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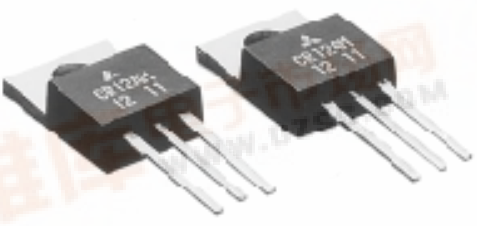
[捷多邦, 专业PCB打样工厂, 24小时加急出货](#)

MITSUBISHI SEMICONDUCTOR (THYRISTOR)

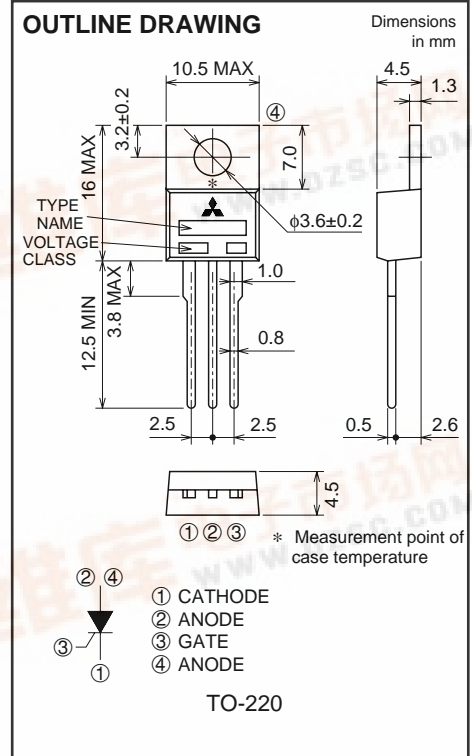
CR12AM

MEDIUM POWER USE
NON-INSULATED TYPE, GLASS PASSIVATION TYPE

CR12AM



- I_T (AV) 12A
- V_{DRM} 400V/600V
- I_{GT} 30mA



APPLICATION

Switching mode power supply, ECR, motor control

MAXIMUM RATINGS

Symbol	Parameter	Voltage class		Unit
		8	12	
V_{RRM}	Repetitive peak reverse voltage	400	600	V
V_{RSM}	Non-repetitive peak reverse voltage	500	720	V
V_R (DC)	DC reverse voltage	320	480	V
V_{DRM}	Repetitive peak off-state voltage	400	600	V
V_D (DC)	DC off-state	320	480	V

Symbol	Parameter	Conditions	Ratings	Unit
I_T (RMS)	RMS on-state current		18.8	A
I_T (AV)	Average on-state current	Commercial frequency, sine half wave, 180° conduction, $T_c=91^\circ\text{C}$	12.0	A
I_{TSM}	Surge on-state current	60Hz sine half wave 1 full cycle, peak value, non-repetitive	360	A
I^2_t	I^2_t for fusing	Value corresponding to 1 cycle of half wave 60Hz, surge on-state current	544	A ² s
P_{GM}	Peak gate power dissipation		5	W
P_G (AV)	Average gate power dissipation		0.5	W
V_{FGM}	Peak gate forward voltage		6	V
V_{RGM}	Peak gate reverse voltage		10	V
I_{FGM}	Peak gate forward current		2	A
T_j	Junction temperature		-40 ~ +125	°C
T_{stg}	Storage temperature		-40 ~ +125	°C
—	Weight	Typical value	2.0	g



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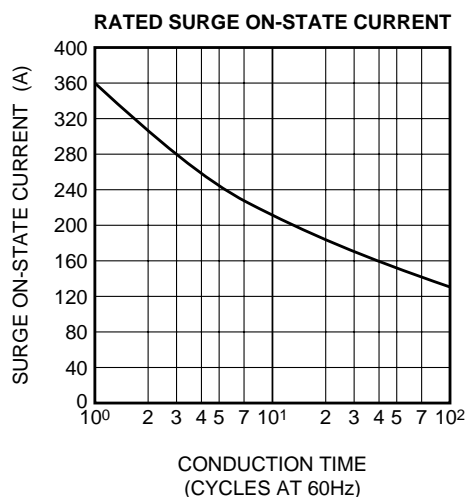
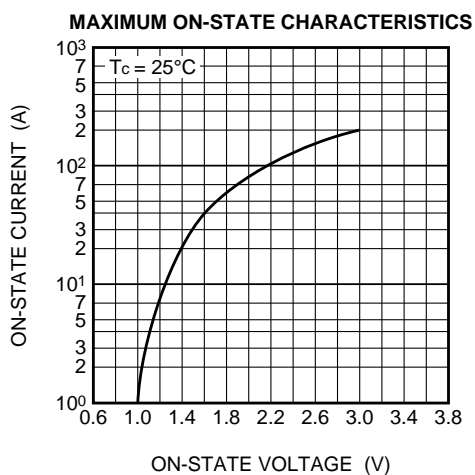
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ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
I _{RRM}	Repetitive peak reverse current	T _j =125°C, V _{RRM} applied	—	—	2.0	mA
I _{DRM}	Repetitive peak off-state current	T _j =125°C, V _{DRM} applied	—	—	2.0	mA
V _{TM}	On-state voltage	T _c =25°C, I _{TM} =40A,	—	—	1.6	V
V _{GT}	Gate trigger voltage	T _j =25°C, V _D =6V, I _T =1A	—	—	1.5	V
V _{GD}	Gate non-trigger voltage	T _j =125°C, V _D =1/2V _{DRM}	0.2	—	—	V
I _{GT}	Gate trigger current	T _j =25°C, V _D =6V, I _T =1A	—	—	30	mA
I _H	Holding current	T _j =25°C, V _D =12V	—	15	—	mA
R _{th(j-c)}	Thermal resistance	Junction to case *1	—	—	1.2	°C/W

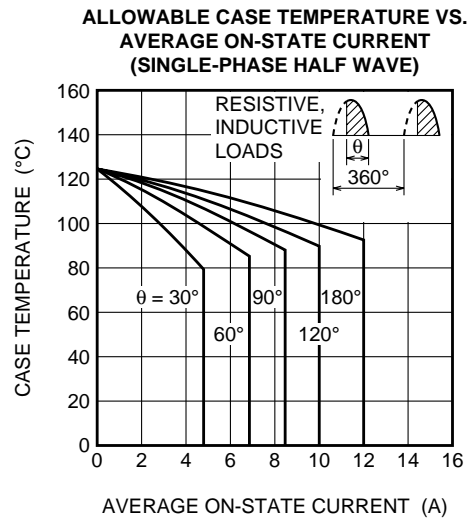
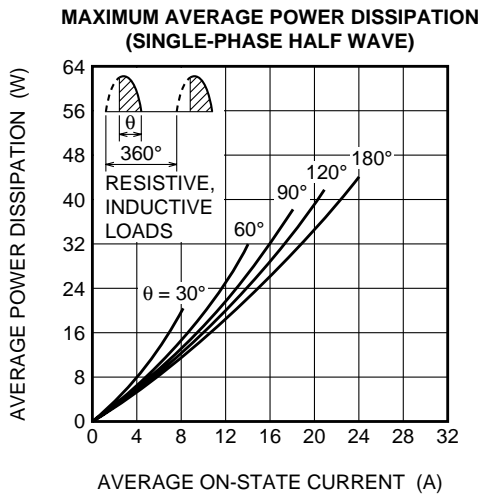
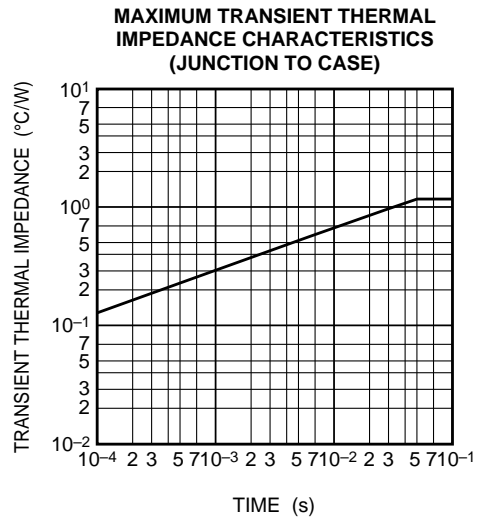
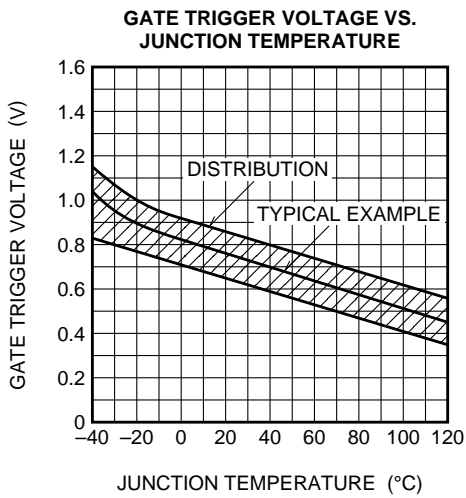
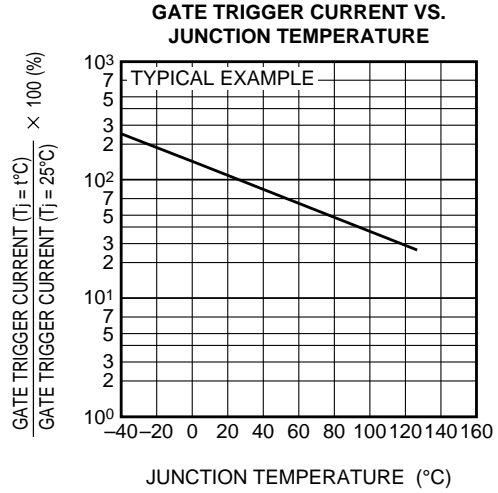
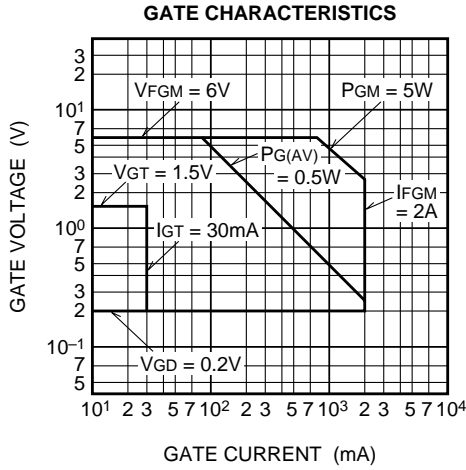
*1. The contact thermal resistance R_{th(c-f)} is 1.0°C/W with greased.

PERFORMANCE CURVES



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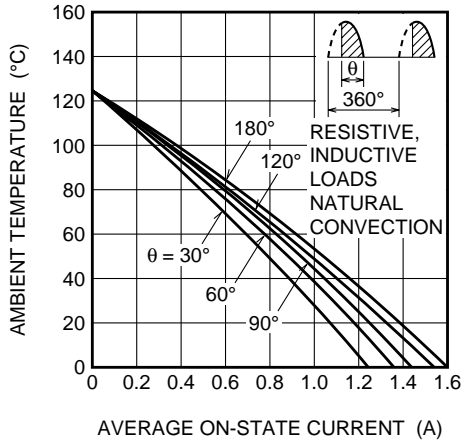
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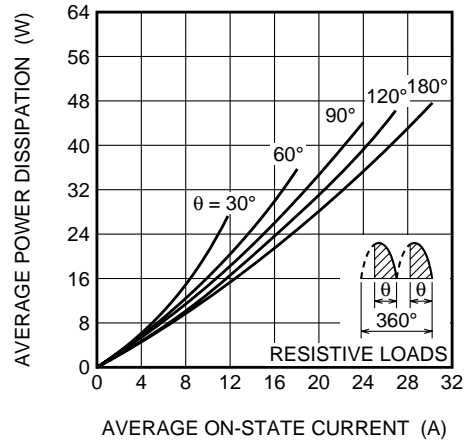
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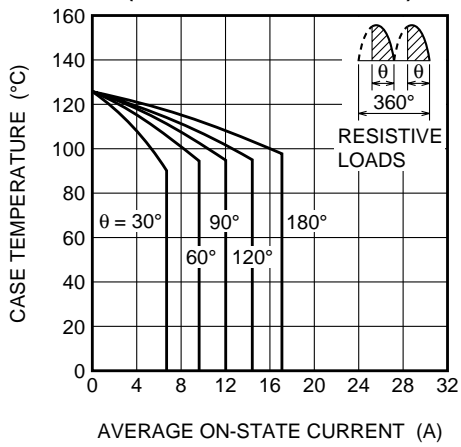
ALLOWABLE AMBIENT TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE HALF WAVE)



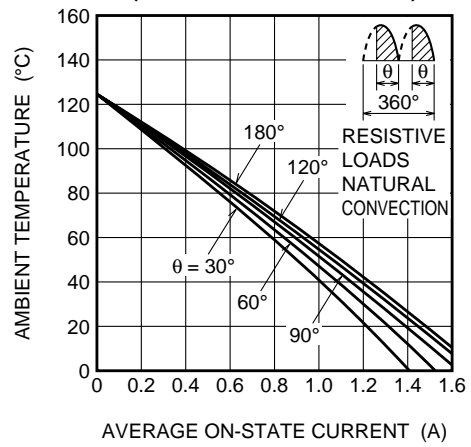
MAXIMUM AVERAGE POWER DISSIPATION (SINGLE-PHASE FULL WAVE)



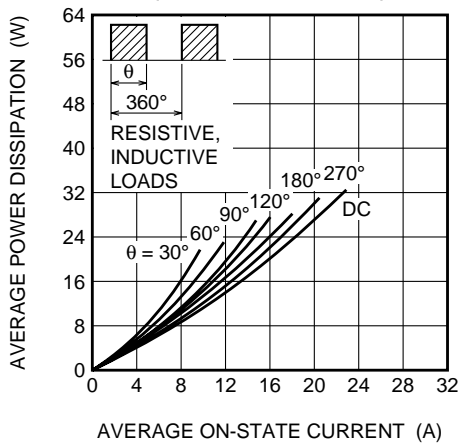
ALLOWABLE CASE TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE FULL WAVE)



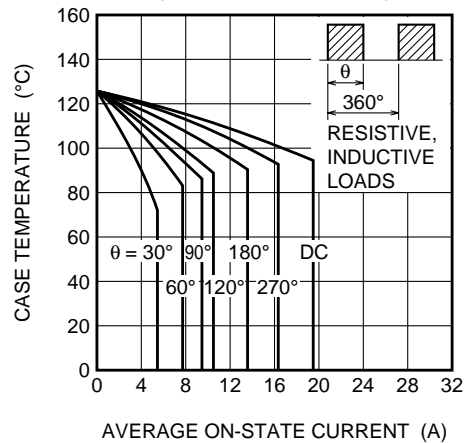
ALLOWABLE AMBIENT TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE FULL WAVE)



MAXIMUM AVERAGE POWER DISSIPATION (RECTANGULAR WAVE)



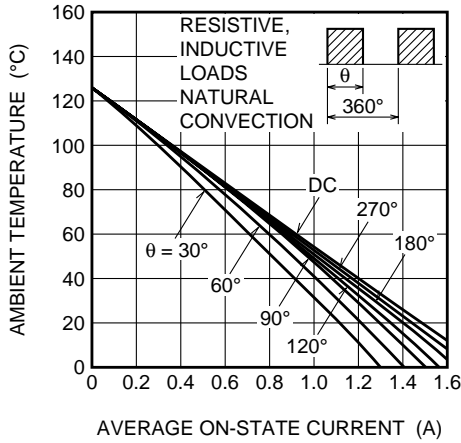
ALLOWABLE CASE TEMPERATURE VS. AVERAGE ON-STATE CURRENT (RECTANGULAR WAVE)



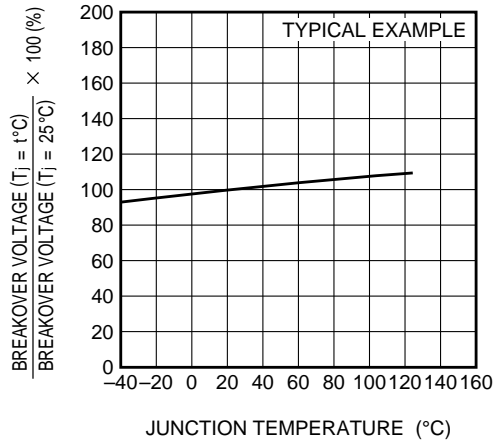
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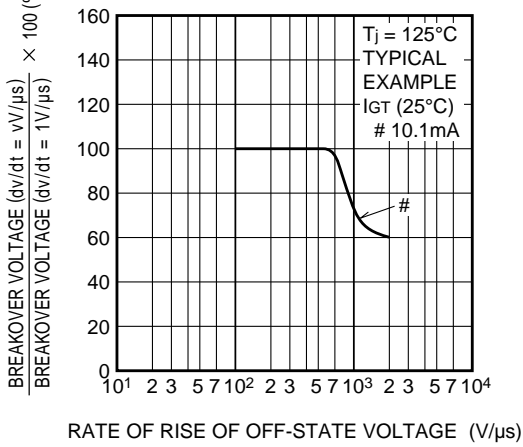
ALLOWABLE AMBIENT TEMPERATURE VS. AVERAGE ON-STATE CURRENT (RECTANGULAR WAVE)



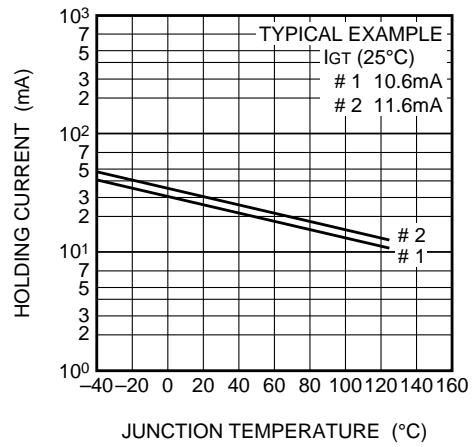
BREAKOVER VOLTAGE VS. JUNCTION TEMPERATURE



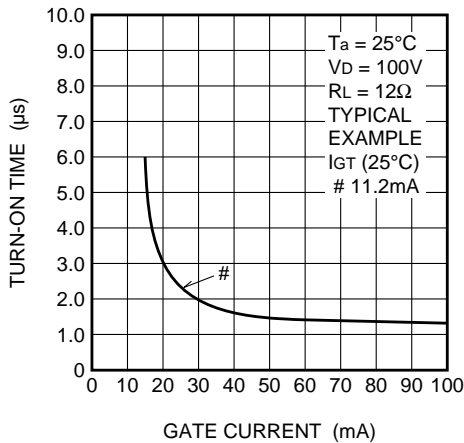
BREAKOVER VOLTAGE VS. RATE OF RISE OF OFF-STATE VOLTAGE



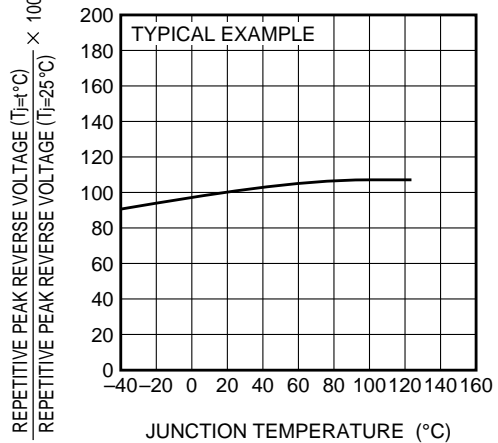
HOLDING CURRENT VS. JUNCTION TEMPERATURE



TURN-ON TIME VS. GATE CURRENT



REPETITIVE PEAK REVERSE VOLTAGE VS. JUNCTION TEMPERATURE



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