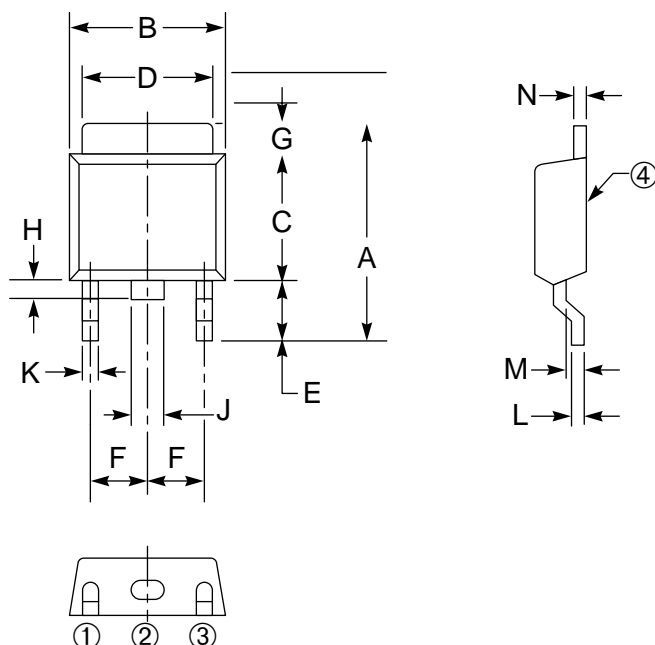


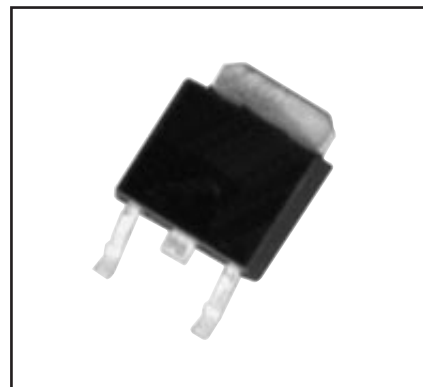
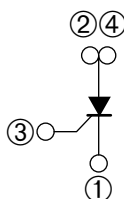
### Surface Mount, Phase Control SCR 5 Amperes/400-600 Volts

#### OUTLINE DRAWING



#### CONNECTION DIAGRAM

- ① CATHODE
- ② ANODE
- ③ GATE
- ④ ANODE



#### Description:

The Powerex CR5AS SCRs are surface mounted for use in medium power control and rectification. These devices are molded silicone plastic types.

#### Features:

- ☐ Surface Mount Type
- ☐ Glass Passivated
- ☐ Easy Application to Printed Circuits
- ☐ High Surge On-state Current

#### Applications:

- ☐ Static Switches
- ☐ Motor Control
- ☐ Strobe Flasher

#### Ordering Information:

Example: Select the complete six or seven digit part number you desire from the table - i.e. CR5AS-12 is a 600 Volt, 5 Ampere Phase Control SCR.

Outline Drawing (Conforms to MP-3)

Dimensions	Inches	Millimeters
A	0.39 Max.	10 Max.
B	0.26	6.5
C	0.22 ± 0.008	5.5 ± 0.2
D	0.20 ± 0.008	5.0 ± 0.2
E	0.18	4.6
F	0.09 Min.	2.3 Min.
G	0.09	2.3

Dimensions	Inches	Millimeters
H	0.06 ± 0.008	1.5 ± 0.2
J	0.040	1.01
K	0.035 Max.	0.9 Max.
L	0.035 Max.	0.9 Max.
M	0.31	0.8
N	0.020 ± 0.004	0.5 ± 0.1

Type	V <sub>DRM</sub> /V <sub>RRM</sub> Volts	Code
CR5AS	400	-8
	600	-12



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

**CR5AS**

**Surface Mount, Phase Control SCR**

5 Amperes/400-600 Volts

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

Ratings	Symbol	CR5AS-8	CR5AS-12	Units
Repetitive Peak Off-state Voltage	$V_{\text{DRM}}$	400	600	Volts
Repetitive Peak Reverse Voltage	$V_{\text{RRM}}$	400	600	Volts
Non-repetitive Peak Reverse Voltage	$V_{\text{RSM}}$	500	720	Volts
DC Reverse Voltage	$V_{\text{R(DC)}}$	320	480	Volts
DC Forward Voltage	$V_{\text{D(DC)}}$	320	480	Volts
RMS On-state Current	$I_{\text{T(RMS)}}$	7.8	7.8	Amperes
Average On-state Current (Nominal, See Graphs) $T_a = 88^\circ\text{C}$	$I_{\text{T(avg)}}$	5	5	Amperes
Non-repetitive Peak Surge, On-state Current One Cycle (60 Hz)	$I_{\text{TSM}}$	90	90	Amperes
$I^2t$ for Fusing, $t = 8.3$ msec	$I^2t$	33	33	$\text{A}^2\text{sec}$
Peak Gate Power Dissipation	$P_{\text{GM}}$	0.5	0.5	Watts
Average Gate Power Dissipation	$P_{\text{G(avg)}}$	0.1	0.1	Watts
Peak Forward Gate Current	$I_{\text{FGM}}$	0.3	0.3	Amperes
Peak Forward Gate Voltage	$V_{\text{FGM}}$	6	6	Volts
Peak Reverse Gate Voltage	$V_{\text{RGM}}$	6	6	Volts
Storage Temperature	$T_{\text{stg}}$	-40 to 125	-40 to 125	$^\circ\text{C}$
Operating Junction Temperature	$T_{\text{j}}$	-40 to 125	-40 to 125	$^\circ\text{C}$
Weight	—	0.26	0.26	Grams



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**CR5AS**

**Surface Mount, Phase Control SCR**

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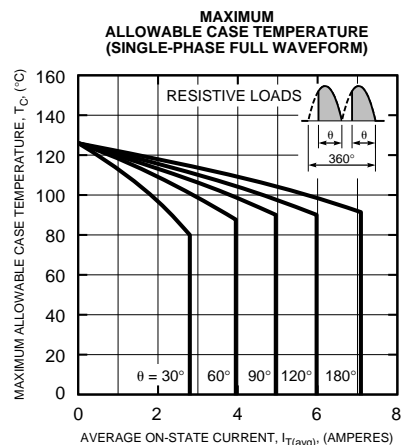
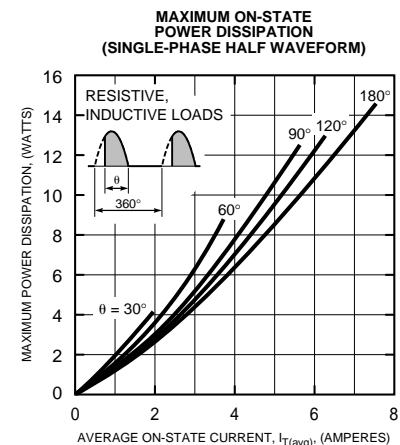
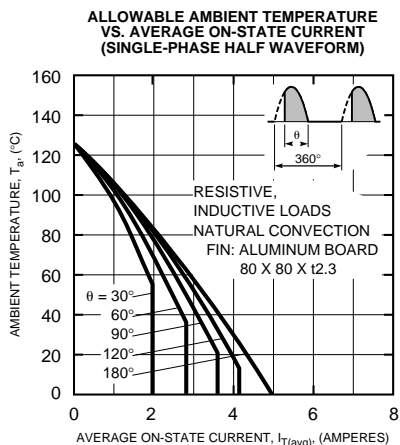
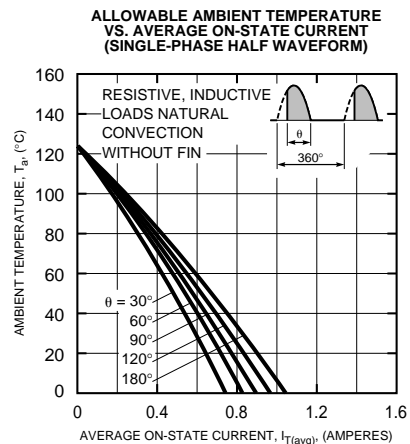
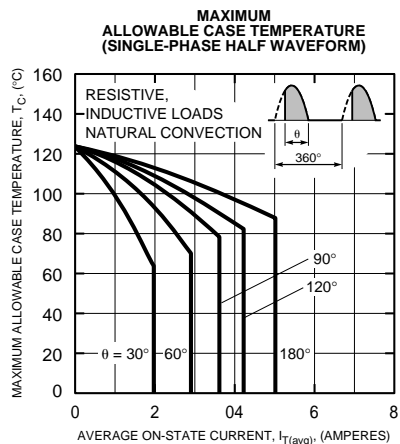
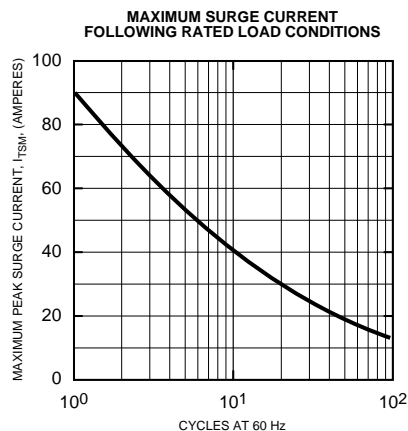
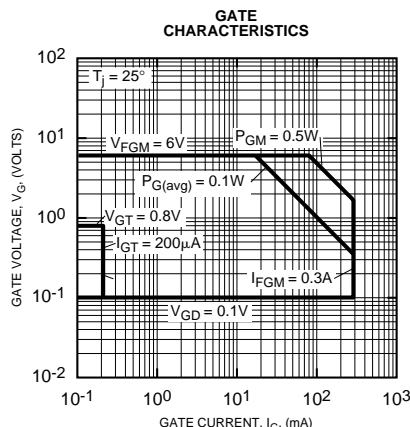
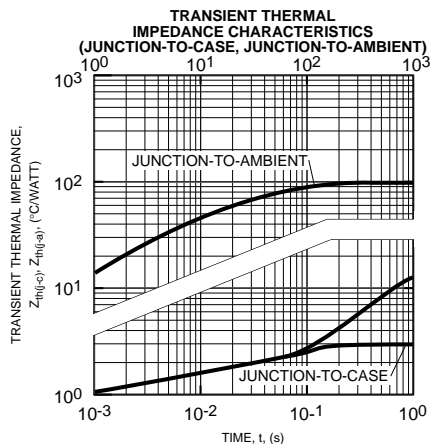
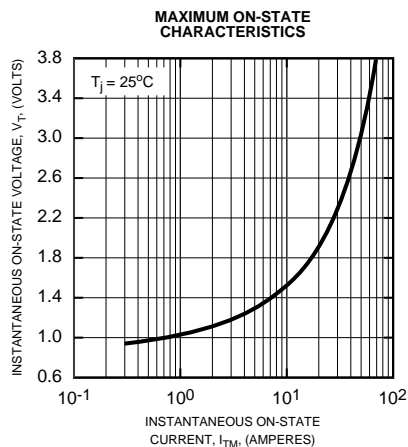
**Electrical and Thermal Characteristics,  $T_j = 25^\circ\text{C}$  unless otherwise specified**

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Voltage – Blocking State						
Peak Forward Leakage	$I_{\text{DRM}}$	$T_j = 125^\circ\text{C}$ , $V_D = V_{\text{DRM}}$	–	–	2.0	mA
Peak Reverse Leakage	$I_{\text{RRM}}$	$T_j = 125^\circ\text{C}$ , $V_R = V_{\text{RRM}}$	–	–	2.0	mA
Current – Conducting State						
Peak On-state Voltage	$V_{\text{TM}}$	$T_c = 25^\circ\text{C}$ , $I_{\text{TM}} = 2.5\text{A}$	–	–	1.8	Volts
DC Holding Current	$I_{\text{H}}$	$V_D = 12\text{V}$ , $R_{\text{GK}} = 1\text{k}\Omega$ , $T_j = 25^\circ\text{C}$	–	3.5	–	mA
Maximum Thermal Resistance						
Junction-to-case	$R_{\text{th(j-c)}}$	–	–	–	3.0	$^\circ\text{C/W}$
Gate – Parameters						
Gate Current to Trigger	$I_{\text{GT}}$	$V_D = 6\text{V}$ , $R_L = 60\Omega$ , $T_j = 25^\circ\text{C}$	1	–	200	$\mu\text{A}$
Gate Voltage to Trigger	$V_{\text{GT}}$	$V_D = 6\text{V}$ , $R_L = 60\Omega$ , $T_j = 25^\circ\text{C}$	–	–	0.8	Volts
Non-triggering Gate Voltage	$V_{\text{GD}}$	$V_D = 1/2V_{\text{DRM}}$ , $R_{\text{GK}} = 1\text{k}\Omega$ , $T_j = 125^\circ\text{C}$	0.1	–	–	Volts

## CR5AS

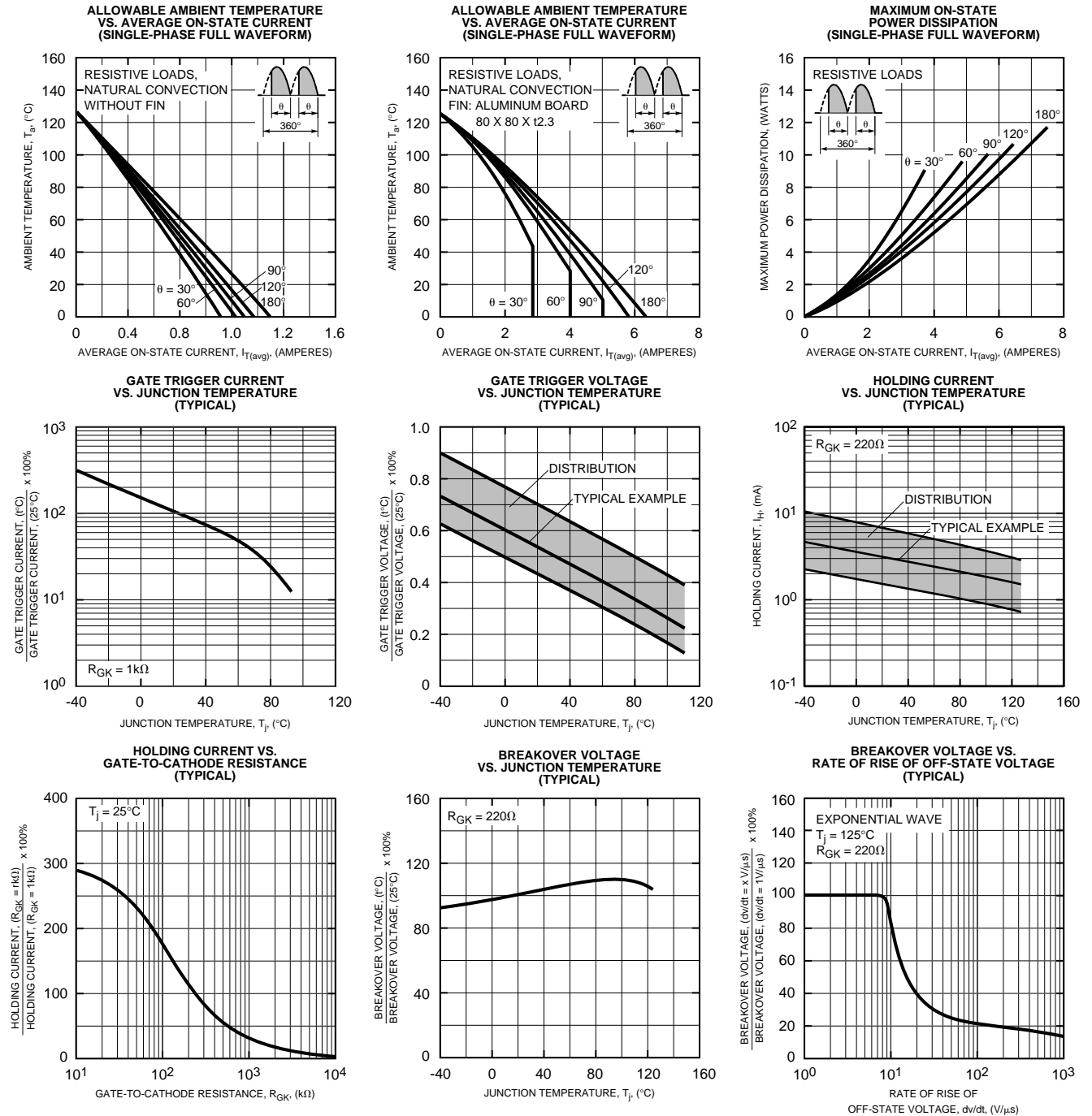
### Surface Mount, Phase Control SCR

5 Amperes/400-600 Volts



## CR5AS

Surface Mount, Phase Control SCR  
5 Amperes/400-600 Volts



## CR5AS

### Surface Mount, Phase Control SCR

5 Amperes/400-600 Volts

