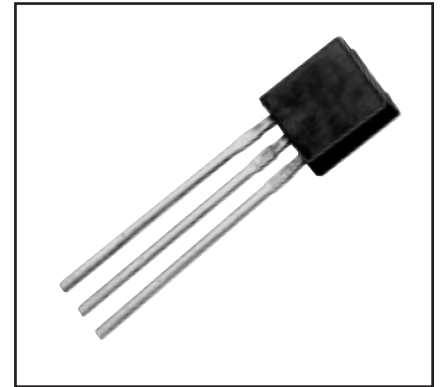
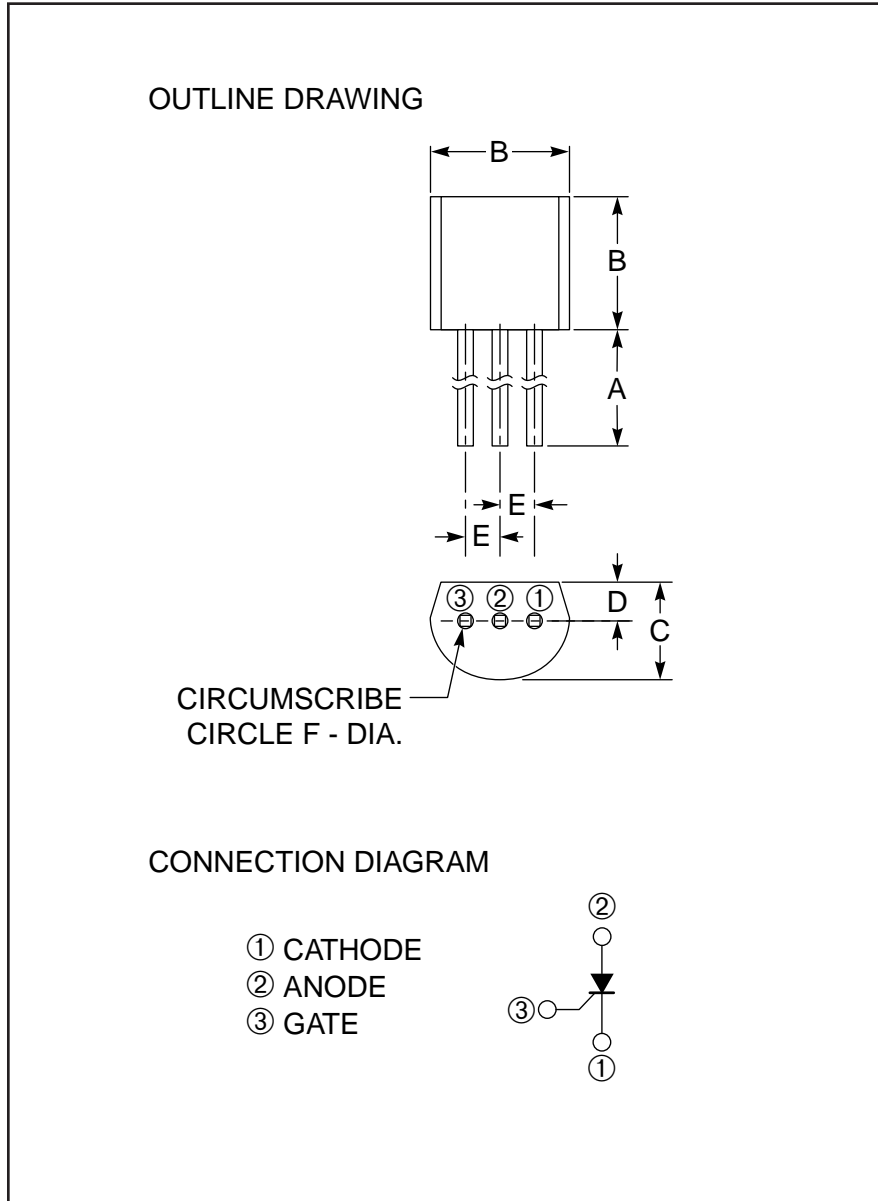


Lead-Mount, Phase Control SCR 0.3 Amperes/400-600 Volts



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.

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.

Type	V _{DRM} /V _{RPM} Volts	Code
CR03AM	400	-8
	600	-12

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

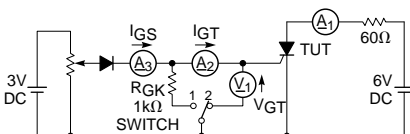
Absolute Maximum Ratings, $T_a = 25\text{ }^\circ\text{C}$ unless otherwise specified

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	A^2sec
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	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_{GDM}	$V_D = 1/2V_{DRM}$, $R_{GK} = 1\text{k}\Omega$, $T_j = 110^\circ\text{C}$	0.2	-	-	Volts

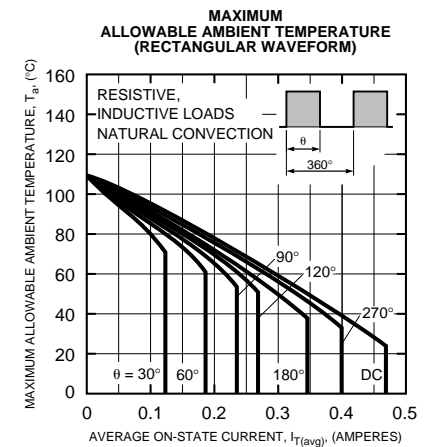
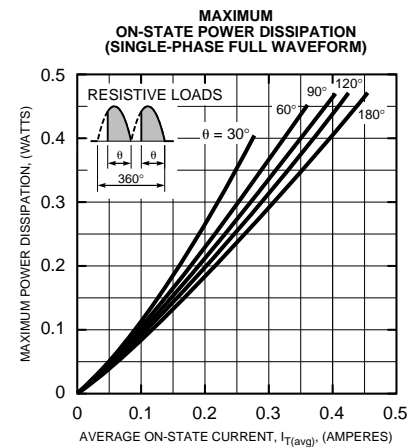
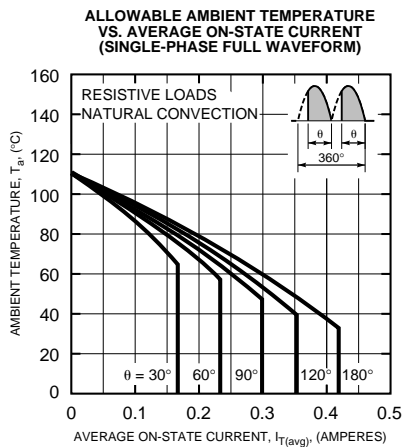
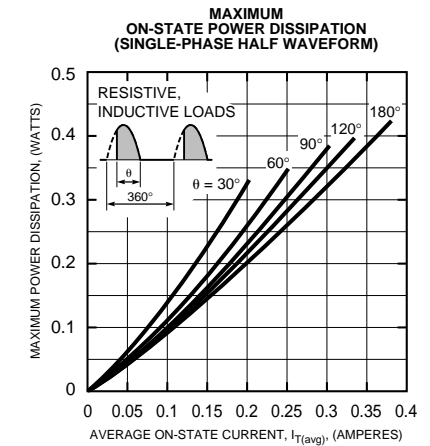
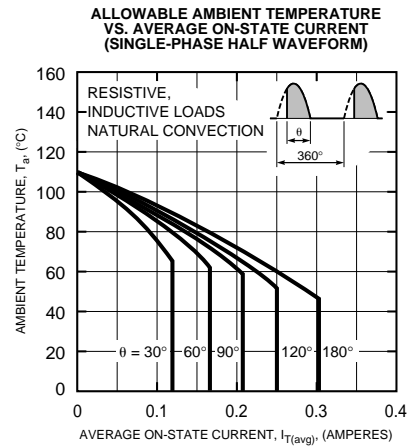
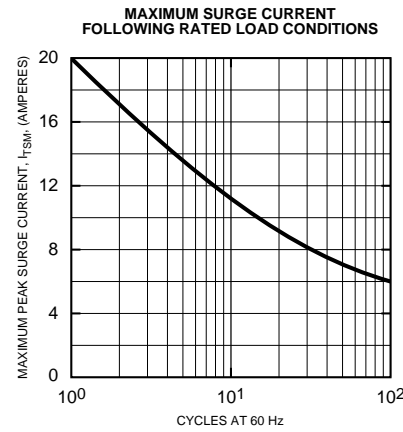
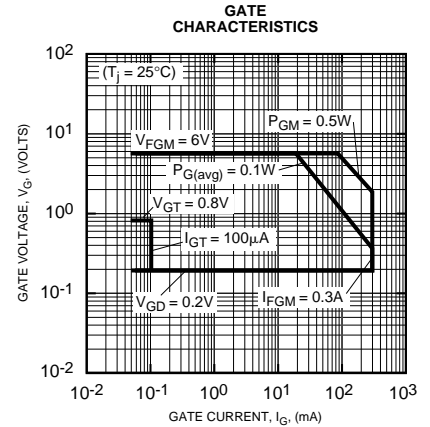
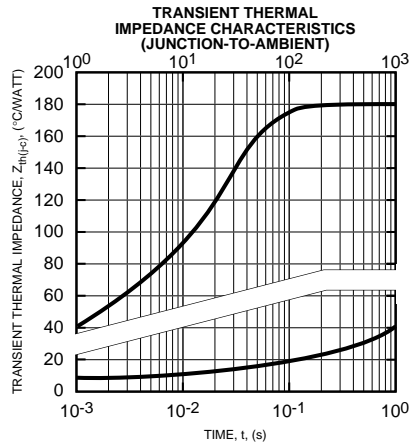
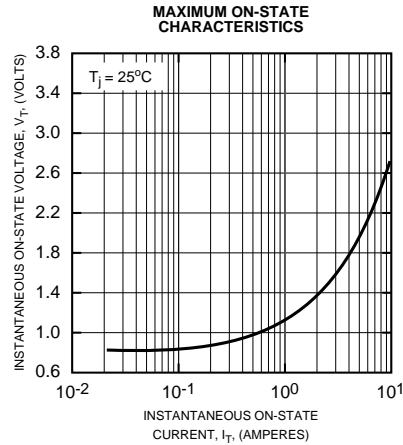
† I_{GT} , V_{GT} Measurement Circuit



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

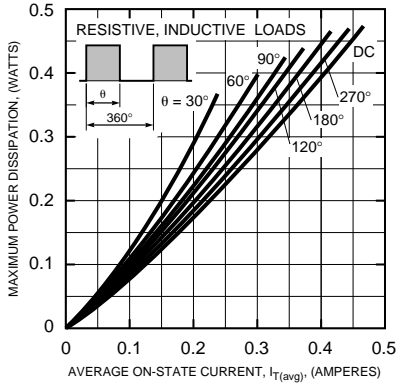
CR03AM

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

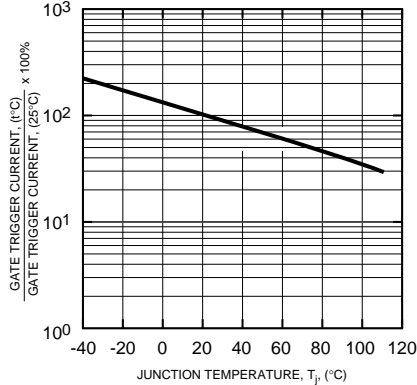


CR03AM
Lead-Mount, Phase Control SCR
 0.3 Amperes/400-600 Volts

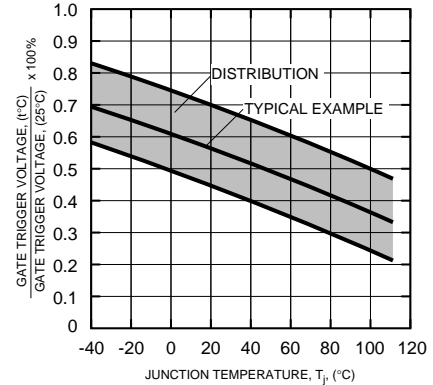
MAXIMUM ON-STATE POWER DISSIPATION (RECTANGULAR WAVEFORM)



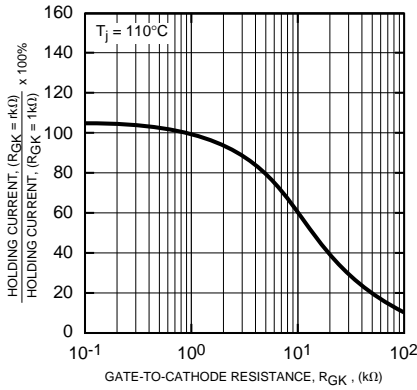
GATE TRIGGER CURRENT VS. JUNCTION TEMPERATURE (TYPICAL)



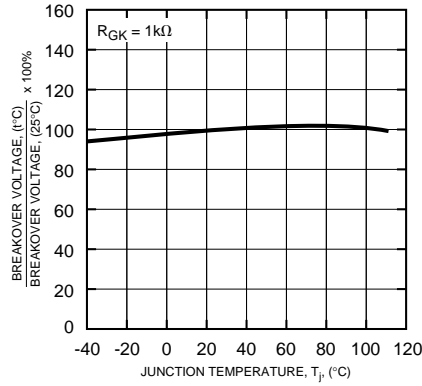
GATE TRIGGER VOLTAGE VS. JUNCTION TEMPERATURE (TYPICAL)



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



BREAKOVER VOLTAGE VS. JUNCTION TEMPERATURE (TYPICAL)



REPETITIVE PEAK REVERSE VOLTAGE VS. JUNCTION TEMPERATURE (TYPICAL)

