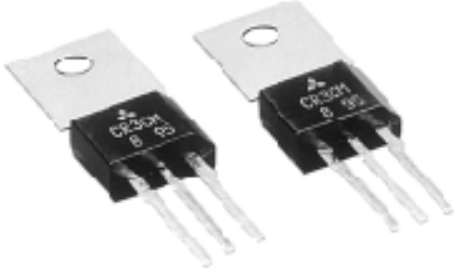


# CR3CM

LOW POWER USE  
NON-INSULATED TYPE, GLASS PASSIVATION TYPE

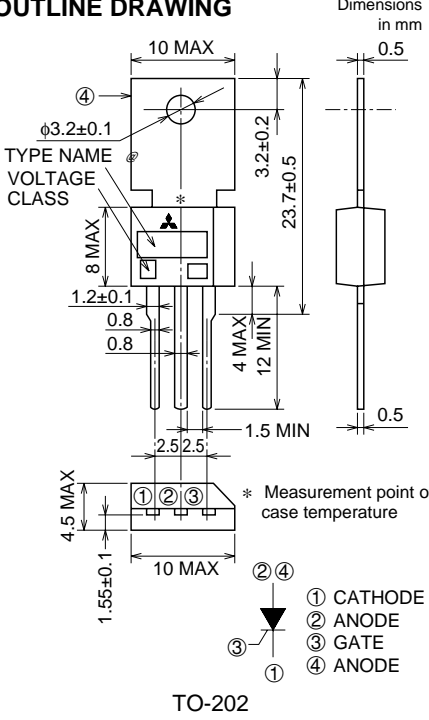
**CR3CM**



- $I_T$  (AV) ..... **3A**
- $V_{DRM}$  ..... **400V/600V**
- $I_{GT}$  ..... **200 $\mu$ A**

**OUTLINE DRAWING**

Dimensions in mm



\* Measurement point of case temperature

① CATHODE  
② ANODE  
③ GATE  
④ ANODE

TO-202

## APPLICATION

TV sets, strobe flasher, ignitors, gas ignitor, static switch, other general purpose control applications

## MAXIMUM RATINGS

Symbol	Parameter	Voltage class *1		Unit
		8	12	
VRRM	Repetitive peak reverse voltage	400	600	V
VRSM	Non-repetitive peak reverse voltage	500	720	V
VR (DC)	DC reverse voltage	320	480	V
VDRM	Repetitive peak off-state voltage	400	600	V
VD (DC)	DC off-state voltage	320	480	V

Symbol	Parameter	Conditions	Ratings	Unit
$I_T$ (RMS)	RMS on-state current		4.7	A
$I_T$ (AV)	Average on-state current	Commercial frequency, sine half wave, 180° conduction, $T_c=50^\circ\text{C}$	3.0	A
$I_{TSM}$	Surge on-state current	60Hz sine half wave 1 full cycle, peak value, non-repetitive	90	A
$I^2t$	$I^2t$ for fusing	Value corresponding to 1 cycle of half wave 60Hz, surge on-state current	33	A <sup>2</sup> s
PGM	Peak gate power dissipation		0.5	W
PG (AV)	Average gate power dissipation		0.1	W
VFGM	Peak gate forward voltage		6	V
VRGM	Peak gate reverse voltage		6	V
IFGM	Peak gate forward current		0.3	A
$T_j$	Junction temperature		-40 ~ +110	°C
$T_{stg}$	Storage temperature		-40 ~ +125	°C
—	Weight	Typical value	1.6	g

\*1. With Gate-to-cathode resistance  $R_{GK}=1\text{k}\Omega$ .

**ELECTRICAL CHARACTERISTICS**

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
IRRM	Repetitive peak reverse current	$T_j=110^{\circ}\text{C}$ , $V_{RRM}$ applied	—	—	1.0	mA
IDRM	Repetitive peak off-state current	$T_j=110^{\circ}\text{C}$ , $V_{DRM}$ applied, $R_{GK}=1\text{k}\Omega$	—	—	1.0	mA
V <sub>TM</sub>	On-state voltage	$T_c=25^{\circ}\text{C}$ , $I_{TM}=10\text{A}$ , Instantaneous value	—	—	1.6	V
V <sub>GT</sub>	Gate trigger voltage	$T_j=25^{\circ}\text{C}$ , $V_D=6\text{V}$ , $I_T=0.1\text{A}$	—	—	0.8	V
V <sub>GD</sub>	Gate non-trigger voltage	$T_j=110^{\circ}\text{C}$ , $V_D=1/2V_{DRM}$ , $R_{GK}=1\text{k}\Omega$	0.1	—	—	V
I <sub>GT</sub>	Gate trigger current	$T_j=25^{\circ}\text{C}$ , $V_D=6\text{V}$ , $I_T=0.1\text{A}$	1	—	200* <sup>3</sup>	μA
R <sub>th(j-c)</sub>	Thermal resistance	Junction to case * <sup>2</sup>	—	—	10	°C/W

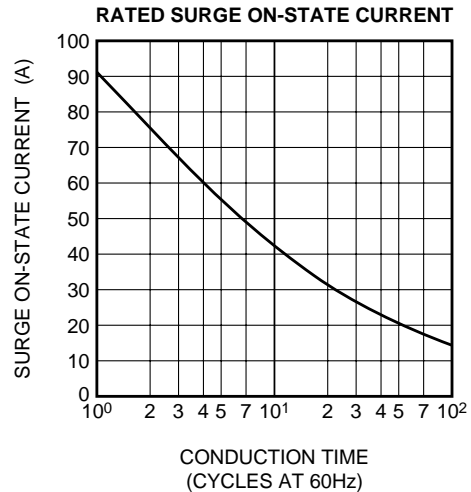
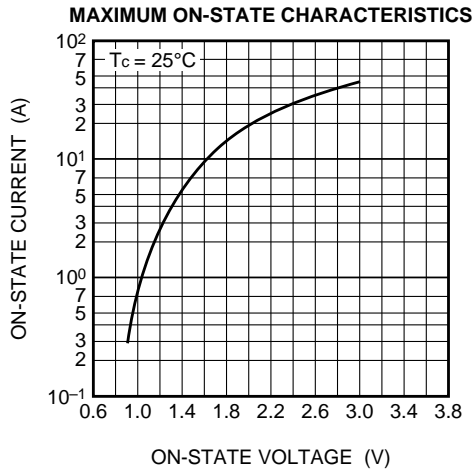
\*<sup>2</sup>. The method point for case temperature is at anode tab 1.5mm away from the molded case.

\*<sup>3</sup>. If special values of I<sub>GT</sub> are required, choose at least two items from those listed in the table below. (Example: AB, B~D)

Item	A	B	C	D
I <sub>GT</sub> (μA)	1 ~ 30	20 ~ 50	40 ~ 100	80 ~ 200

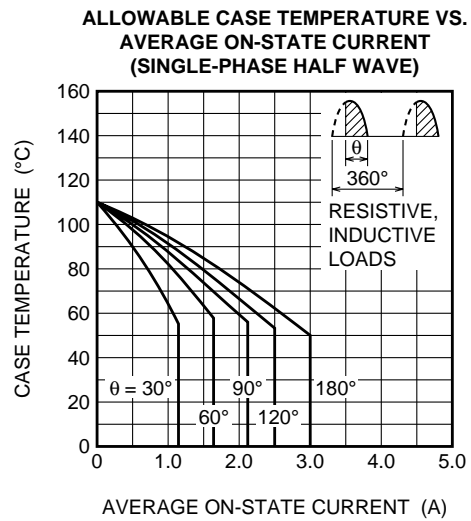
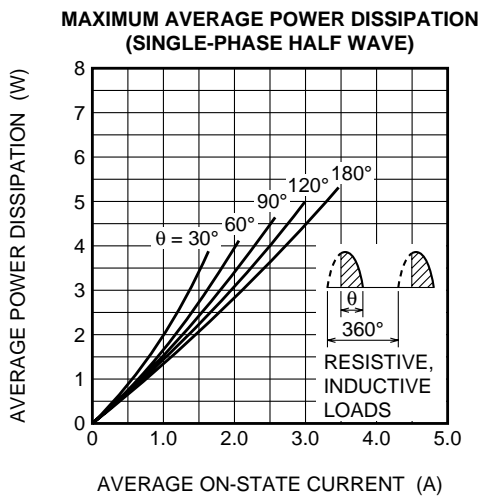
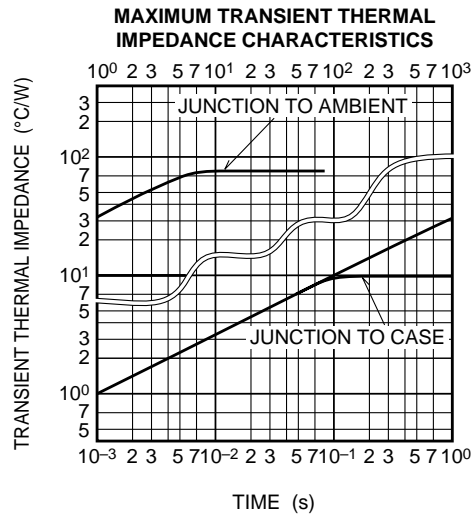
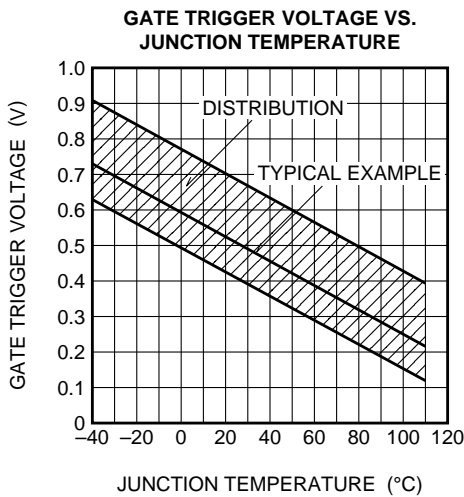
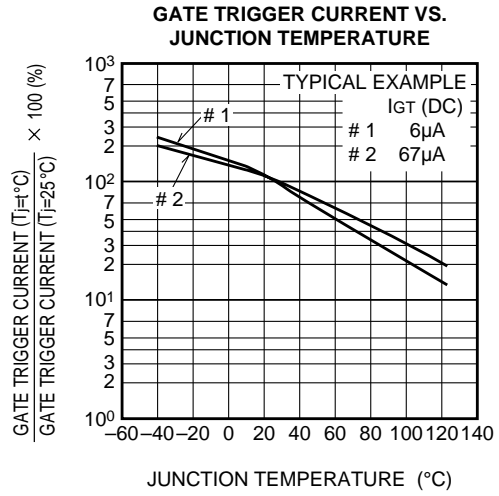
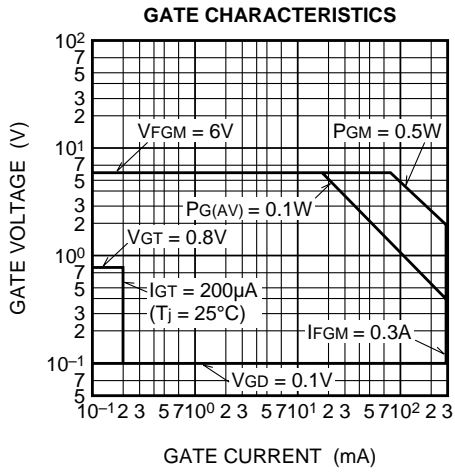
The above values do not include the current flowing through the 1kΩ resistance between the gate and cathode.

**PERFORMANCE CURVES**



# CR3CM

LOW POWER USE  
NON-INSULATED TYPE, GLASS PASSIVATION TYPE

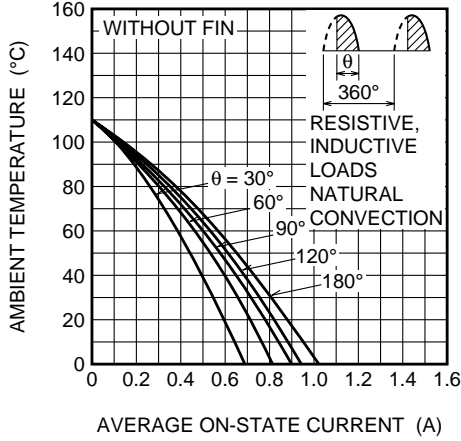


**CR3CM**

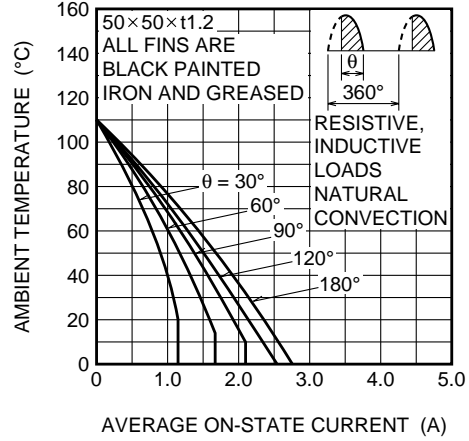
LOW POWER USE

NON-INSULATED TYPE, GLASS PASSIVATION TYPE

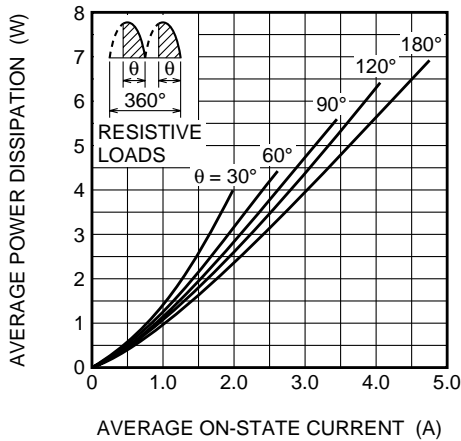
**ALLOWABLE AMBIENT TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE HALF WAVE)**



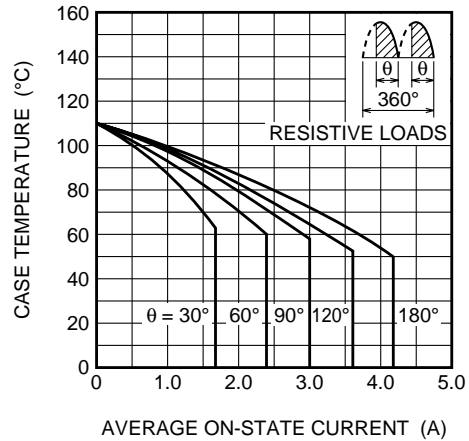
**ALLOWABLE AMBIENT TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE HALF WAVE)**



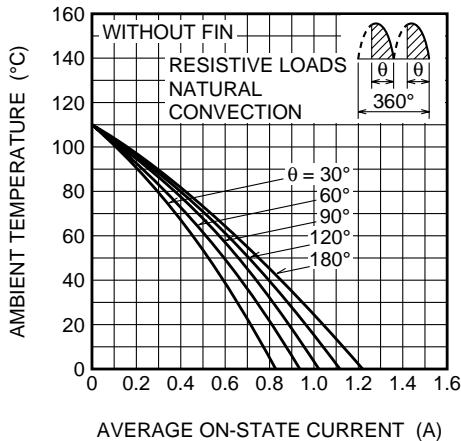
**MAXIMUM AVERAGE POWER DISSIPATION (SINGLE-PHASE FULL WAVE)**



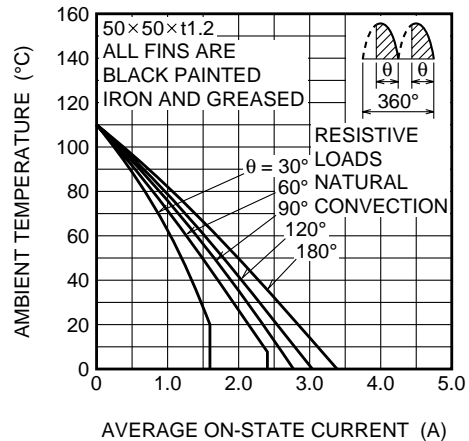
**ALLOWABLE CASE TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE FULL WAVE)**



**ALLOWABLE AMBIENT TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE FULL WAVE)**



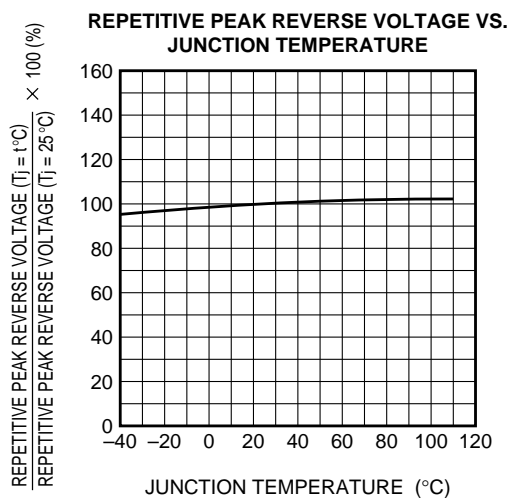
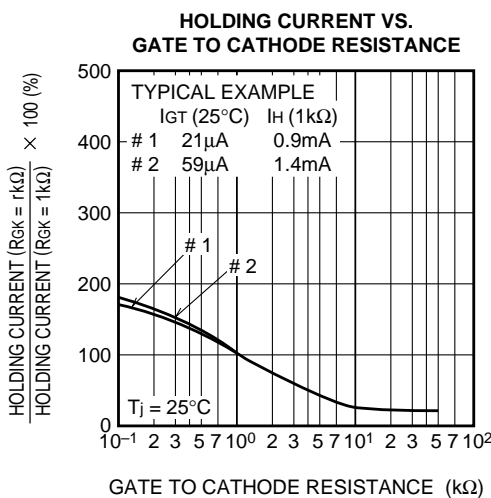
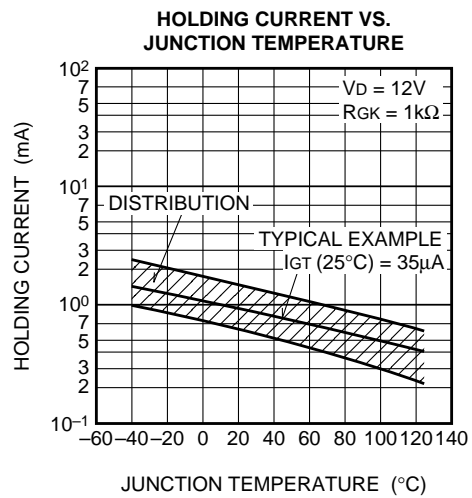
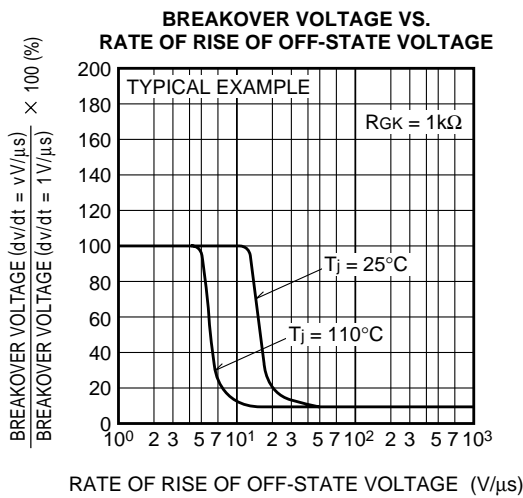
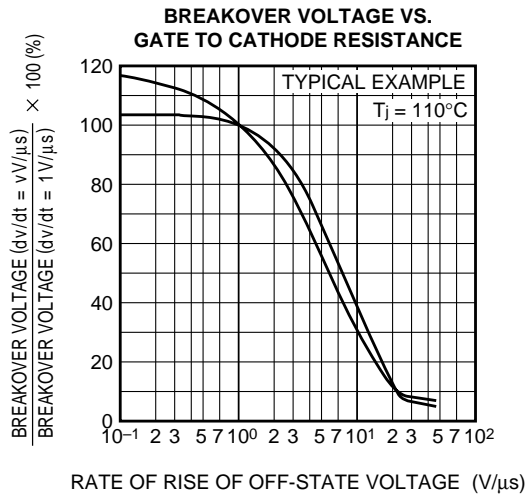
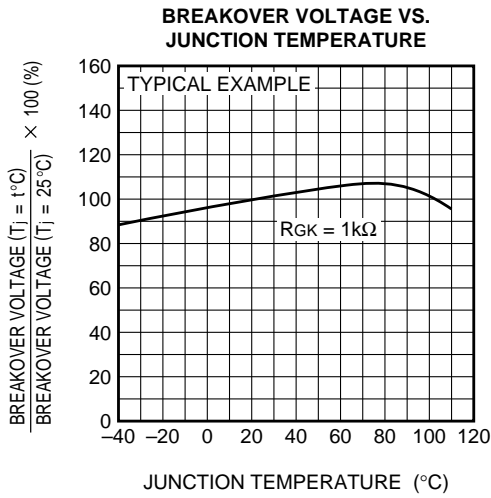
**ALLOWABLE AMBIENT TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE FULL WAVE)**



# CR3CM

LOW POWER USE

NON-INSULATED TYPE, GLASS PASSIVATION TYPE



# CR3CM

LOW POWER USE

NON-INSULATED TYPE, GLASS PASSIVATION TYPE

