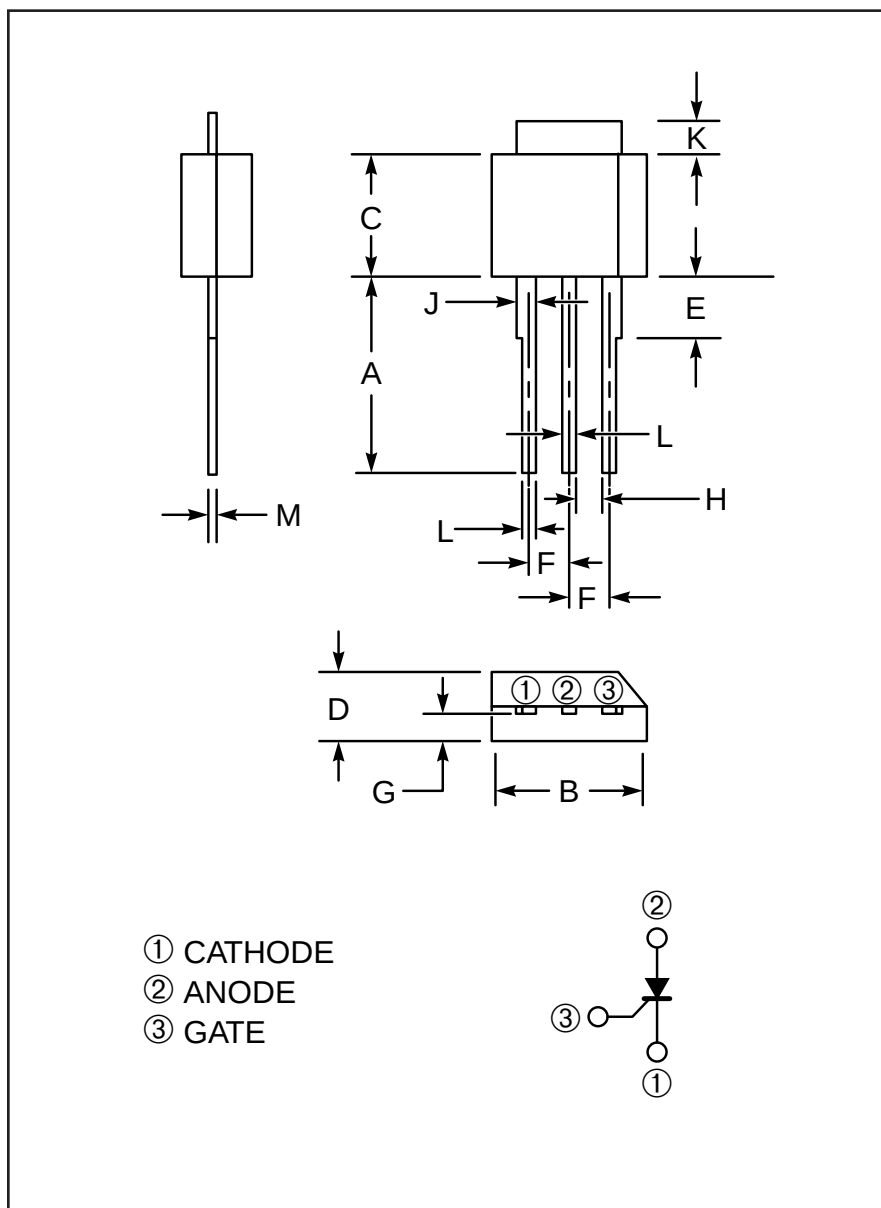


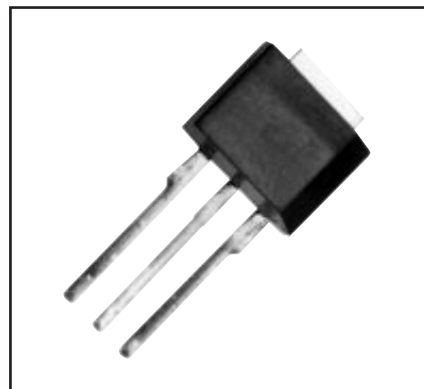
Phase Control SCR for Strobe Flasher Applications 0.6 Amperes/400 Volts



Outline Drawing

Dimensions	Inches	Millimeters
A	0.47 Min.	12 Min.
B	0.39 Max.	10 Max.
C	0.31 Max.	8 Max.
D	0.18 Max.	4.5 Max.
E	0.16 Max.	4 Max.
F	0.10	2.5

Dimensions	Inches	Millimeters
G	0.061	1.55
H	0.06 Min.	1.5 Min.
J	0.05	1.2
K	0.04 ± 0.02	1.0 ± 0.5
L	0.03	0.8
M	0.02	0.5



Description:

Powerex Silicon Controlled Rectifier CR3EM is a glass passivated thyristor for use in low power control and rectification. This is a molded silicone plastic type.

Features:

- ☐ High Off-state and Reverse Voltage
- ☐ Glass Passivated
- ☐ High Reliability
- ☐ Easy Application to Printed Circuits

Applications:

- ☐ Strobe Flasher
- ☐ TV Sets
- ☐ Ignitors
- ☐ Motor Control

Ordering Information:

Example: Select the complete six digit part number you desire from the table - i.e. CR3EM-8 is a 400 Volt, 0.6 Ampere SCR.

Type	V _{DRM} /V _{RRM} Volts	Code
CR3EM	400	-8

CR3EM
Phase Control SCR
for Strobe Flasher Applications
0.6 Amperes/400 Volts

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

Ratings	Symbol	CR3EM-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	$V_{\text{R(DC)}}$	320	Volts
DC Forward Voltage	$V_{\text{D(DC)}}$	320	Volts
RMS On-state Current	$I_{\text{T(RMS)}}$	0.94	Amperes
Average On-state Current (Nominal, See Graphs) $T_C = 65^\circ\text{C}$	$I_{\text{T(avg)}}$	0.6	Amperes
Non-repetitive Peak Surge, One Cycle On-state Current (60Hz)	I_{TSM}	70	Amperes
I^2t for Fusing, $t = 8.3$ msec	I^2t	20	A^2sec
Peak Gate Power Dissipation	P_{GM}	2	Watts
Average Gate Power Dissipation	$P_{\text{G(avg)}}$	0.2	Watts
Peak Forward Gate Voltage	V_{FGM}	6	Volts
Peak Forward Gate Current	I_{FGM}	1	Amperes
Peak Reverse Gate Voltage	V_{RGM}	6	Volts
Storage Temperature	$T_{\text{(stg)}}$	-40 to 125	$^\circ\text{C}$
Operating Temperature	T_j	-40 to 125	$^\circ\text{C}$
Weight	–	1.1	Grams

Electrical and Thermal Characteristics

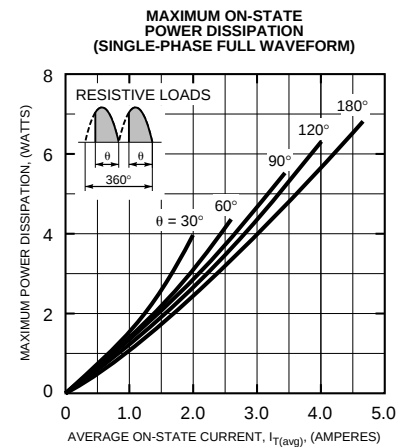
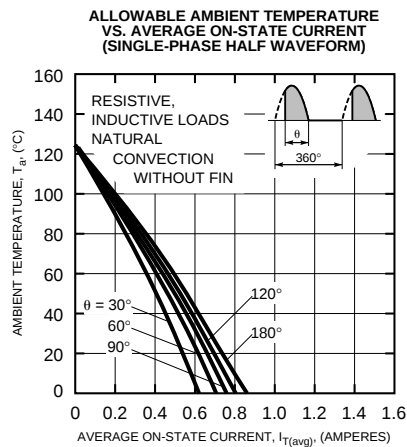
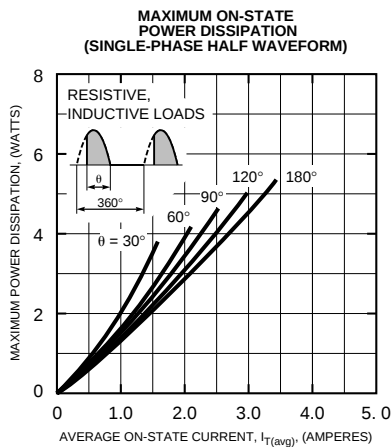
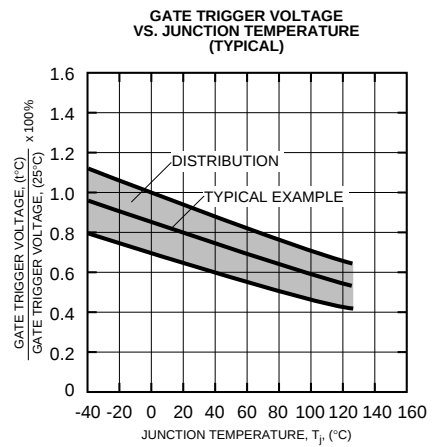
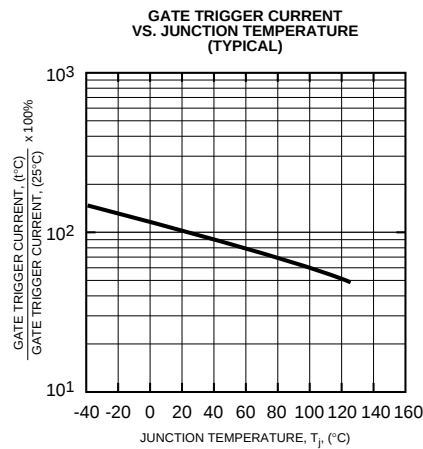
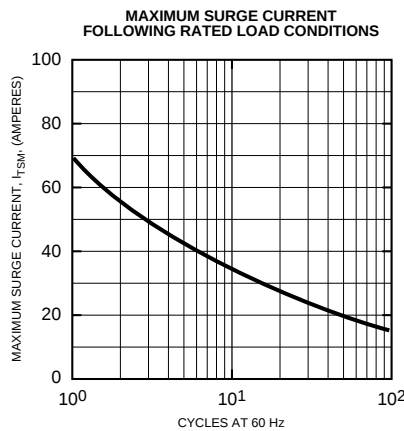
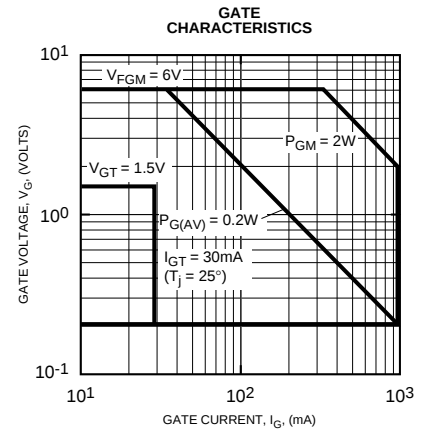
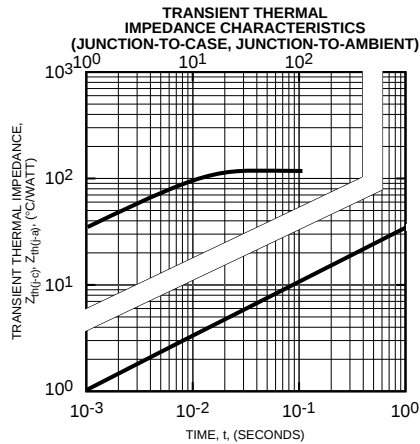
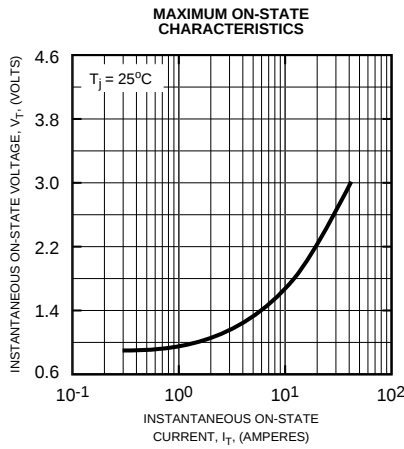
Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Voltage – Blocking State						
Forward Leakage, Peak	I_{DRM}	$T_j = 125^\circ\text{C}$, $V_D = V_{\text{DRM}}$	–	–	0.1	mA
Reverse Leakage, Peak	I_{RRM}	$T_j = 125^\circ\text{C}$, $V_R = V_{\text{RRM}}$	–	–	0.1	mA
Current – Conducting State						
Peak On-state Voltage	V_{TM}	$T_C = 25^\circ\text{C}$, $I_{\text{TM}} = 10\text{A}$	–	–	1.6	Volts
Holding Current	I_{H}	$V_D = 12\text{V}$, $T_j = 25^\circ\text{C}$	25	45	–	mA
Thermal Resistance Junction-to-ambient	$R_{\text{th(j-a)}}$	–	–	–	120	$^\circ\text{C/Watt}$
Gate – Parameters						
Gate Current to Trigger	I_{GT}	$V_D = 6\text{V}$, $R_L = 6\Omega$, $T_j = 25^\circ\text{C}$	–	–	30	mA
Gate Voltage to Trigger	V_{GT}	$V_D = 6\text{V}$, $R_L = 12\Omega$, $T_j = 25^\circ\text{C}$	–	–	1.5	Volts
Non-triggering Gate Voltage	V_{GD}	$V_D = 1/2V_{\text{DRM}}$, $T_j = 125^\circ\text{C}$	0.2	–	–	Volts

CR3EM

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