

# BCR2PM-12

## Triac

Low Power Use

REJ03G0300-0100

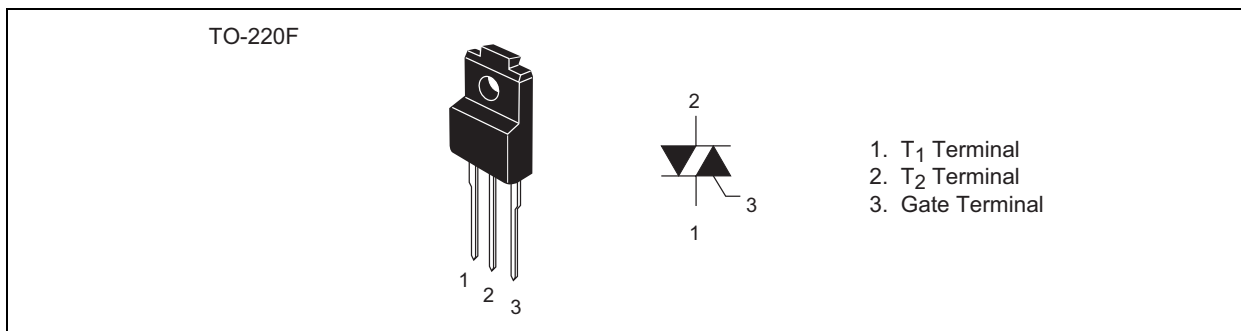
Rev.1.00

Aug.20.2004

### Features

- $I_{T(RMS)}$  : 2 A
- $V_{DRM}$  : 600 V
- $I_{RGTI}$ ,  $I_{RGTIII}$  : 10 mA
- Non-Insulated Type
- Planar Passivation Type

### Outline



### Applications

Electric rice cooker, electric pot, and controller for other heater

### Precautions on Usage

When the BCR2PM-12 is used, do not attach the heat radiating fin.

### Maximum Ratings

Parameter	Symbol	Voltage class	Unit
		12	
Repetitive peak off-state voltage <sup>Note1</sup>	$V_{DRM}$	600	V
Non-repetitive peak off-state voltage <sup>Note1</sup>	$V_{DSM}$	720	V

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

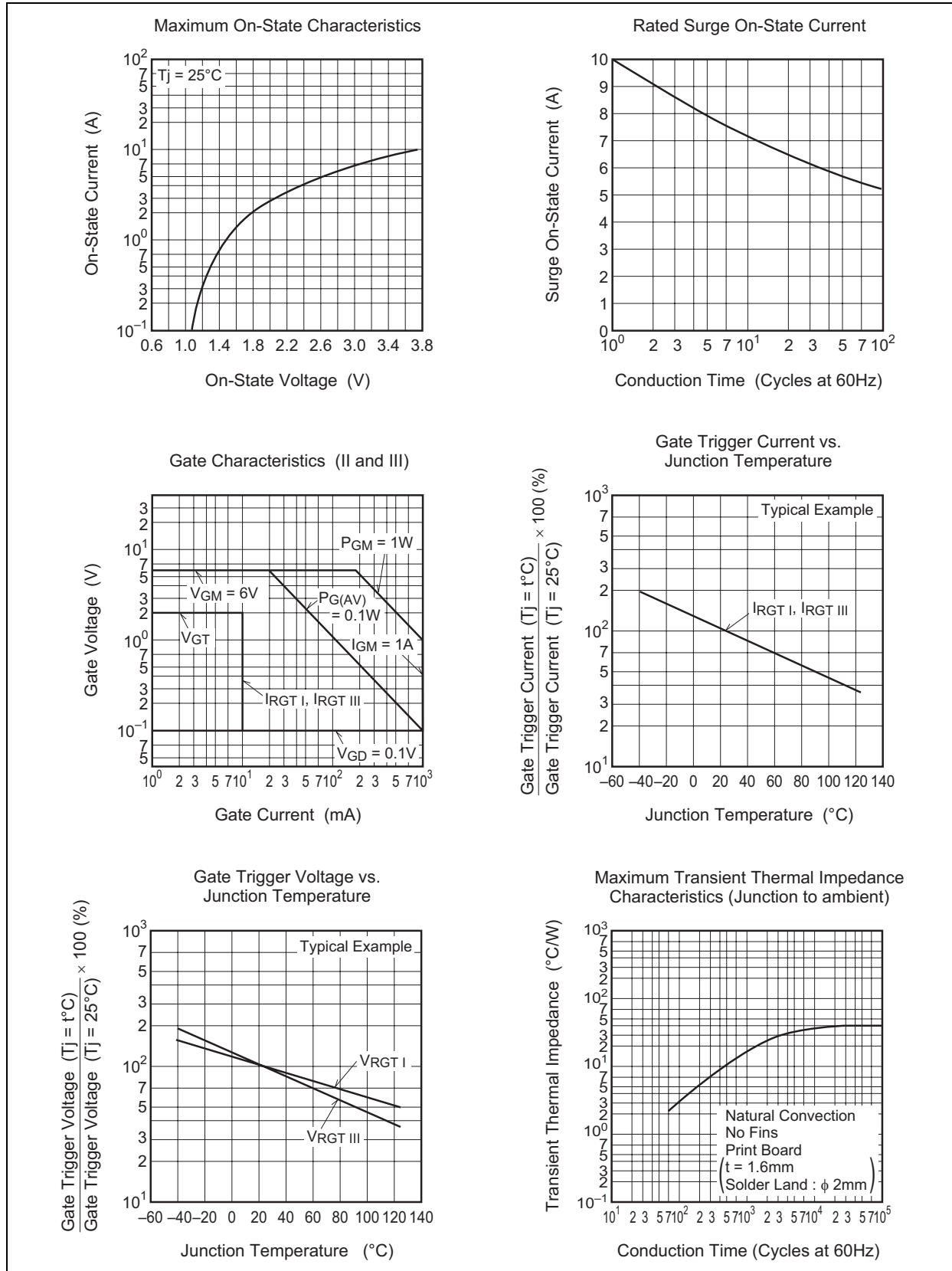
Notes: 1. Gate open.

### Electrical Characteristics

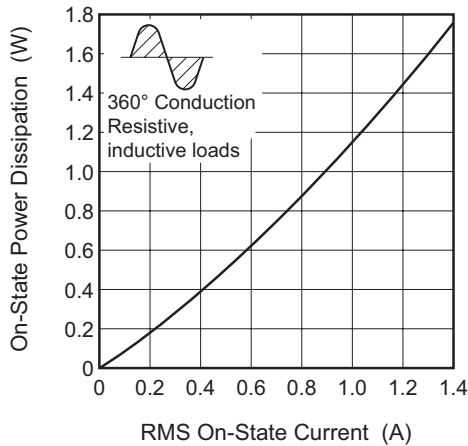
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions	
Repetitive peak off-state current	$I_{DRM}$	—	—	0.5	mA	$T_j = 125^\circ\text{C}$ , $V_{DRM}$ applied	
On-state voltage	$V_{TM}$	—	—	1.6	V	$T_j = 25^\circ\text{C}$ , $I_{TM} = 1.5\text{ A}$ , Instantaneous measurement	
Gate trigger voltage <sup>Note2</sup>	II	$V_{RGTI}$	—	—	2.0	V	$T_j = 25^\circ\text{C}$ , $V_D = 6\text{ V}$ , $R_L = 6\ \Omega$ , $R_G = 330\ \Omega$
	III	$V_{RGTIII}$	—	—	2.0	V	
Gate trigger current <sup>Note2</sup>	II	$I_{RGTI}$	—	—	10	mA	$T_j = 25^\circ\text{C}$ , $V_D = 6\text{ V}$ , $R_L = 6\ \Omega$ , $R_G = 330\ \Omega$
	III	$I_{RGTIII}$	—	—	10	mA	
Gate non-trigger voltage	$V_{GD}$	0.1	—	—	V	$T_j = 125^\circ\text{C}$ , $V_D = 1/2 V_{DRM}$	
Thermal resistance	$R_{th(j-a)}$	—	—	40	°C/W	Junction to ambient, Natural convection	

Notes: 2. Measurement using the gate trigger characteristics measurement circuit.

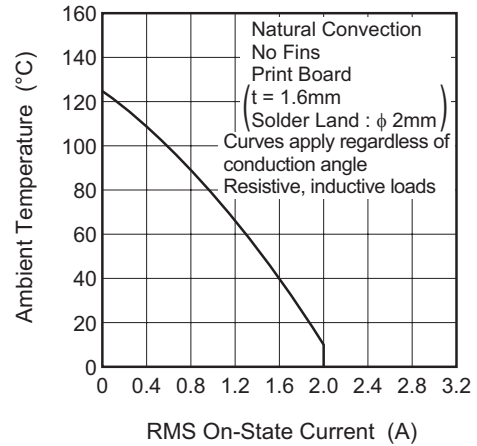
Performance Curves



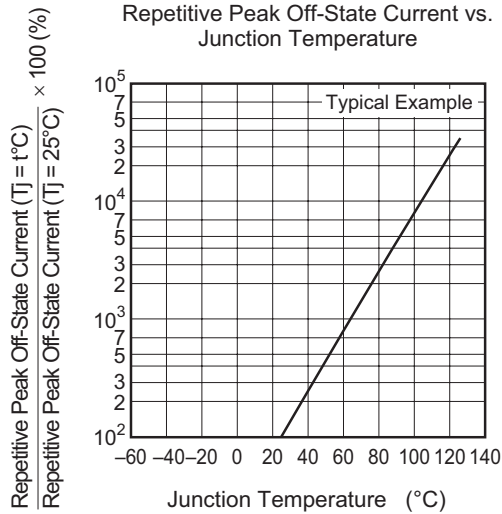
Maximum On-State Power Dissipation



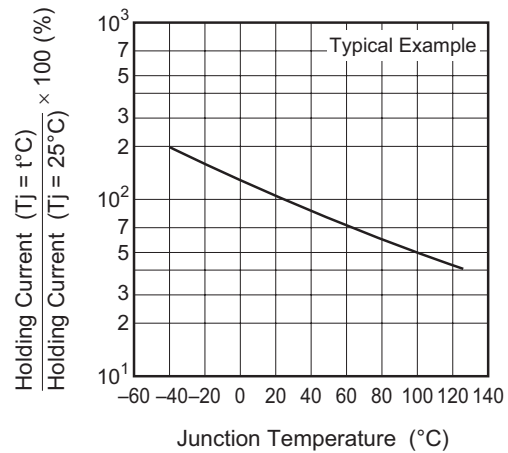
Allowable Ambient Temperature vs. RMS On-State Current



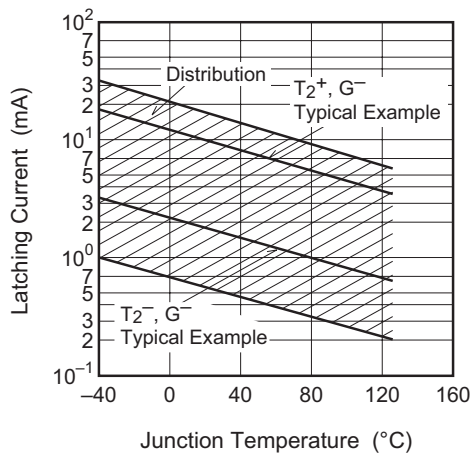
Repetitive Peak Off-State Current vs. Junction Temperature



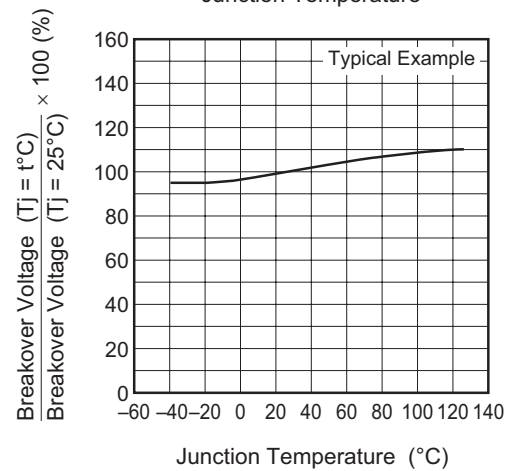
Holding Current vs. Junction Temperature



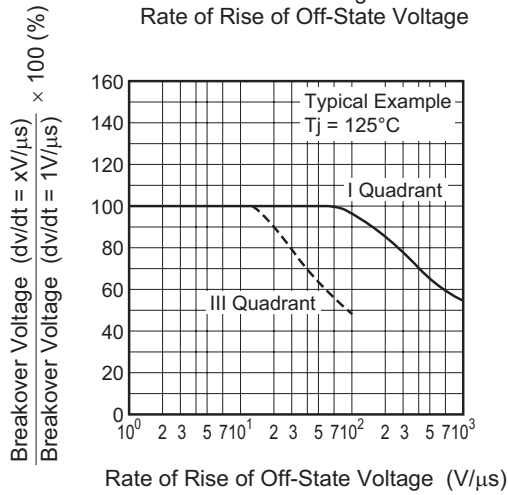
Latching Current vs. Junction Temperature



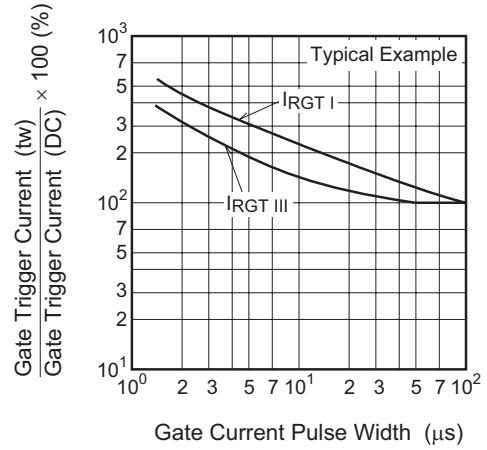
Breakover Voltage vs. Junction Temperature



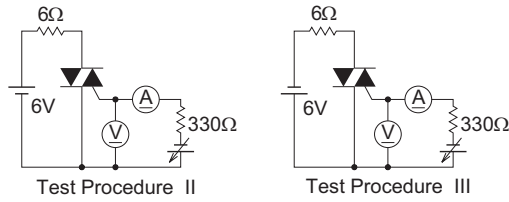
Breakover Voltage vs. Rate of Rise of Off-State Voltage



Gate Trigger Current vs. Gate Current Pulse Width



Gate Trigger Characteristics Test Circuits



## Package Dimensions

**TO-220F**

EIAJ Package Code	JEDEC Code	Mass (g) (reference value)	Lead Material
Conforms	—	2.0	Cu alloy

Note 1) The dimensional figures indicate representative values unless otherwise the tolerance is specified.

Symbol	Dimension in Millimeters		
	Min	Typ	Max
A	—	—	—
A <sub>1</sub>	—	—	—
A <sub>2</sub>	—	—	—
b	—	—	—
D	—	—	—
E	—	—	—
e	—	—	—
x	—	—	—
y	—	—	—
y <sub>1</sub>	—	—	—
ZD	—	—	—
ZE	—	—	—

## Order Code

Lead form	Standard packing	Quantity	Standard order code	Standard order code example
Straight type	Vinyl sack	100	Type name +RA	BCR2PM-12RA
Lead form	Plastic Magazine (Tube)	50	Type name +RA – Lead forming code	BCR2PM-12RA-A8

Note : Please confirm the specification about the shipping in detail.

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