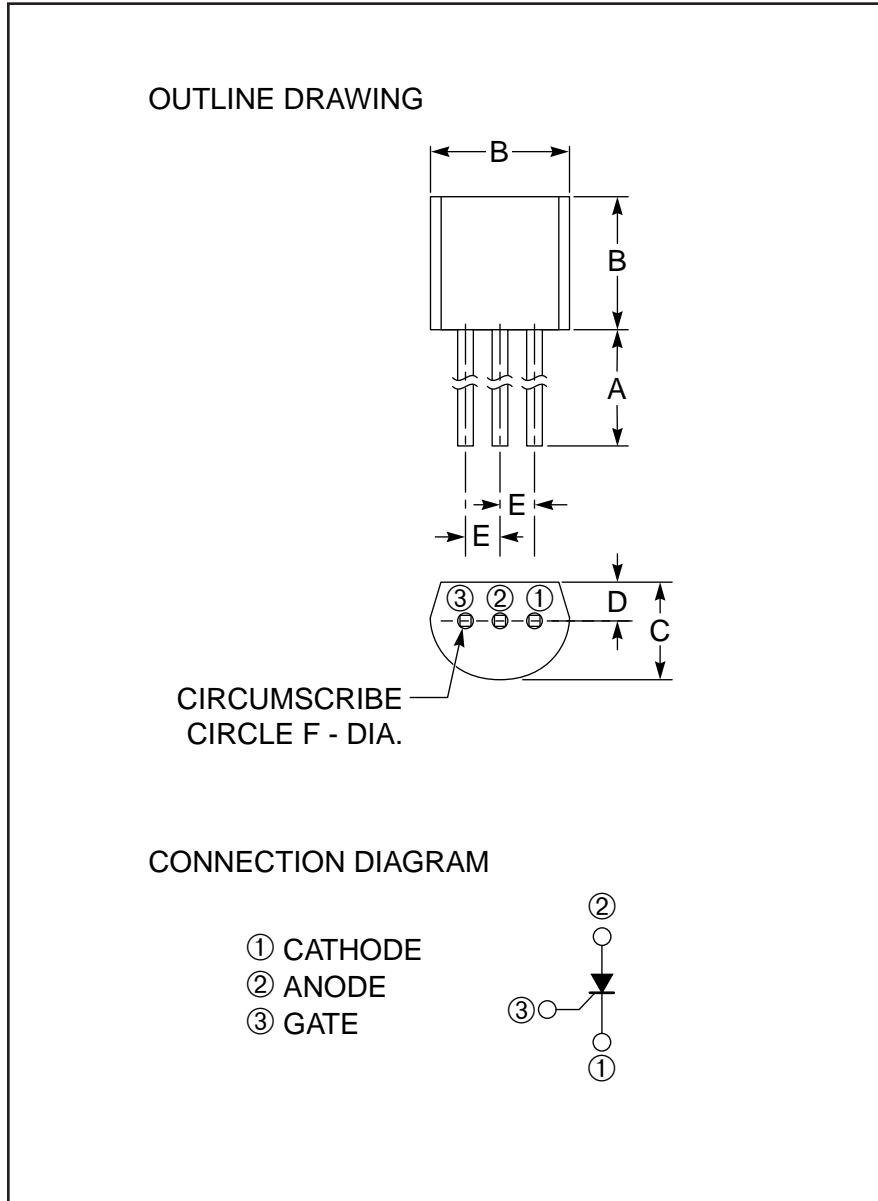
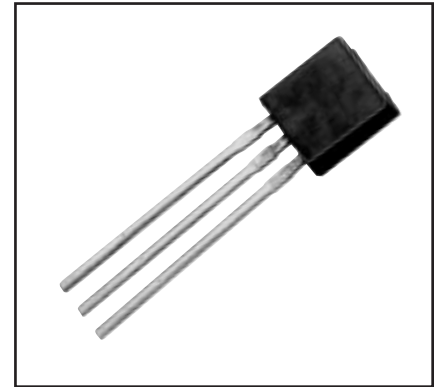


### Lead-Mount, Phase Control SCR 0.3 Amperes/400-600 Volts



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.



#### Description:

The Powerex CR03AM Lead mount Phase Control SCRs are glass-passivated thyristors for use in low-power control and rectification. These devices are molded epoxy plastic types.

#### Features:

- Glass Passivation
- High Current Pulse Application Use

#### Applications:

- Fault Interrupters
- Gas Igniters
- Static Switch
- Motor Control

#### Ordering Information:

Example: Select the complete seven or eight digit part number you desire from the table - i.e. CR03AM-8 is a 400 Volt, 0.3 Ampere Phase Control SCR.

Type	V <sub>DRM</sub> /V <sub>R<sub>RM</sub></sub> Volts	Code
CR03AM	400	-8
	600	-12

**CR03AM**  
**Lead-Mount, Phase Control SCR**  
 0.3 Amperes/400-600 Volts

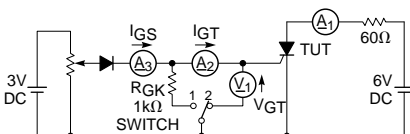
**Absolute Maximum Ratings,  $T_a = 25\text{ }^\circ\text{C}$  unless otherwise specified**

Ratings	Symbol	CR03AM-8	CR03AM-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	$I_{T(RMS)}$	0.47	0.47	Amperes
Average On-state Current (Nominal, See Graphs) $T_a = 47^\circ\text{C}$	$I_{T(avg)}$	0.3	0.3	Amperes
Non-repetitive Peak Surge, On-state Current One Cycle (60 Hz)	$I_{TSM}$	20	20	Amperes
$I^2t$ for Fusing, $t = 8.3$ msec	$I^2t$	1.6	1.6	$\text{A}^2\text{sec}$
Peak Gate Power Dissipation	$P_{GM}$	0.5	0.5	Watts
Average Gate Power Dissipation	$P_{G(avg)}$	0.1	0.1	Watts
Peak Forward Gate Current	$I_{FGM}$	0.3	0.3	Amperes
Peak Forward Gate Voltage	$V_{FGM}$	6	6	Volts
Peak Reverse Gate Voltage	$V_{RGM}$	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	-	0.23	0.23	Grams

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

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Voltage – Blocking State						
Peak Forward Leakage	$I_{DRM}$	$T_j = 110^\circ\text{C}$ , $V_D = V_{DRM}$	-	-	0.1	mA
Peak Reverse Leakage	$I_{RRM}$	$T_j = 110^\circ\text{C}$ , $V_R = V_{RRM}$	-	-	0.1	mA
Current – Conducting State						
Peak On-state Voltage	$V_{TM}$	$T_a = 25^\circ\text{C}$ , $I_{TM} = 4$ A Peak	-	-	1.8	Volts
DC Holding Current	$I_H$	$V_D = 12\text{V}$ , $R_{GK} = 1\text{k}\Omega$ , $T_j = 25^\circ\text{C}$	-	1.5	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	$V_{GDM}$	$V_D = 1/2V_{DRM}$ , $R_{GK} = 1\text{k}\Omega$ , $T_j = 110^\circ\text{C}$	0.2	-	-	Volts

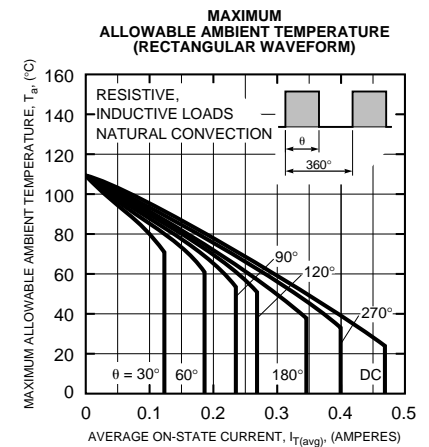
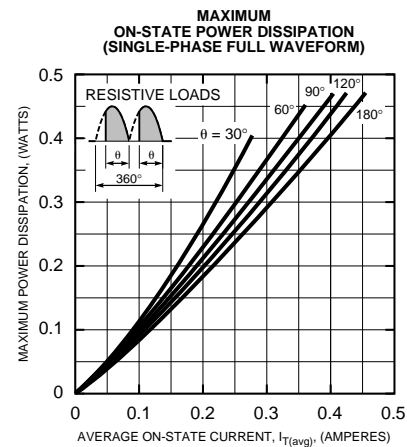
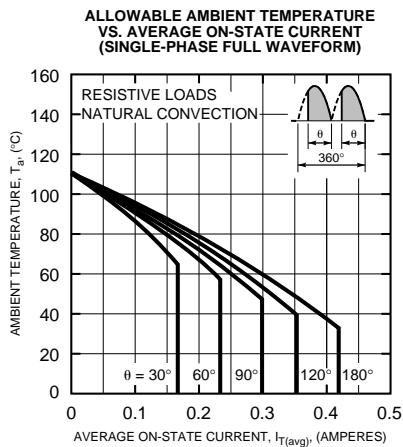
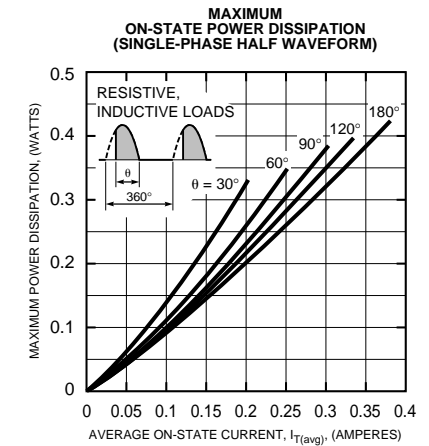
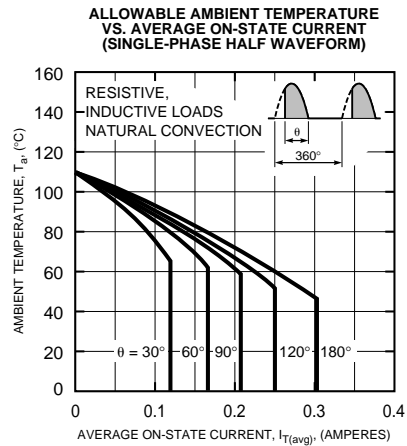
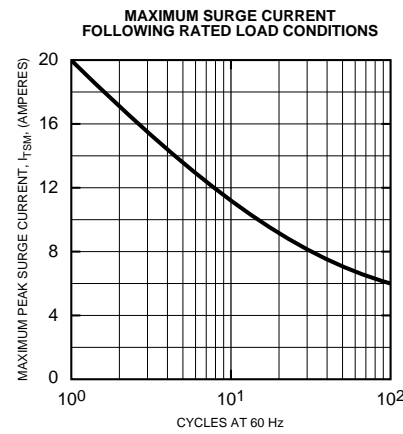
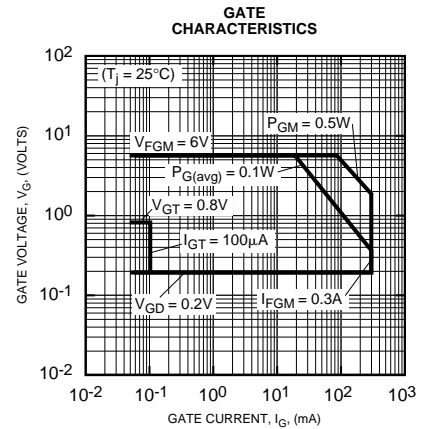
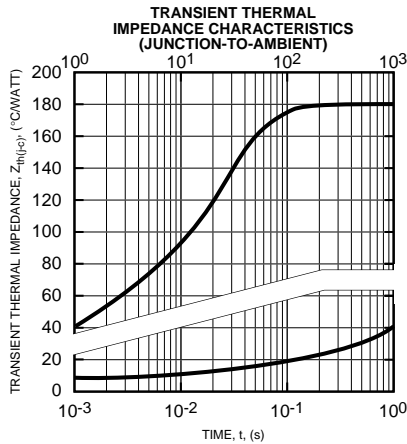
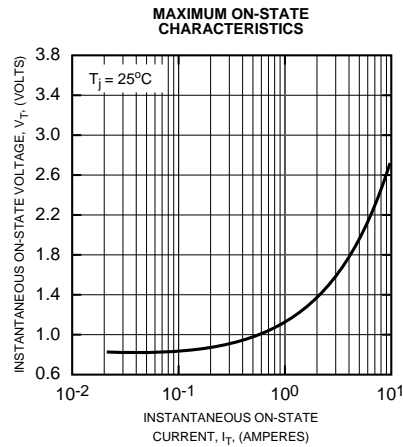
†  $I_{GT}$ ,  $V_{GT}$  Measurement Circuit



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

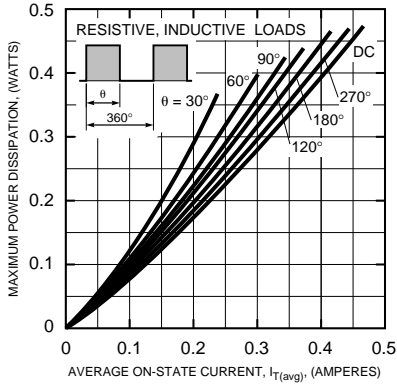
## CR03AM

Lead-Mount, Phase Control SCR  
0.3 Amperes/400-600 Volts

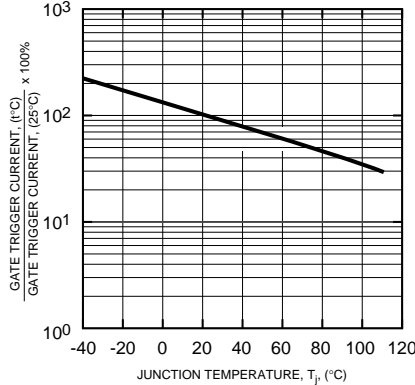


**CR03AM**  
**Lead-Mount, Phase Control SCR**  
 0.3 Amperes/400-600 Volts

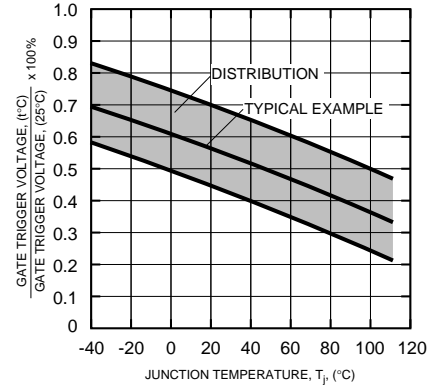
**MAXIMUM ON-STATE POWER DISSIPATION (RECTANGULAR WAVEFORM)**



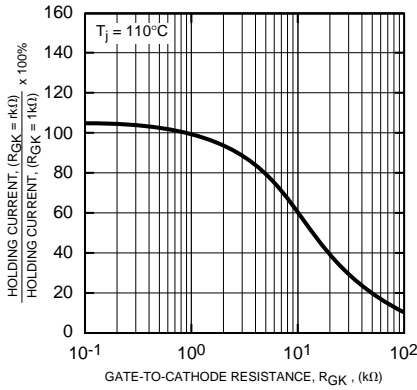
**GATE TRIGGER CURRENT VS. JUNCTION TEMPERATURE (TYPICAL)**



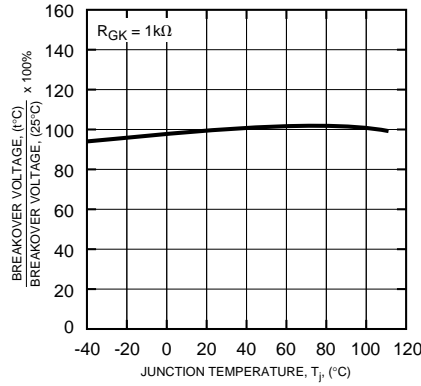
**GATE TRIGGER VOLTAGE VS. JUNCTION TEMPERATURE (TYPICAL)**



**HOLDING CURRENT VS. GATE-TO-CATHODE RESISTANCE (TYPICAL)**



**BREAKOVER VOLTAGE VS. JUNCTION TEMPERATURE (TYPICAL)**



**REPETITIVE PEAK REVERSE VOLTAGE VS. JUNCTION TEMPERATURE (TYPICAL)**

