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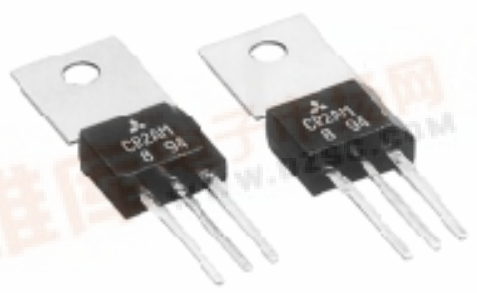
[捷多邦, 专业PCB打样工厂, 24小时加急出货](#)

MITSUBISHI SEMICONDUCTOR (THYRISTOR)

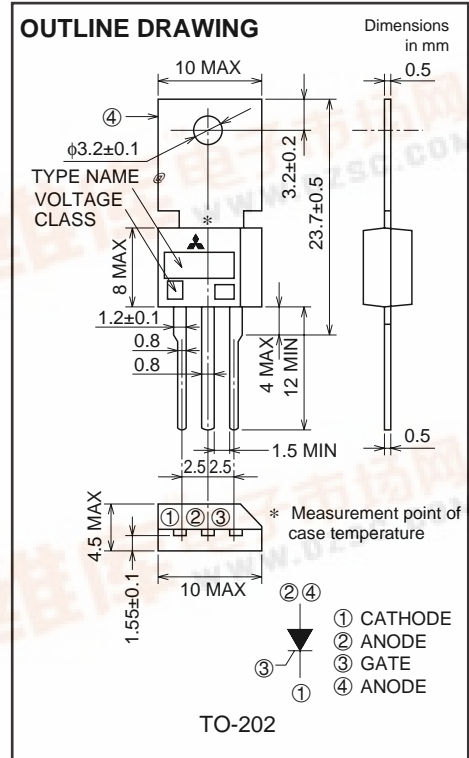
# CR2AM

LOW POWER USE  
NON-INSULATED TYPE, GLASS PASSIVATION TYPE

**CR2AM**



- $I_T$  (AV) ..... 2A
- $V_{DRM}$  ..... 400V/600V
- $I_{GT}$  ..... 100 $\mu$ A



## APPLICATION

Control of household equipment such as electric blankets, leakage protector, static switch, other general purpose control applications, ignitors

## MAXIMUM RATINGS

Symbol	Parameter	Voltage class		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 *1	400	600	V
VD (DC)	DC off-state voltage *1	320	480	V

Symbol	Parameter	Conditions	Ratings	Unit
$I_T$ (RMS)	RMS on-state current		3.15	A
$I_T$ (AV)	Average on-state current	Commercial frequency, sine half wave, 180° conduction, $T_c=75^\circ\text{C}$	2.0	A
$I_{TSM}$	Surge on-state current	60Hz sine half wave 1 full cycle, peak value, non-repetitive	20	A
$I^2_t$	$I^2_t$ for fusing	Value corresponding to 1 cycle of half wave 60Hz, Surge on-state current	1.6	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 ~ +125	°C
$T_{stg}$	Storage temperature		-40 ~ +125	°C
—	Weight	Typical value	1.6	g

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

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## ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
I <sub>RRM</sub>	Repetitive peak reverse current	T <sub>j</sub> =125°C, V <sub>RRM</sub> applied	—	—	0.1	mA
I <sub>DRM</sub>	Repetitive peak off-state current	T <sub>j</sub> =125°C, V <sub>DRM</sub> applied, R <sub>GK</sub> =1kΩ	—	—	0.1	mA
V <sub>TM</sub>	On-state voltage	T <sub>c</sub> =25°C, I <sub>TM</sub> =4A, Instantaneous value	—	—	1.8	V
V <sub>GT</sub>	Gate trigger voltage	T <sub>j</sub> =25°C, V <sub>D</sub> =6V, I <sub>T</sub> =0.1A	—	—	0.8	V
V <sub>GD</sub>	Gate non-trigger voltage	T <sub>j</sub> =125°C, V <sub>D</sub> =1/2V <sub>DRM</sub> , R <sub>GK</sub> =1kΩ	0.2	—	—	V
I <sub>GT</sub>	Gate trigger current	T <sub>j</sub> =25°C, V <sub>D</sub> =6V, I <sub>T</sub> =0.1A	1	—	100* <sup>3</sup>	μA
R <sub>th(j-c)</sub>	Thermal resistance	Junction to case * <sup>2</sup>	—	—	10	°C/W

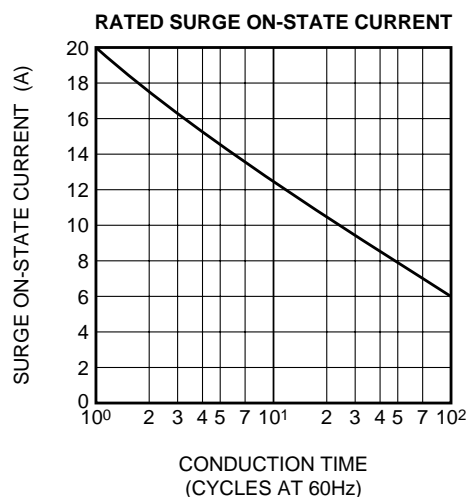
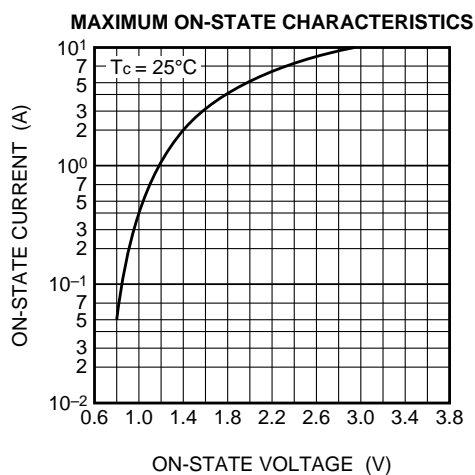
\*<sup>2</sup>. The method point for case temperature is at the anode tab 1.5mm away from the molded case.

\*<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, BC)

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

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

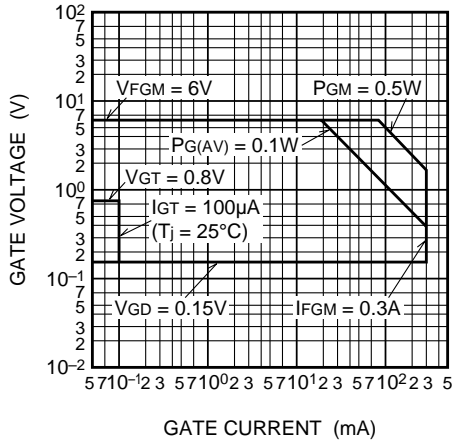
## PERFORMANCE CURVES



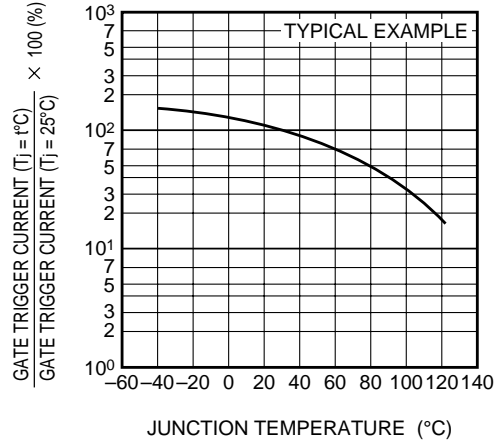
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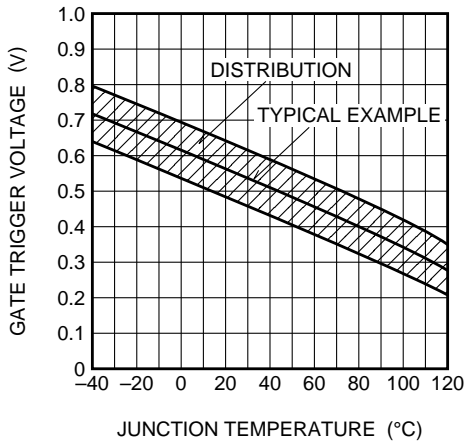
**GATE CHARACTERISTICS**



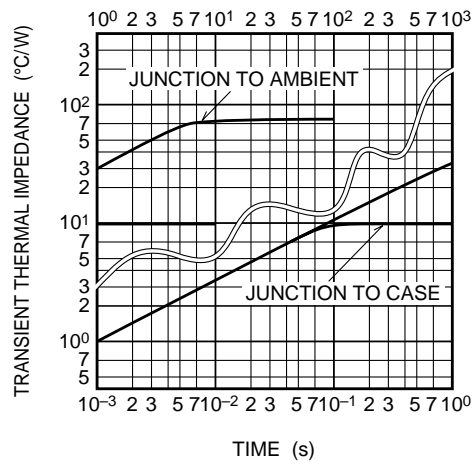
**GATE TRIGGER CURRENT VS. JUNCTION TEMPERATURE**



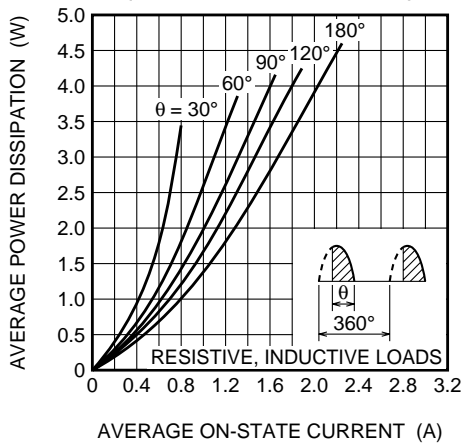
**GATE TRIGGER VOLTAGE VS. JUNCTION TEMPERATURE**



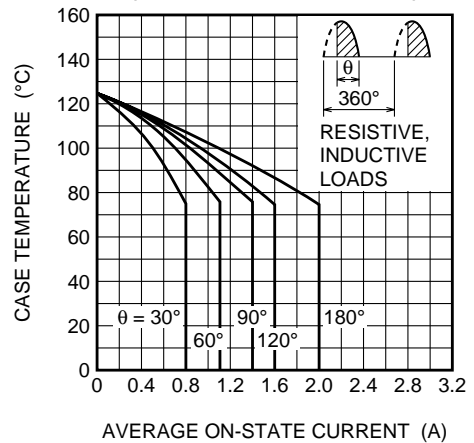
**MAXIMUM TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS**



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



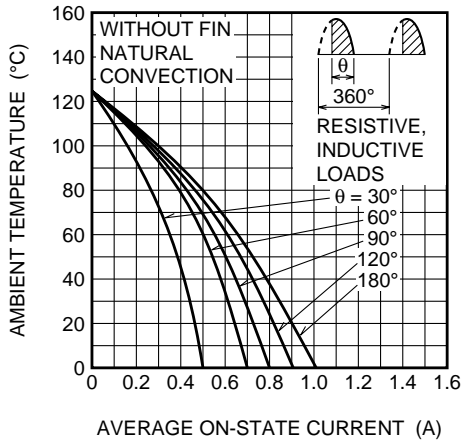
**ALLOWABLE CASE TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE HALF WAVE)**



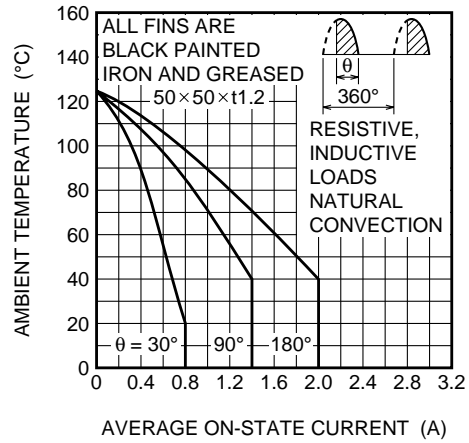
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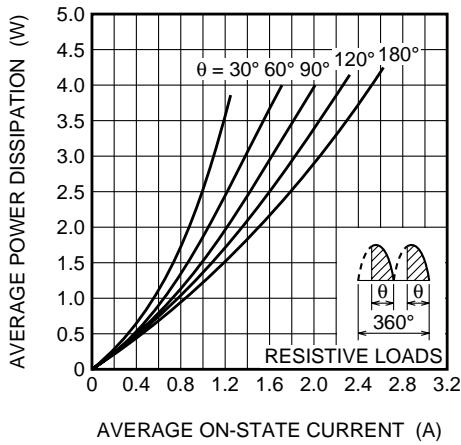
**ALLOWABLE AMBIENT TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE HALF WAVE)**



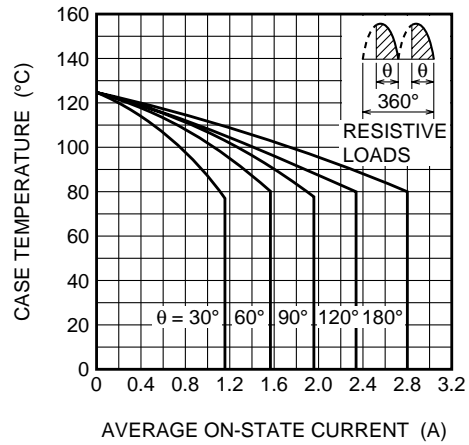
**ALLOWABLE AMBIENT TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE HALF WAVE)**



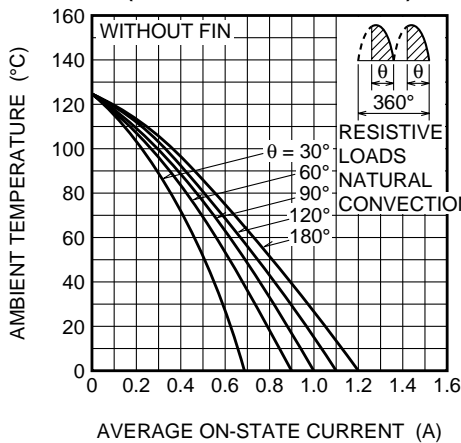
**MAXIMUM AVERAGE POWER DISSIPATION (SINGLE-PHASE FULL WAVE)**



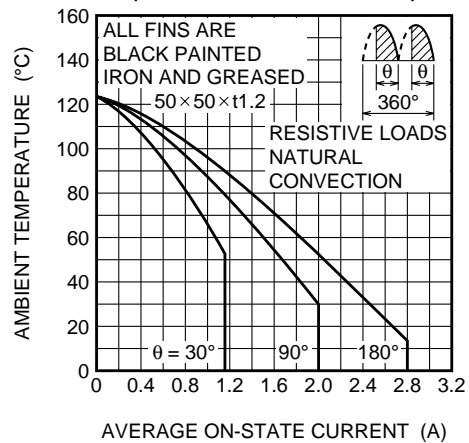
**ALLOWABLE CASE TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE FULL WAVE)**



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



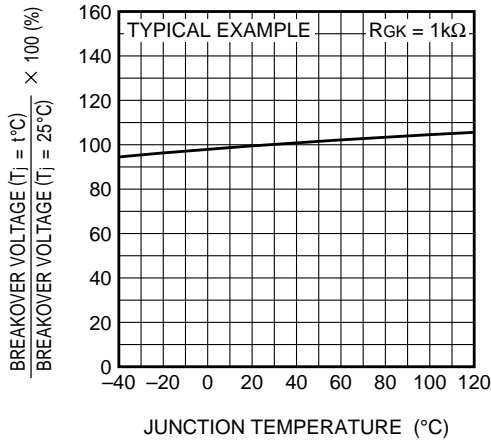
**ALLOWABLE AMBIENT TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE FULL WAVE)**



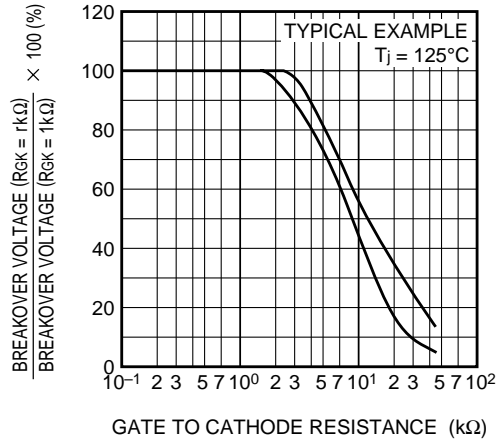
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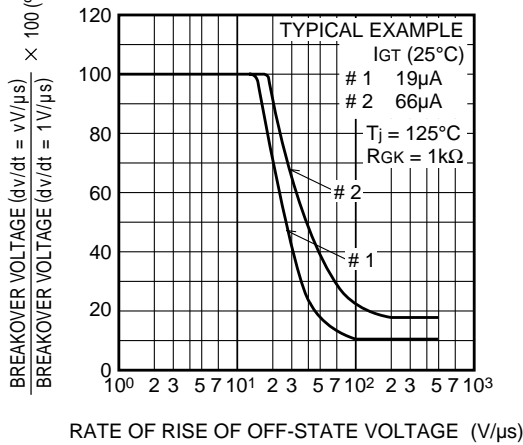
**BREAKOVER VOLTAGE VS. JUNCTION TEMPERATURE**



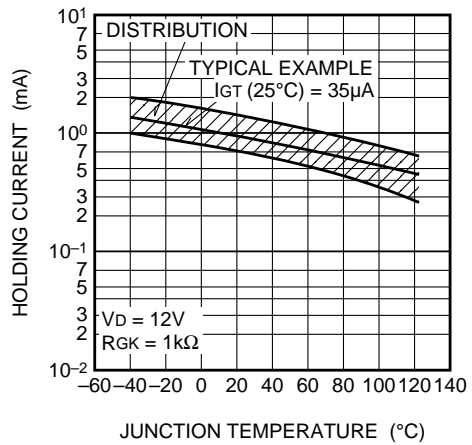
**BREAKOVER VOLTAGE VS. GATE TO CATHODE RESISTANCE**



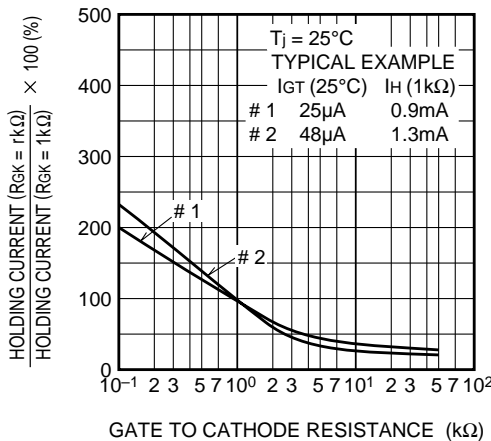
**BREAKOVER VOLTAGE VS. RATE OF RISE OF OFF-STATE VOLTAGE**



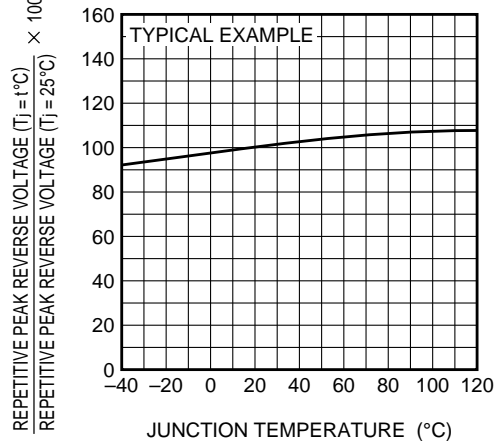
**HOLDING CURRENT VS. JUNCTION TEMPERATURE**



**HOLDING CURRENT VS. GATE TO CATHODE RESISTANCE**



**REPETITIVE PEAK REVERSE VOLTAGE VS. JUNCTION TEMPERATURE**



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