

# BCR2PM-12RE

Triac

Low Power Use

REJ03G1468-0100

Rev.1.00

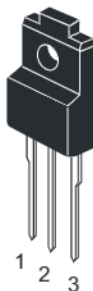
Jul 31, 2006

## Features

- $I_{T(RMS)}$  : 2 A
- $V_{DRM}$  : 600 V
- $I_{RGTI}$ ,  $I_{RGT\Box}$  : 10 mA
- Insulated Type
- Planar Passivation Type
- The product guaranteed maximum junction temperature 150°C.

## Outline

RENESAS Package code: PRSS0003AA-B  
(Package name: TO-220F(2) )



1.  $T_1$  Terminal
2.  $T_2$  Terminal
3. Gate Terminal

## Applications

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

## Precautions on Usage

When the BCR2PM-12RE 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 sinewave 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 +150	°C	
Storage temperature	$T_{stg}$	– 40 to +150	°C	
Mass	—	2.0	g	Typical value

Notes: 1. Gate open.

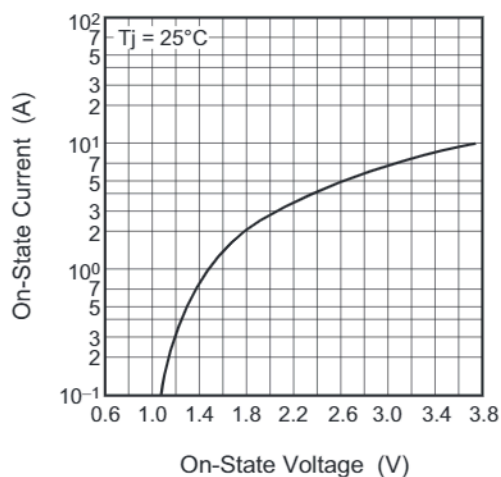
## Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions
Repetitive peak off-state current	$I_{DRM}$	—	—	1.0	mA	$T_j = 150^\circ\text{C}$ , $V_{DRM}$ 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	$T_j = 25^\circ\text{C}$ , $V_D = 6\text{ V}$ , $R_L = 6\ \Omega$ , $R_G = 330\ \Omega$
	III	$V_{RGTIII}$	—	—	2.0	
Gate trigger current <sup>Note2</sup>	II	$I_{RGTI}$	—	—	10	$T_j = 25^\circ\text{C}$ , $V_D = 6\text{ V}$ , $R_L = 6\ \Omega$ , $R_G = 330\ \Omega$
	III	$I_{RGTIII}$	—	—	10	
Gate non-trigger voltage	$V_{GD}$	0.1	—	—	V	$T_j = 150^\circ\text{C}$ , $V_D = 1/2 V_{DRM}$
Thermal resistance	$R_{th(j-a)}$	—	—	45	°C/W	Junction to ambient, Natural convection

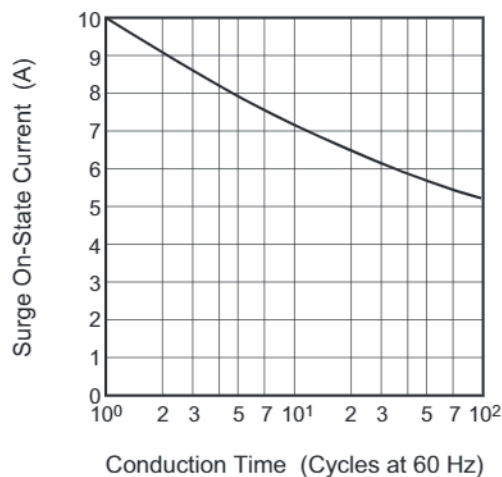
Notes: 2. Measurement using the gate trigger characteristics measurement circuit.

## Performance Curves

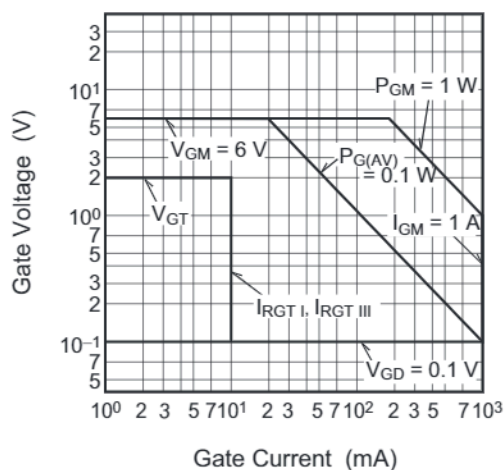
Maximum On-State Characteristics



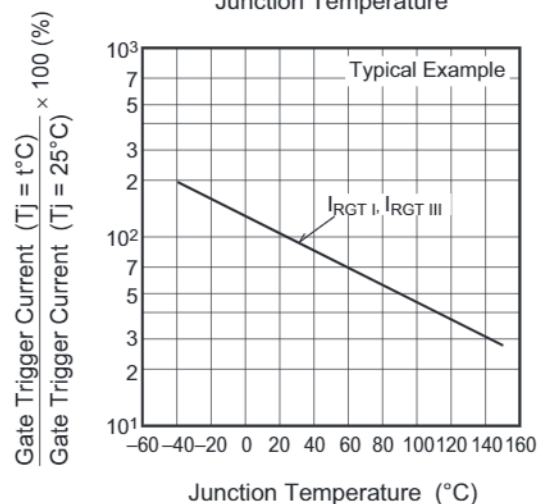
Rated Surge On-State Current



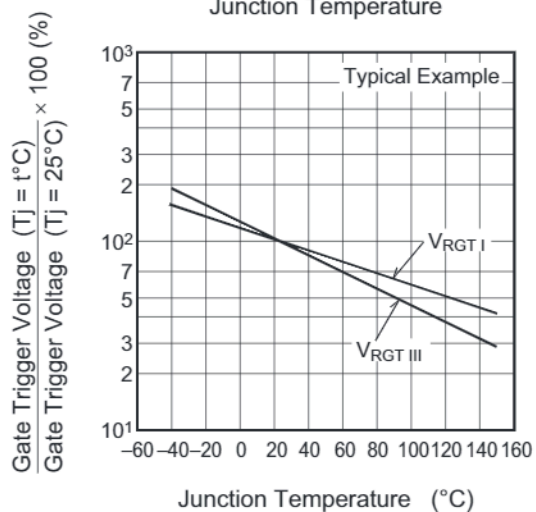
Gate Characteristics (II and III)



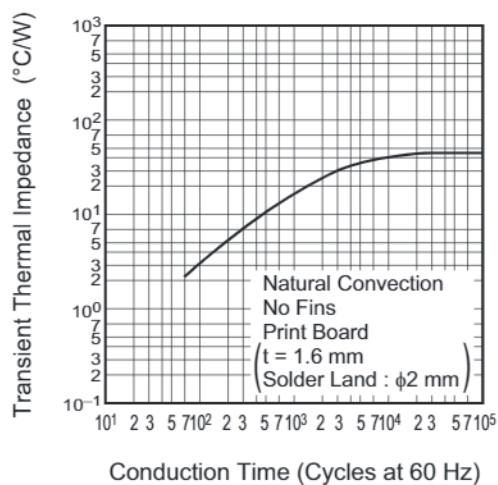
Gate Trigger Current vs. Junction Temperature

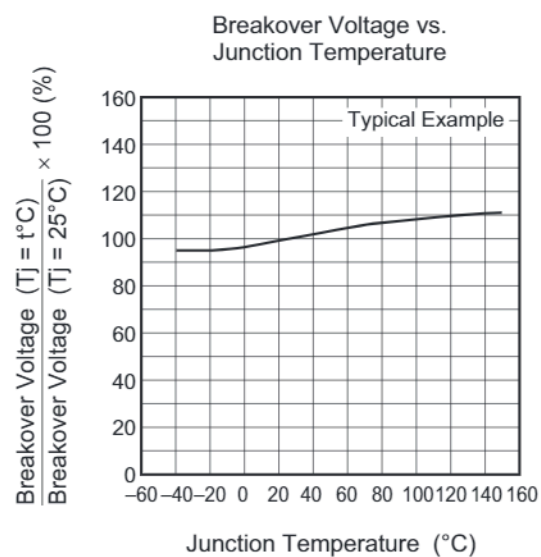
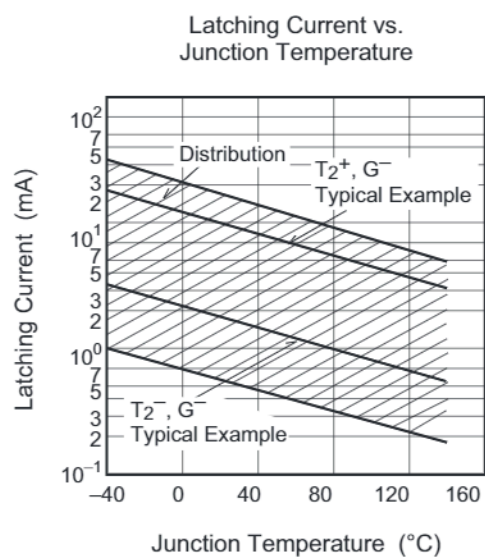
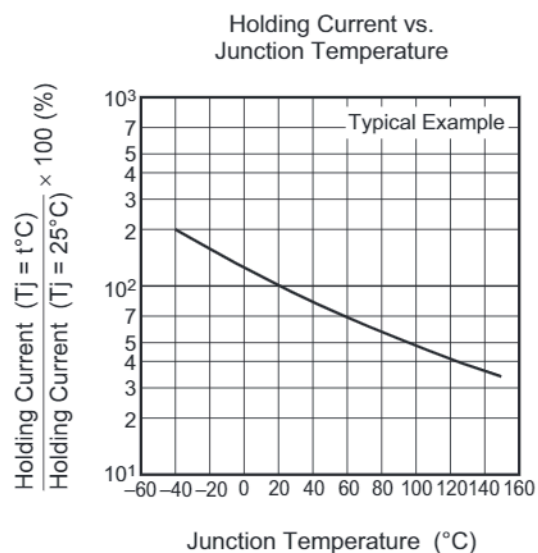
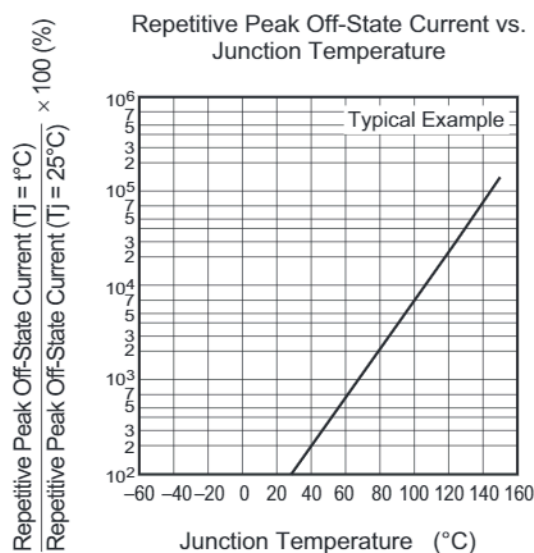
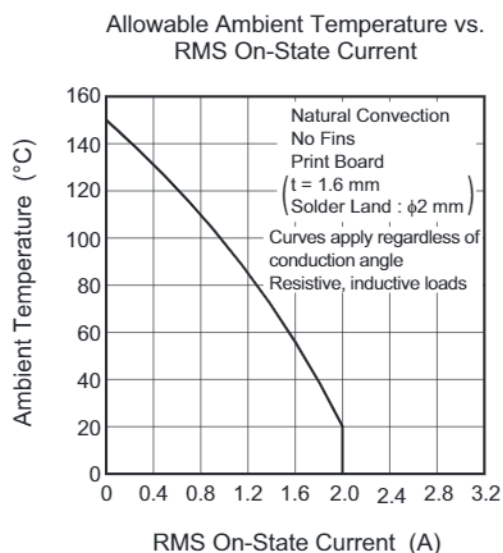
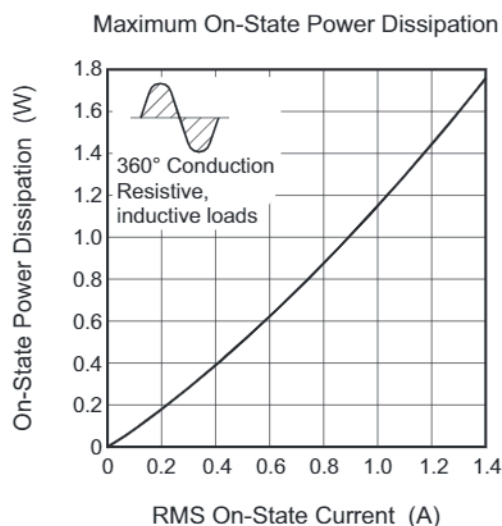


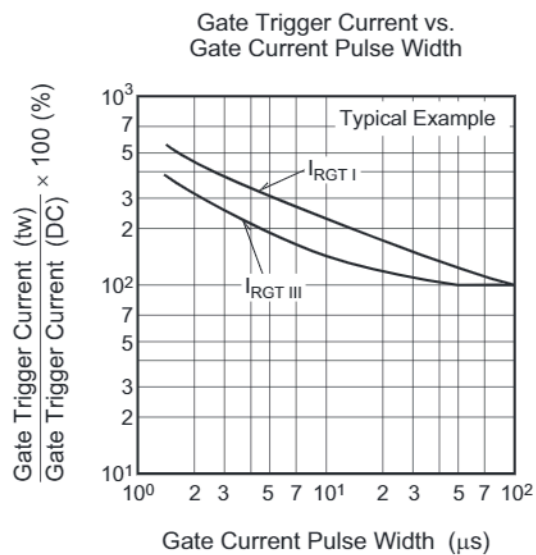
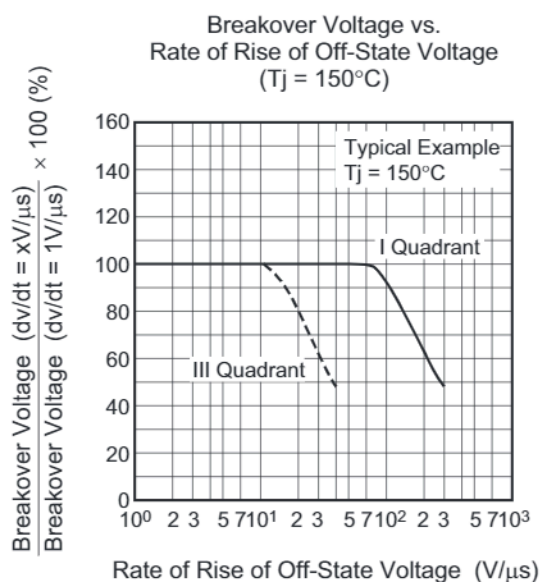
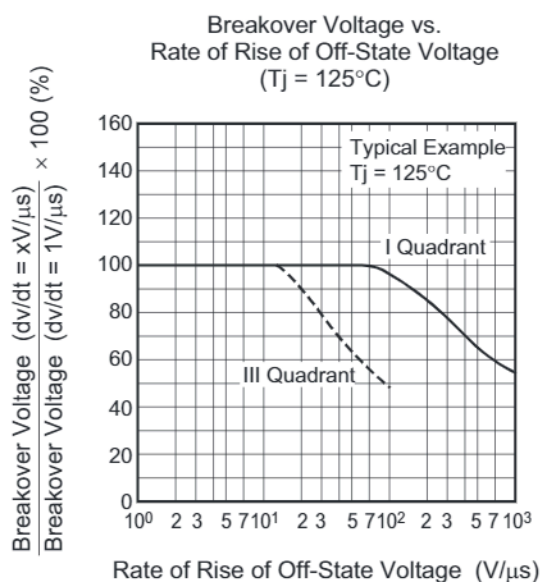
Gate Trigger Voltage vs. Junction Temperature



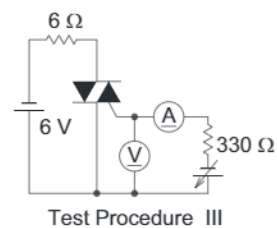
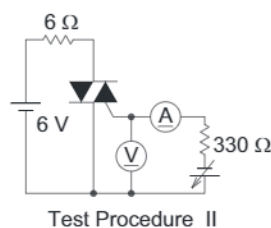
Maximum Transient Thermal Impedance Characteristics (Junction to ambient)







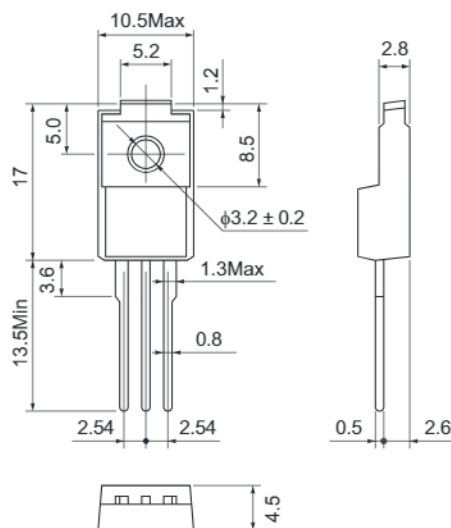
Gate Trigger Characteristics Test Circuits



## Package Dimensions

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
TO-220F(2)	SC-67	PRSS0003AA-B	—	2.0g

Unit: mm



## Order Code

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

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

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