

BCR2PM-12RE

Triac

Low Power Use

REJ03G1468-0100

Rev.1.00

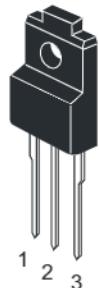
Jul 31, 2006

Features

- $I_{T(RMS)}$: 2 A
- V_{DRM} : 600 V
- I_{RGTI}, I_{RGTO} : 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 ^{Note1}	V_{DRM}	600		V
Non-repetitive peak off-state voltage ^{Note1}	V_{DSM}	720		V

Parameter	Symbol	Ratings	Unit	Conditions
RMS on-state current	$I_{T\text{ (RMS)}}$	2	A	Commercial frequency, sine full wave 360° conduction
Surge on-state current	$I_{T\text{SM}}$	10	A	60Hz sinewave 1 full cycle, peak value, non-repetitive
I^2t for fusing	I^2t	0.41	A^2s	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	$P_{G\text{ (AV)}}$	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.

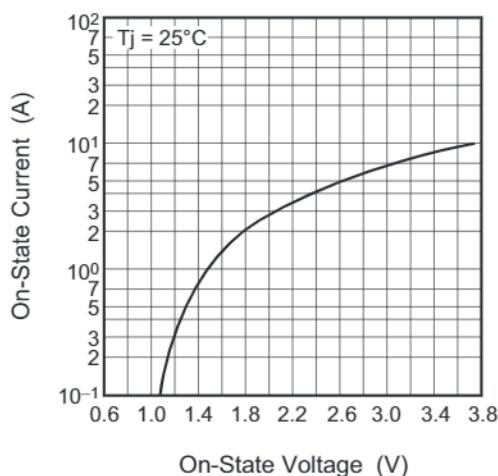
Electrical Characteristics

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	$T_j = 25^\circ\text{C}$, $I_{TM} = 1.5$ A, Instantaneous measurement
Gate trigger voltage ^{Note2}	II	V_{RGTI}	—	2.0	V	$T_j = 25^\circ\text{C}$, $V_D = 6$ V, $R_L = 6$ Ω, $R_G = 330$ Ω
	III	$V_{RGTI\text{II}}$	—	2.0	V	
Gate trigger current ^{Note2}	II	I_{RGTI}	—	10	mA	$T_j = 25^\circ\text{C}$, $V_D = 6$ V, $R_L = 6$ Ω, $R_G = 330$ Ω
	III	$I_{RGTI\text{II}}$	—	10	mA	
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

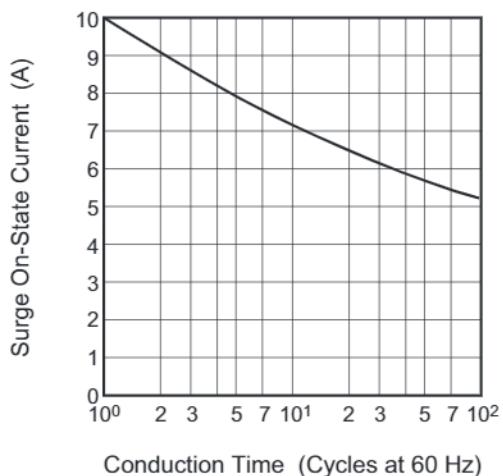
Notes: 2. Measurement using the gate trigger characteristics measurement circuit.

Performance Curves

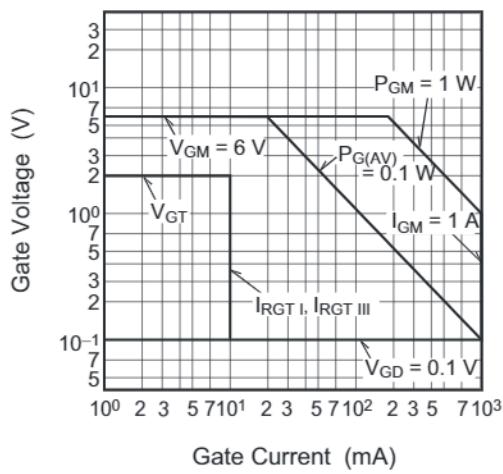
Maximum On-State Characteristics



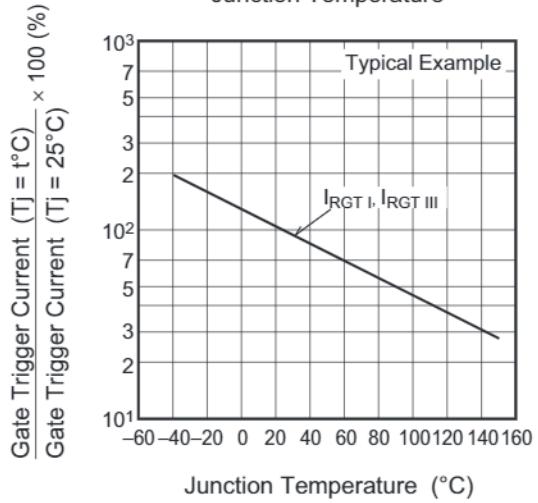
Rated Surge On-State Current



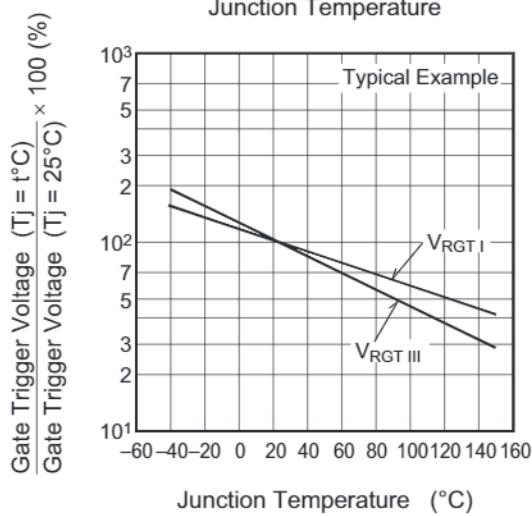
Gate Characteristics (II and III)



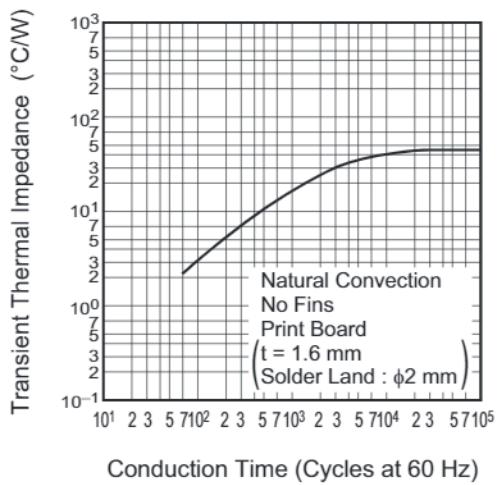
Gate Trigger Current vs. Junction Temperature



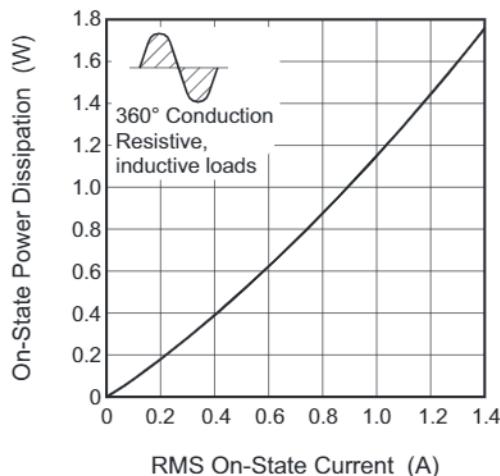
Gate Trigger Voltage vs. Junction Temperature



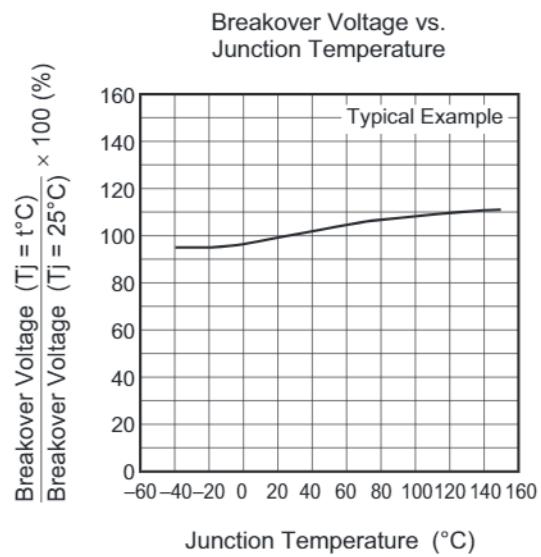
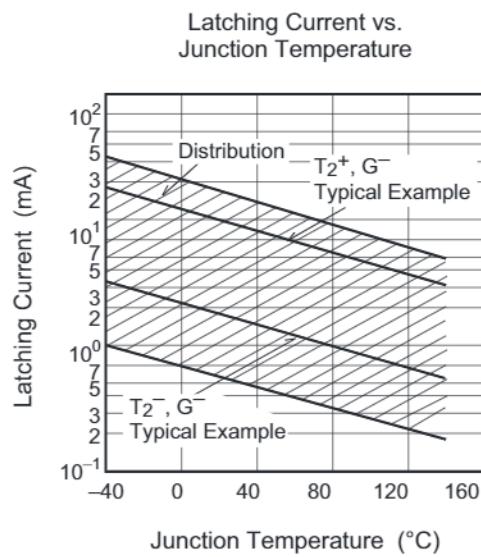
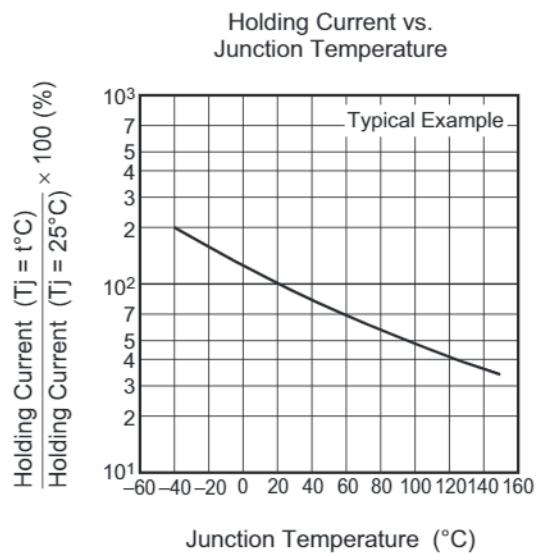
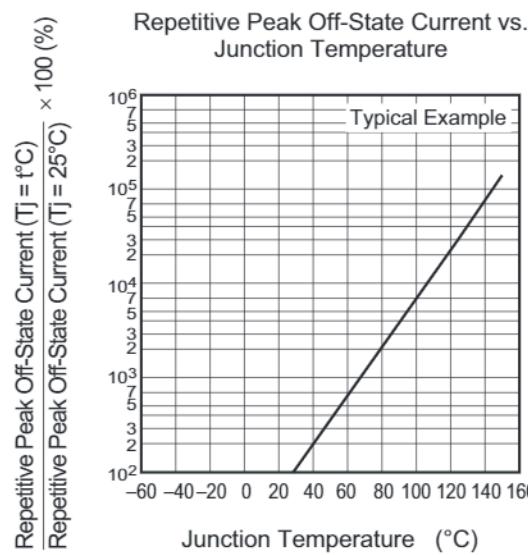
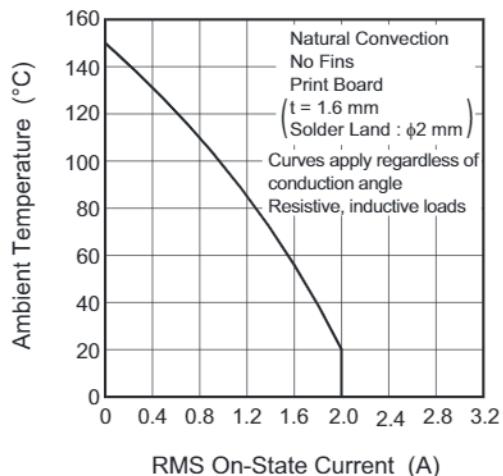
Maximum Transient Thermal Impedance Characteristics (Junction to ambient)

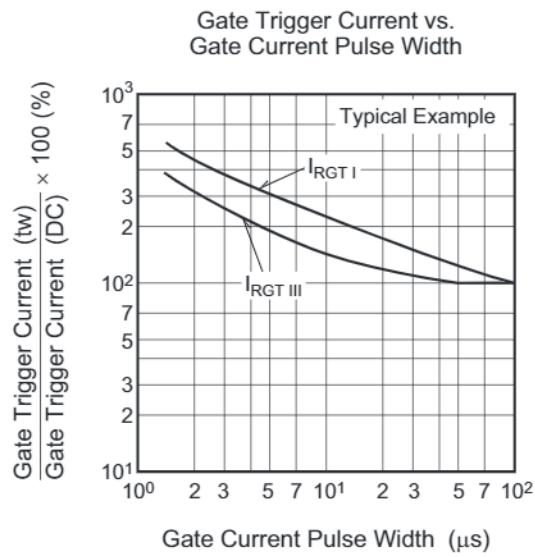
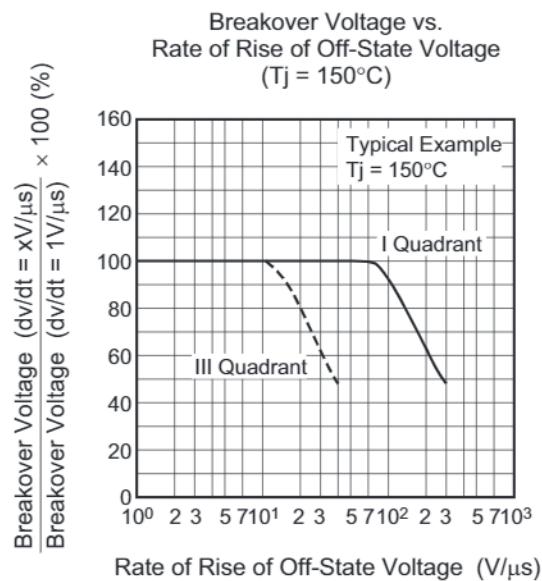
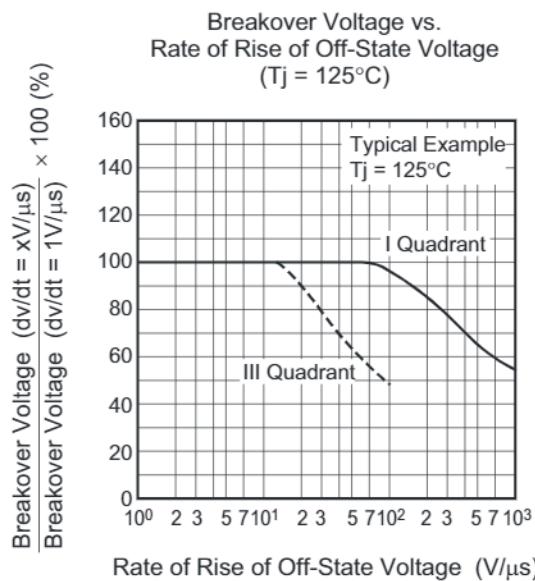


Maximum On-State Power Dissipation

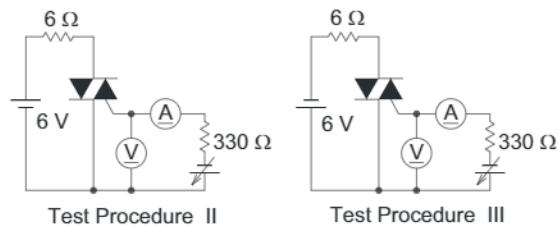


Allowable Ambient Temperature vs. RMS On-State Current



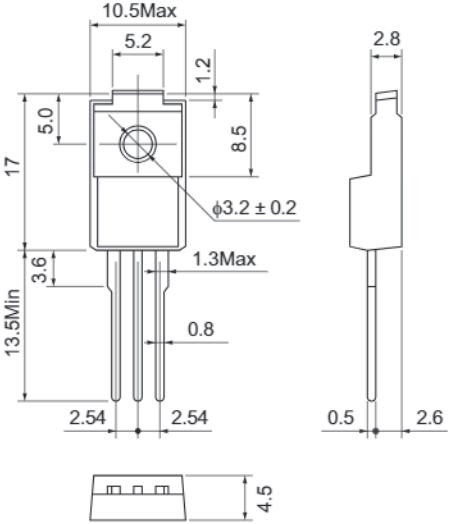


Gate Trigger Characteristics Test Circuits



Package Dimensions

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



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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