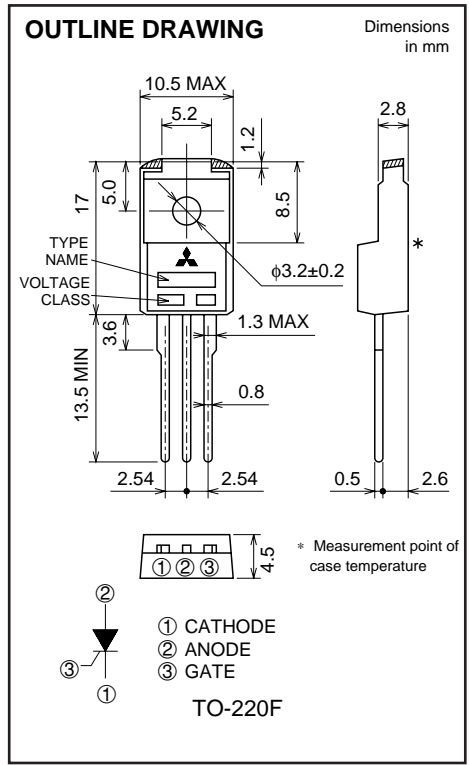
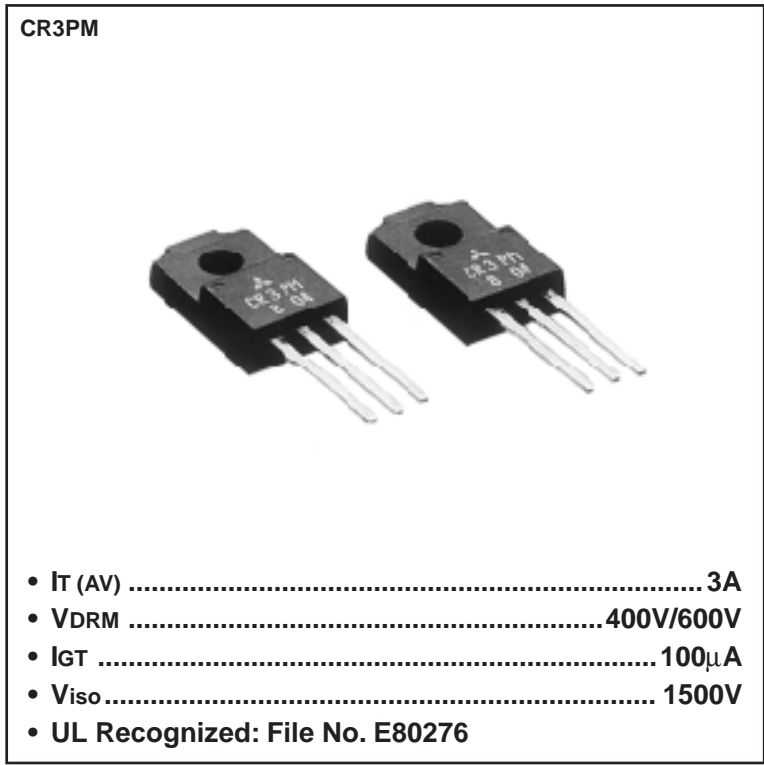


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LOW POWER USE
INSULATED TYPE, GLASS PASSIVATION TYPE



APPLICATION

TV sets, control of household equipment such as electric blankets, other general purpose control applications

MAXIMUM RATINGS ($T_a=25^\circ\text{C}$, unless otherwise noted)

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 *1	400	600	V
V_D (DC)	DC off-state voltage *1	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, $T_c=103^\circ\text{C}$	3.0	A
I_{TSM}	Surge on-state current	60Hz sine half wave 1 full cycle, peak value, non-repetitive	70	A
I^2t	I^2t for fusing	Value corresponding to 1 cycle of half wave 60Hz, surge on-state current	24.5	A ² s
PGM	Peak gate power dissipation		0.5	W
PG (AV)	Average gate power dissipation		0.1	W
V_{FGM}	Peak gate forward voltage		6	V
V_{RGM}	Peak gate reverse voltage		6	V
I_{FGM}	Peak gate forward current		0.3	A
T_j	Junction temperature		-40 ~ +125	$^\circ\text{C}$
T_{stg}	Storage temperature		-40 ~ +125	$^\circ\text{C}$
—	Weight	Typical value	2.0	g
V_{iso}	Isolation voltage	$T_a=25^\circ\text{C}$, AC 1 minute, each terminal to case	1500	V

*1. With gate to cathode resistance $R_{GK}=220\Omega$.

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ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
IRRM	Repetitive peak reverse current	$T_j=125^{\circ}\text{C}$, V_{RRM} applied, $R_{GK}=220\Omega$	—	—	2.0	mA
IDRM	Repetitive peak off-state current	$T_j=125^{\circ}\text{C}$, V_{DRM} applied, $R_{GK}=220\Omega$	—	—	2.0	mA
V _{TM}	On-state voltage	$T_c=25^{\circ}\text{C}$, $I_{TM}=10\text{A}$, instantaneous value	—	—	1.6	V
V _{GT}	Gate trigger voltage	$T_j=25^{\circ}\text{C}$, $V_D=6\text{V}$, $I_T=0.1\text{A}$	—	—	0.8	V
V _{GD}	Gate non-trigger voltage	$T_j=125^{\circ}\text{C}$, $V_D=1/2V_{DRM}$, $R_{GK}=220\Omega$	0.1	—	—	V
I _{GT}	Gate trigger current	$T_j=25^{\circ}\text{C}$, $V_D=6\text{V}$, $I_T=0.1\text{A}$	1	—	100* ³	μA
R _{th(j-c)}	Thermal resistance	Junction to case * ²	—	—	4.1	°C/W

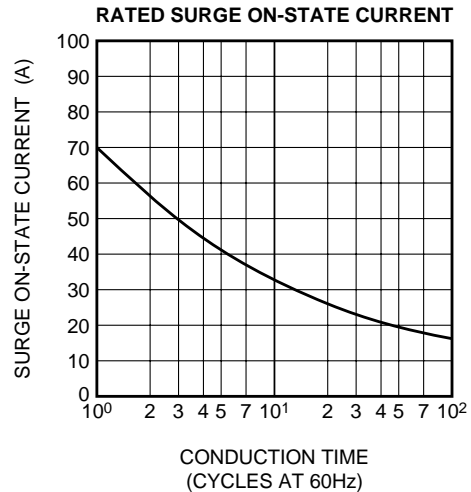
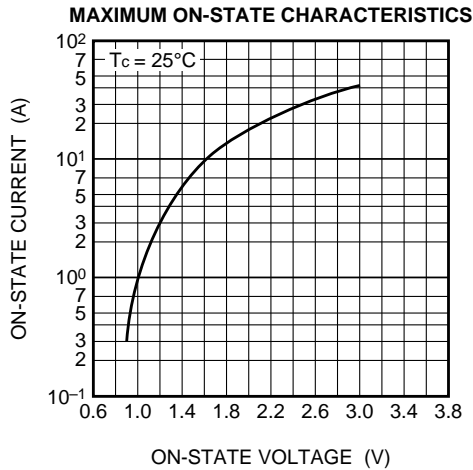
*². The contact thermal resistance $R_{th(c-f)}$ is 0.5°C/W with greased.

*³. If special values of I_{GT} are required, choose at least two items from those listed in the table below. (Example: AB, BC)

Item	A	B	C
I _{GT} (μA)	1 ~ 30	20 ~ 50	40 ~ 100

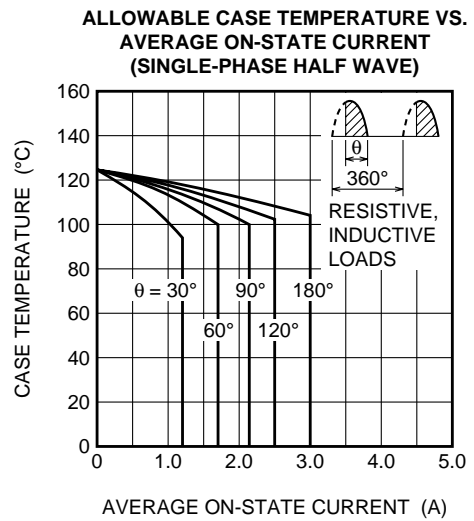
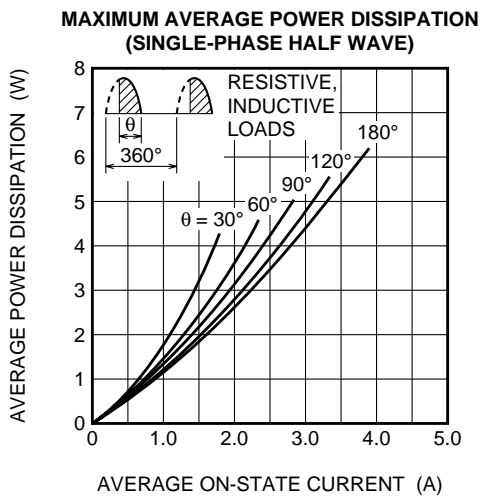
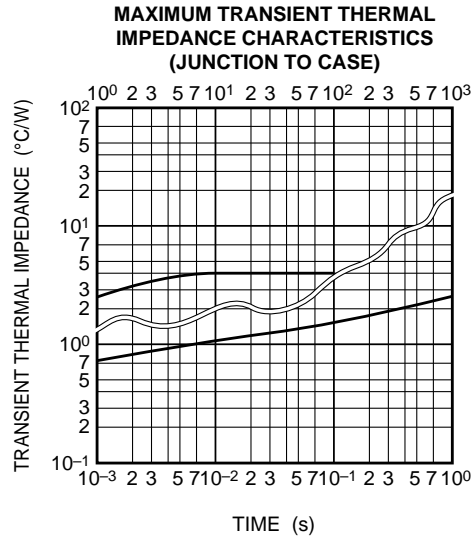
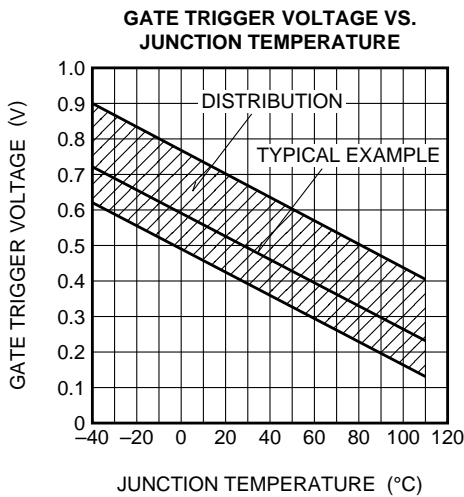
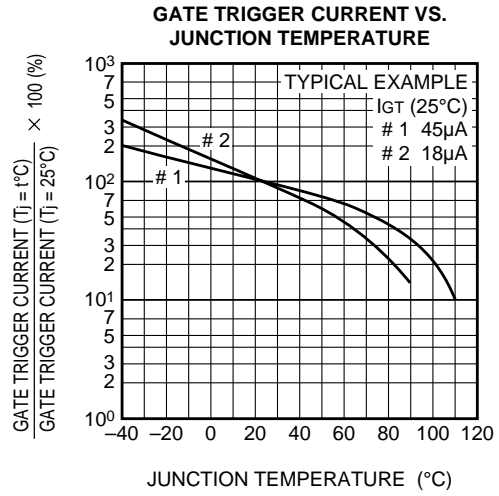
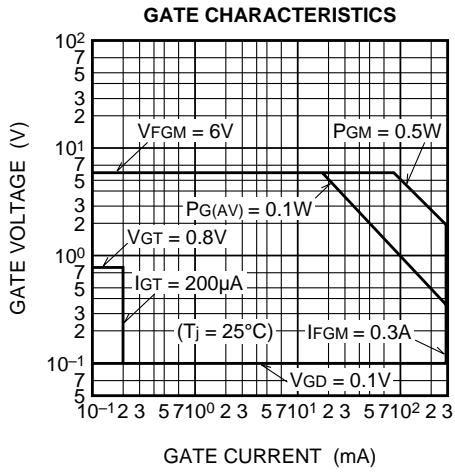
The above values do not include the current flowing through the 220Ω resistance between the gate and cathode.

PERFORMANCE CURVES



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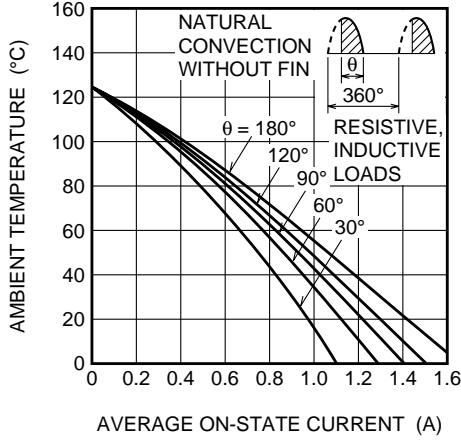
LOW POWER USE
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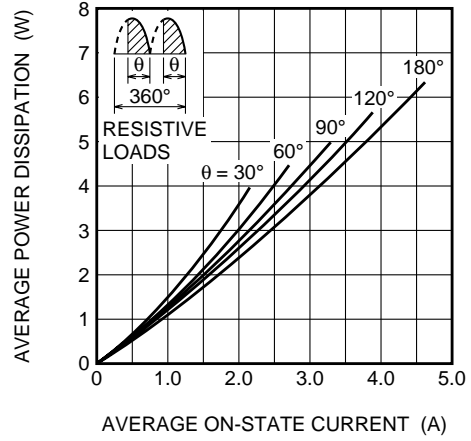
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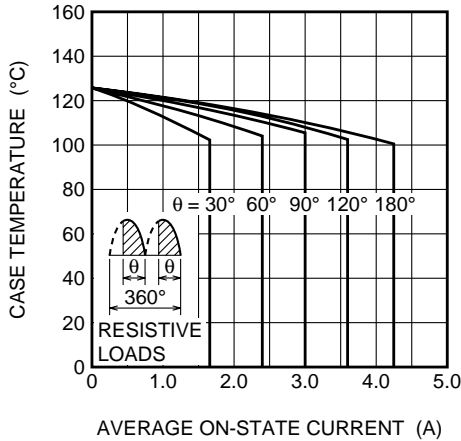
ALLOWABLE AMBIENT TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE HALF WAVE)



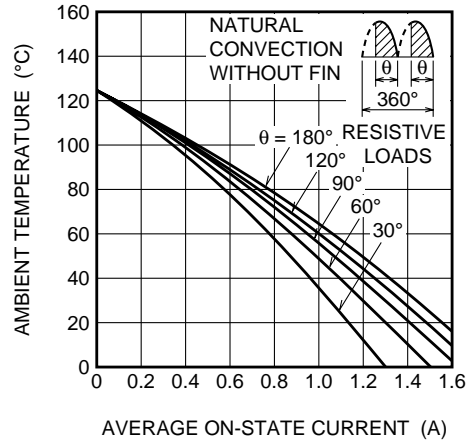
MAXIMUM AVERAGE POWER DISSIPATION (SINGLE-PHASE FULL WAVE)



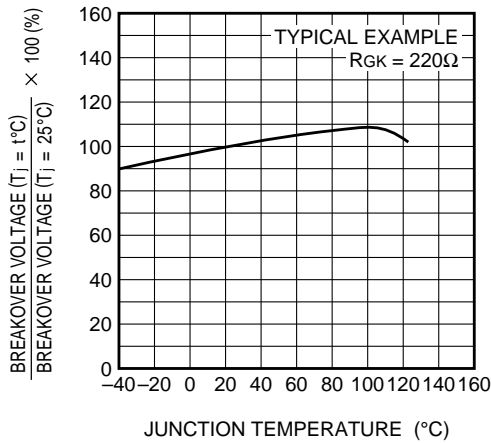
ALLOWABLE CASE TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE FULL WAVE)



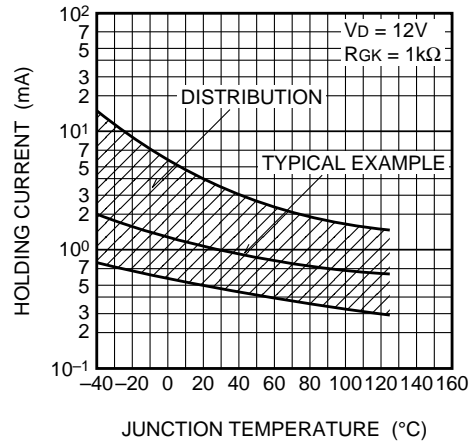
ALLOWABLE AMBIENT TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE FULL WAVE)



BREAKOVER VOLTAGE VS. JUNCTION TEMPERATURE



HOLDING CURRENT VS. JUNCTION TEMPERATURE



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LOW POWER USE
INSULATED TYPE, GLASS PASSIVATION TYPE

