25^\circ\text{C}$	1	–	100	$\mu\text{A}$
Gate Voltage to Trigger†	$V_{GT}$	$V_D = 6\text{V}, R_L = 60\Omega, T_j = 25^\circ\text{C}$	–	–	0.8	Volts
Non-triggering Gate Voltage	$V_{GD}$	$V_D = 1/2V_{DRM}, R_{GK} = 1\text{k}\Omega, T_j = 125^\circ\text{C}$	0.2	–	–	Volts

†  $I_{GT}, V_{GT}$  measurement circuit



SWITCH 1:  $I_{GT}$  Measurement  
 SWITCH 2:  $V_{GT}$  Measurement  
 (Inner resistance of voltage meter is about  $1\text{k}\Omega$ )

**CR02AM**  
**Lead-Mount, Phase Control SCR**  
 0.3 Amperes/400 Volts



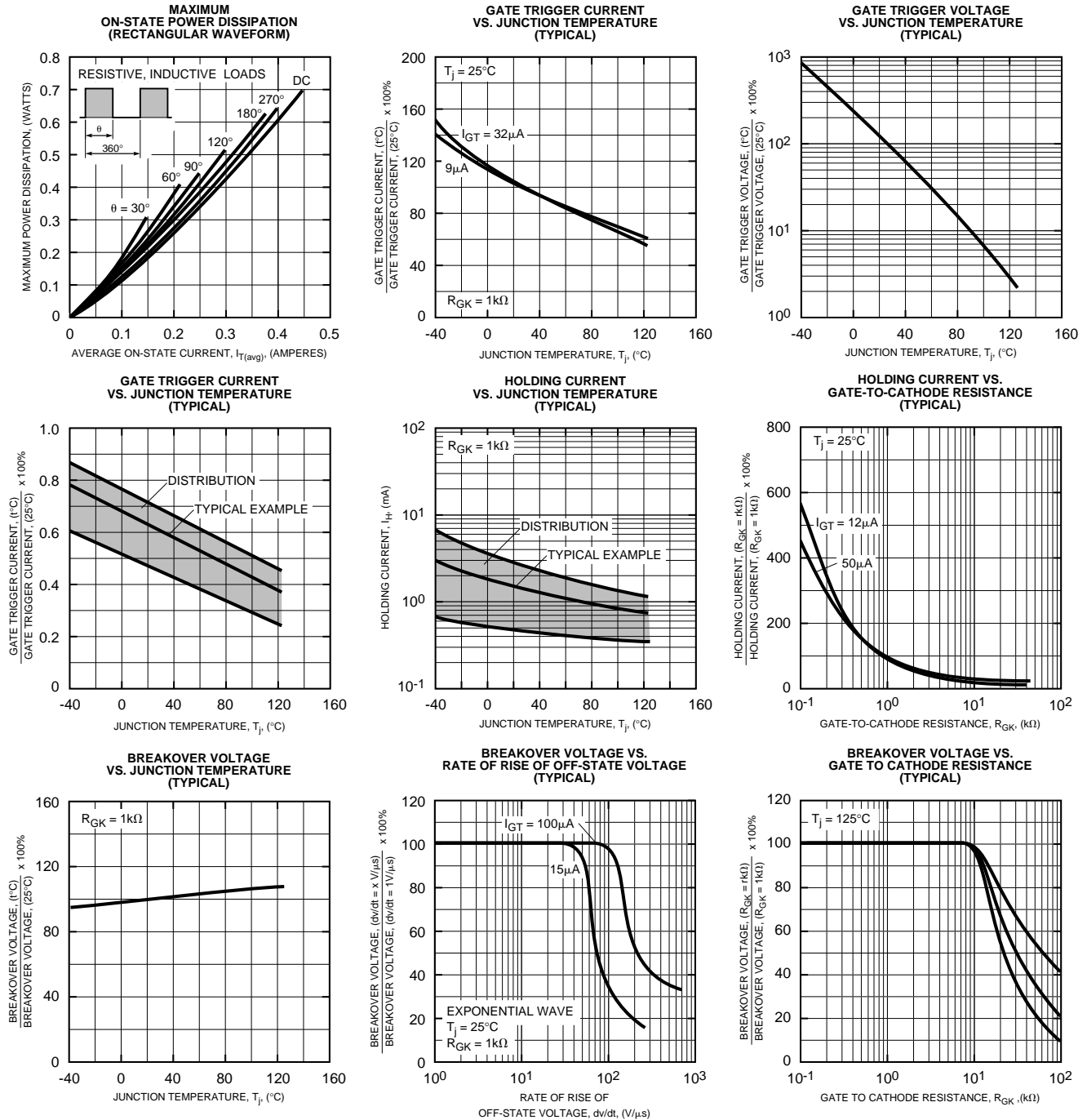


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