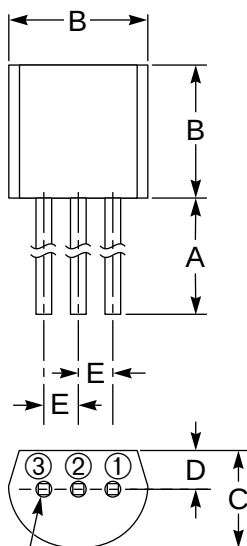


Lead-Mount, Phase Control SCR 0.3 Amperes/400 Volts

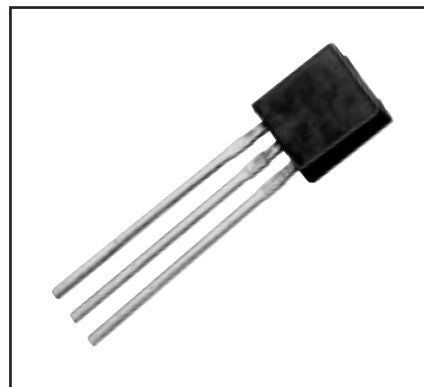
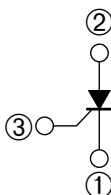
OUTLINE DRAWING



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_{DRM}/V_{RRM} 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) $T_a = 30^{\circ}\text{C}$	$I_{T(avg)}$	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^2sec
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

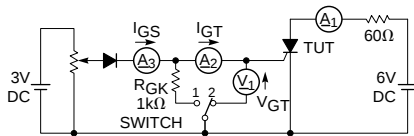
Lead-Mount, Phase Control SCR

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}	$T_j = 125^\circ\text{C}, V_D = V_{\text{DRM}}$	–	–	0.1	mA
Peak Reverse Leakage	I_{RRM}	$T_j = 125^\circ\text{C}, V_R = V_{\text{RRM}}$	–	–	0.1	mA
Current – Conducting State						
Peak On-state Voltage	V_{TM}	$T_a = 25^\circ\text{C}, I_{\text{TM}} = 0.6\text{A}$	–	–	1.6	Volts
DC Holding Current	I_{H}	$V_D = 12\text{V}, R_{\text{GK}} = 1\text{k}\Omega, T_j = 25^\circ\text{C}$	–	–	3.0	mA
Thermal Resistance, Junction-to-ambient	$R_{\text{th(j-a)}}$	–	–	–	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	μA
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}	$V_D = 1/2V_{\text{DRM}}, R_{\text{GK}} = 1\text{k}\Omega, T_j = 125^\circ\text{C}$	0.2	–	–	Volts

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

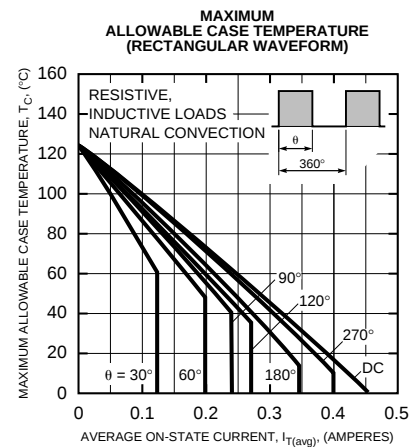
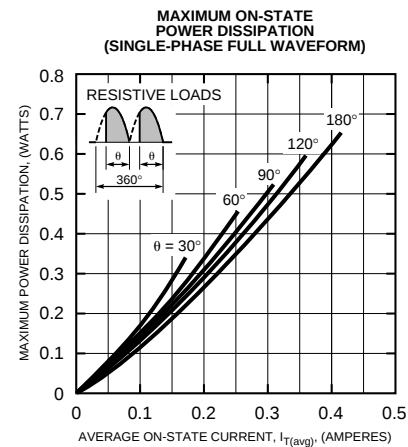
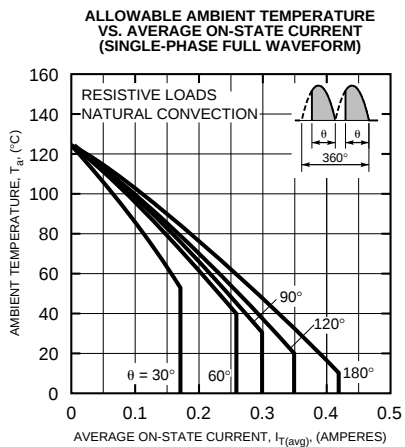
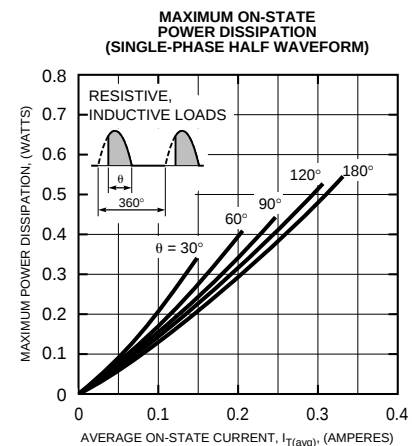
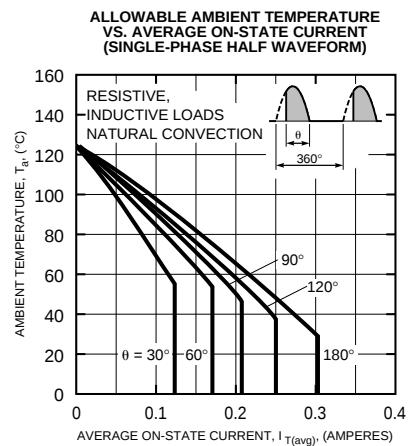
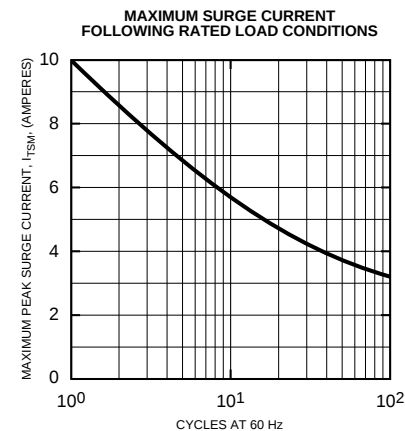
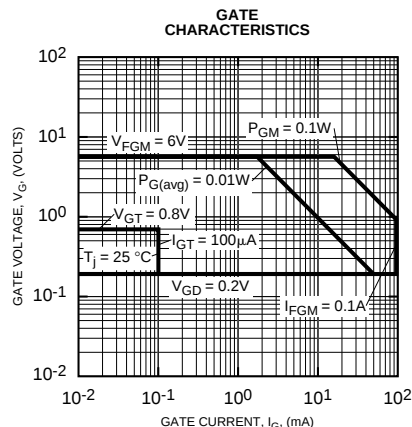
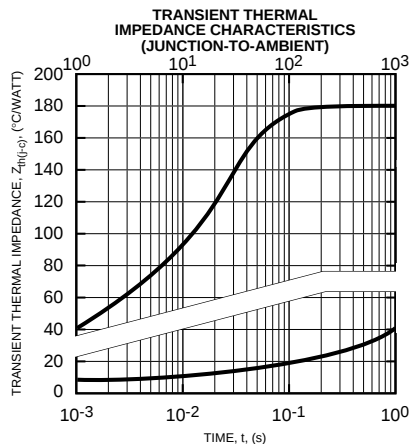
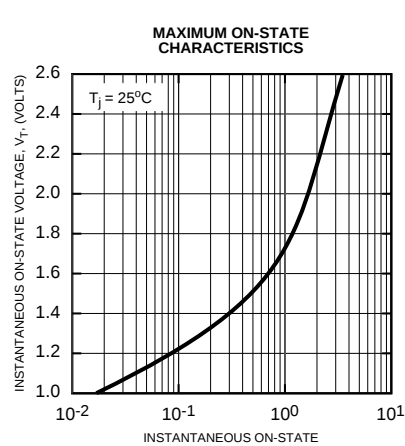


SWITCH 1: I_{GT} Measurement
 SWITCH 2: V_{GT} Measurement
 (Inner resistance of voltage meter is about $1\text{k}\Omega$)

CR02AM

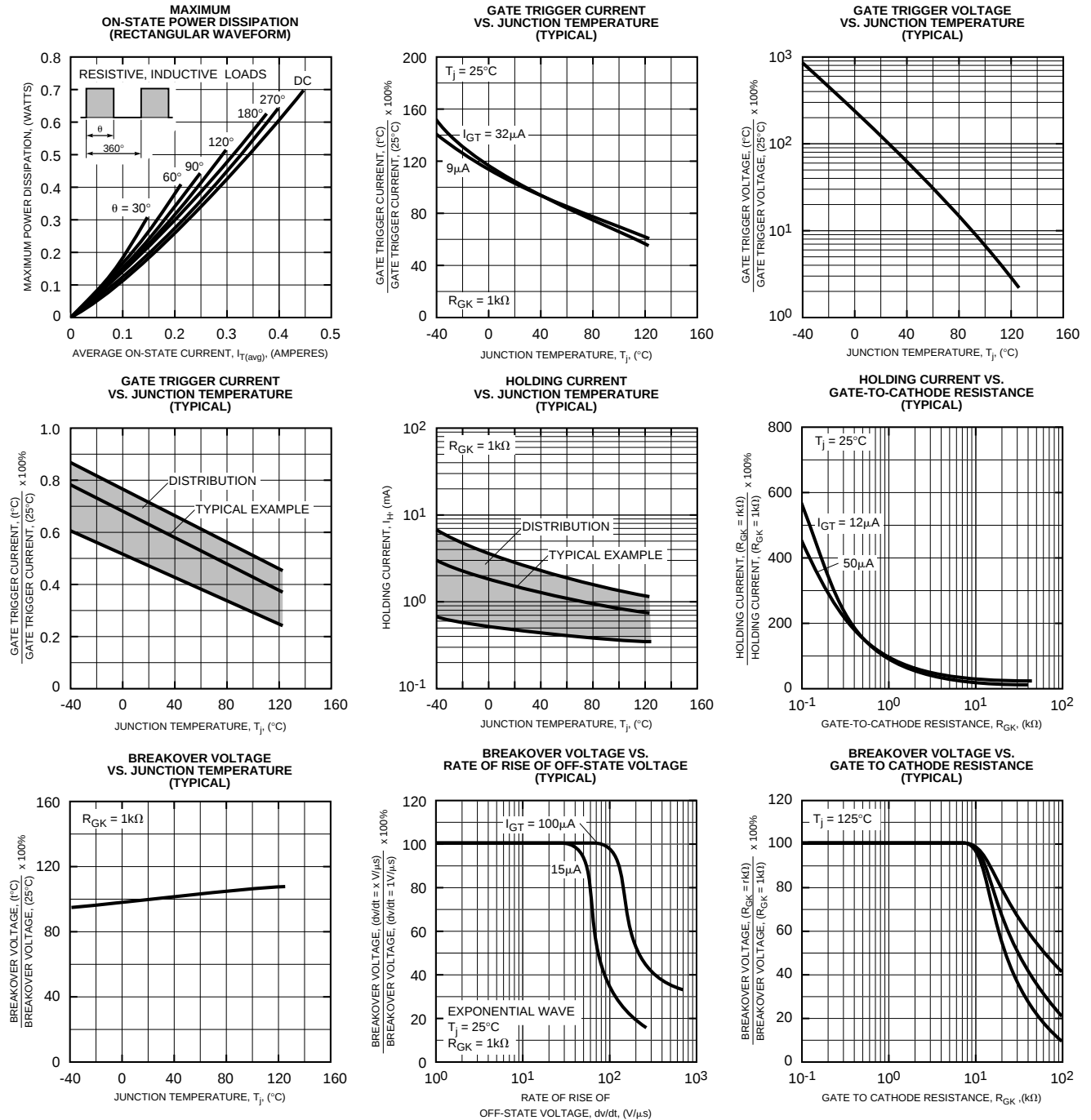
Lead-Mount, Phase Control SCR

0.3 Amperes/400 Volts



CR02AM

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



CR02AM

Lead-Mount, Phase Control SCR

0.3 Amperes/400 Volts

