


# BCR2PM

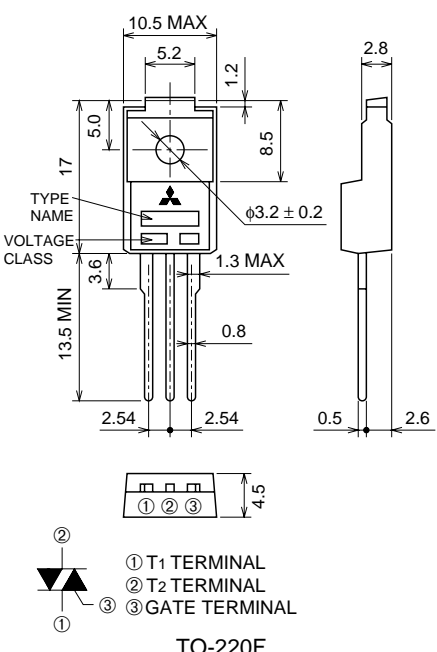
LOW POWER USE  
INSULATED TYPE, PLANAR PASSIVATION TYPE

**BCR2PM**



- $I_T$  (RMS) ..... 2A
- $V_{DRM}$  ..... 400V/600V
- IRGT I, IRGT III ..... 10mA

**OUTLINE DRAWING** Dimensions in mm



① T1 TERMINAL  
② T2 TERMINAL  
③ GATE TERMINAL

TO-220F

## APPLICATION

Switching mode power supply, light dimmer, electric flasher unit, control of household equipment such as TV sets · stereo · refrigerator · washing machine · infrared kotatsu · carpet, solenoid drivers, small motor control, copying machine, electric tool, other general purpose control applications

## MAXIMUM RATINGS

Symbol	Parameter	Voltage class		Unit
		8	12	
$V_{DRM}$	Repetitive peak off-state voltage *1	400	600	V
$V_{DSM}$	Non-repetitive peak off-state voltage *1	500	720	V

Symbol	Parameter	Conditions	Ratings	Unit
$I_T$ (RMS)	RMS on-state current	Commercial frequency, sine full wave 360° conduction	2	A
$I_{TSM}$	Surge on-state current	60Hz sinewave 1 full cycle, peak value, non-repetitive	10	A
$I^2t$	$I^2t$ for fusing	Value corresponding to 1 cycle of half wave 60Hz, surge on-state current	0.41	A <sup>2</sup> s
PGM	Peak gate power dissipation		1	W
PG (AV)	Average gate power dissipation		0.1	W
VGM	Peak gate voltage		6	V
IGM	Peak gate current		1	A
$T_j$	Junction temperature		-40 ~ +125	°C
$T_{stg}$	Storage temperature		-40 ~ +125	°C
—	Weight	Typical value	2.0	g

\*1. Gate open.

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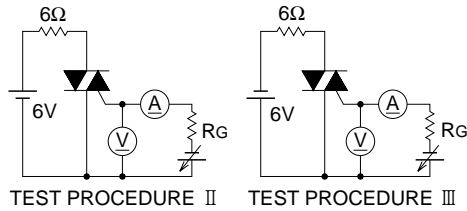
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## ELECTRICAL CHARACTERISTICS

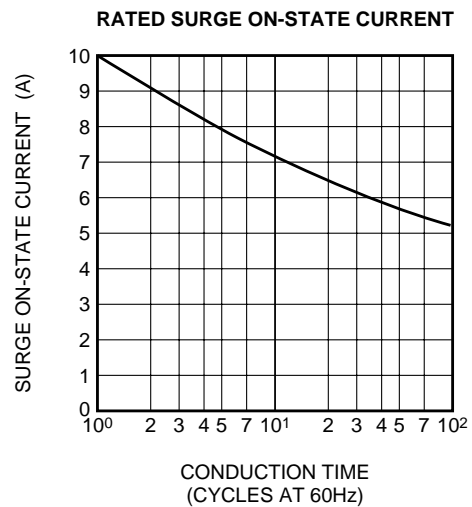
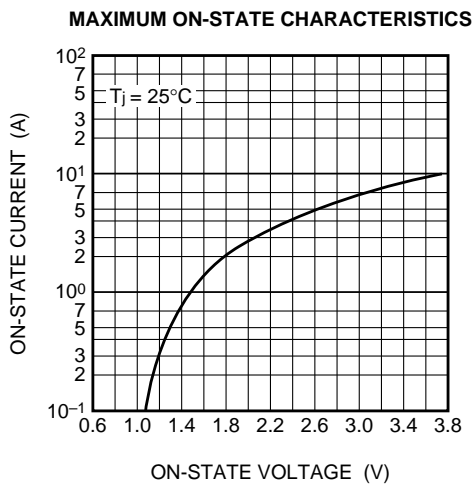
Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
IDRM	Repetitive peak off-state current	T <sub>j</sub> =125°C, V <sub>DRM</sub> applied	—	—	0.5	mA
V <sub>TM</sub>	On-state voltage	T <sub>a</sub> =25°C, I <sub>TM</sub> =1.5A, Instantaneous measurement	—	—	1.6	V
V <sub>RGT I</sub>	Gate trigger voltage *2	T <sub>j</sub> =25°C, V <sub>D</sub> =6V, R <sub>L</sub> =6Ω, R <sub>G</sub> =330Ω	—	—	2.0	V
V <sub>RGT III</sub>			—	—	2.0	V
I <sub>RGT I</sub>	Gate trigger current *2	T <sub>j</sub> =25°C, V <sub>D</sub> =6V, R <sub>L</sub> =6Ω, R <sub>G</sub> =330Ω	—	—	10	mA
I <sub>RGT III</sub>			—	—	10	mA
V <sub>GD</sub>	Gate non-trigger voltage	T <sub>j</sub> =125°C, V <sub>D</sub> =1/2V <sub>DRM</sub>	0.1	—	—	V
R <sub>th(j-a)</sub>	Thermal resistance	Junction to ambient, Natural convection	—	—	40	°C/W

\*2. Measurement using the gate trigger characteristics measurement circuit.

## GATE TRIGGER CHARACTERISTICS TEST CIRCUITS



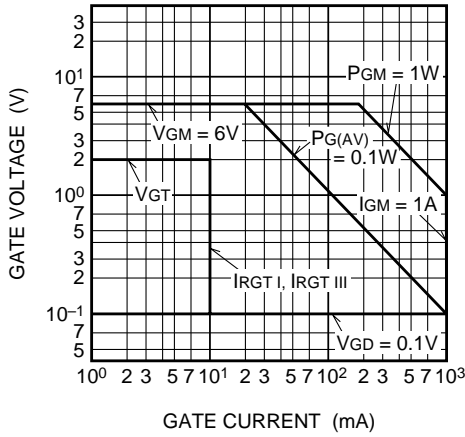
## PERFORMANCE CURVES



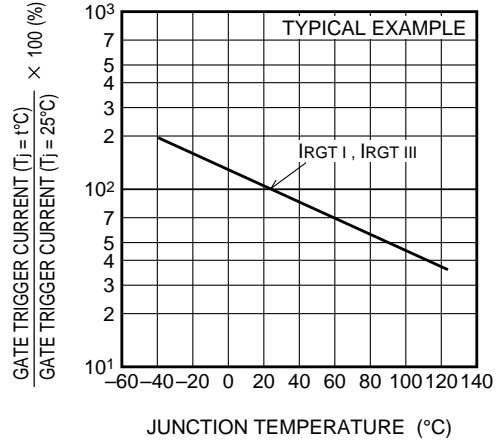
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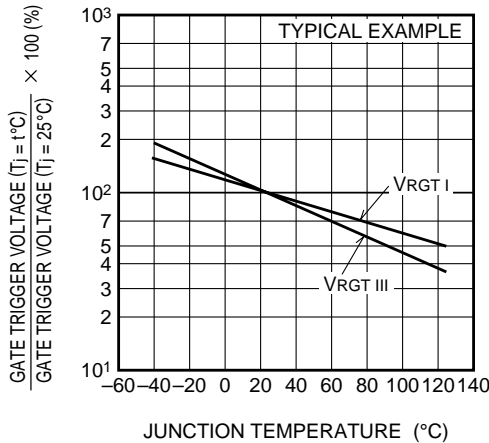
**GATE CHARACTERISTICS**



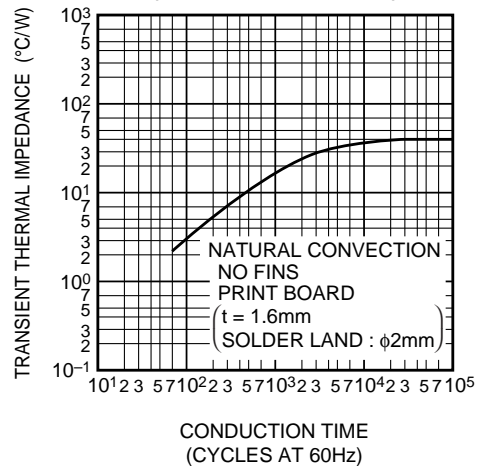
**GATE TRIGGER CURRENT VS. JUNCTION TEMPERATURE**



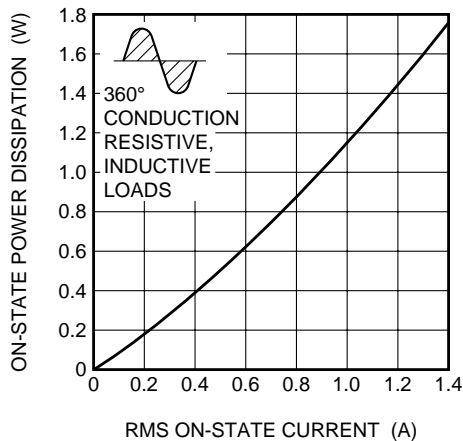
**GATE TRIGGER VOLTAGE VS. JUNCTION TEMPERATURE**



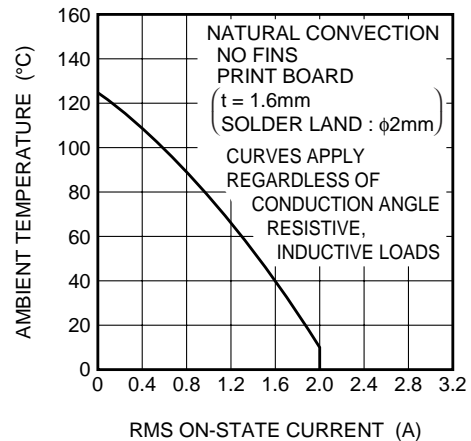
**MAXIMUM TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS (JUNCTION TO AMBIENT)**



**MAXIMUM ON-STATE POWER DISSIPATION**

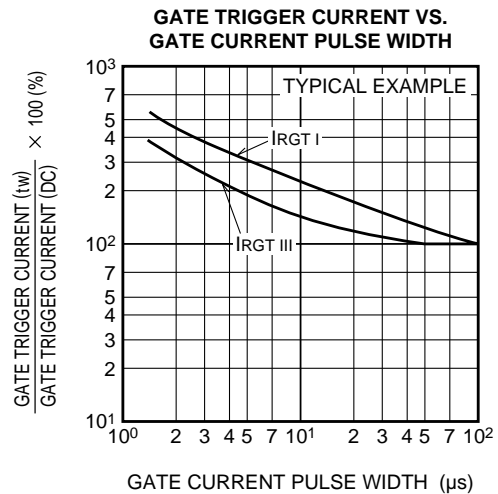
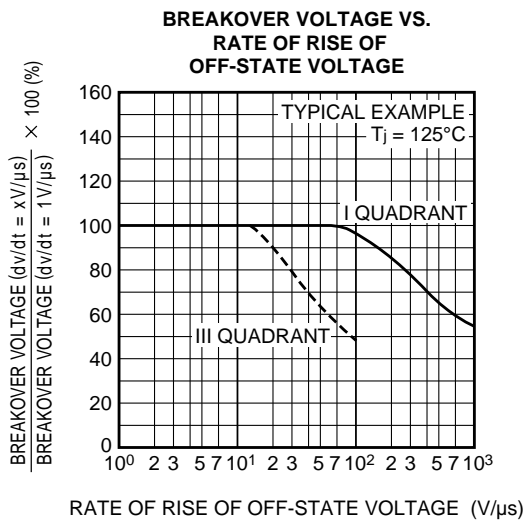
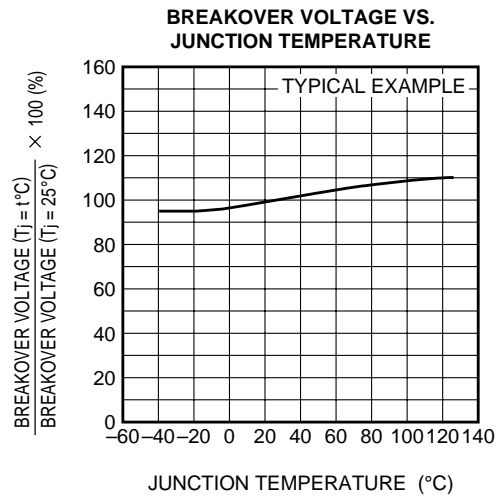
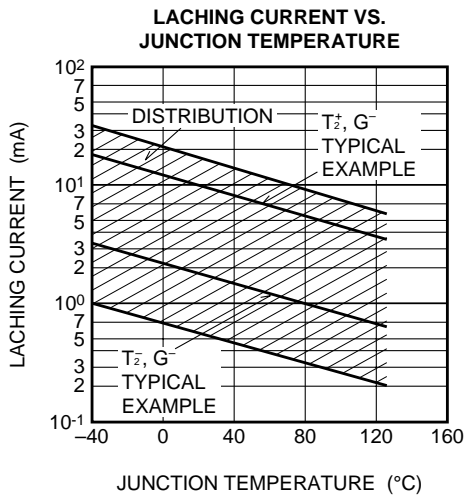
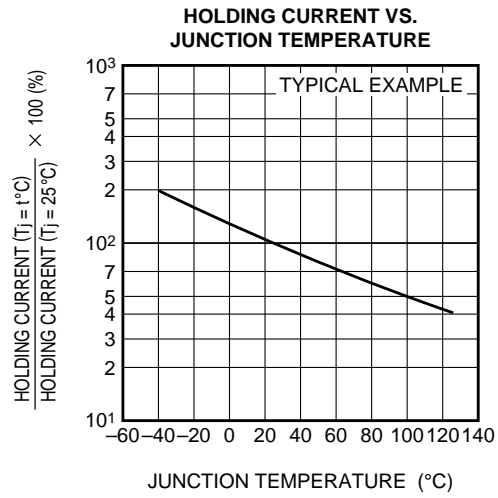
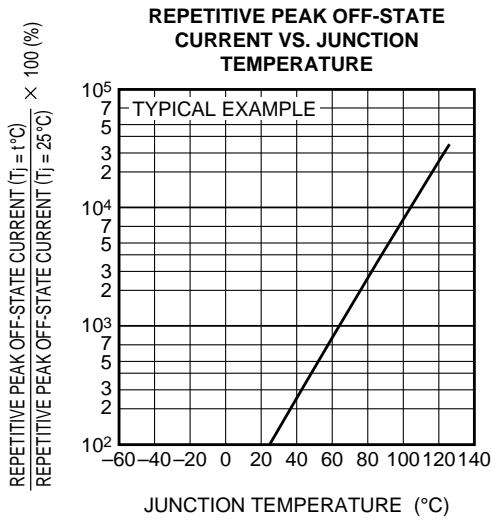


**ALLOWABLE AMBIENT TEMPERATURE VS. RMS ON-STATE CURRENT**



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