



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

TO-220F



1. T₁ Terminal
2. T₂ Terminal
3. Gate Terminal

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 ^{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	$I_{T(RMS)}$	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 ² 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.

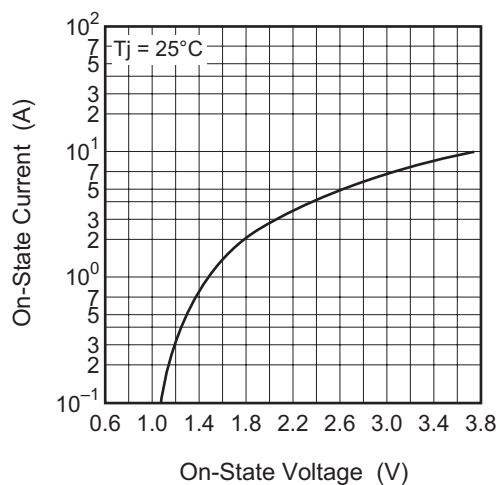
Electrical Characteristics

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 ^{Note2}	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 ^{Note2}	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	$T_j = 125^\circ\text{C}$, $V_D = 1/2 V_{DRM}$
Thermal resistance	$R_{th(j-a)}$	—	—	40	°C/W	Junction to ambient, Natural convection

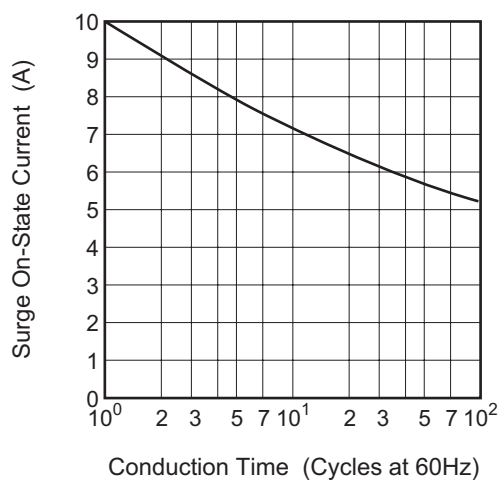
Notes: 2. Measurement using the gate trigger characteristics measurement circuit.

Performance Curves

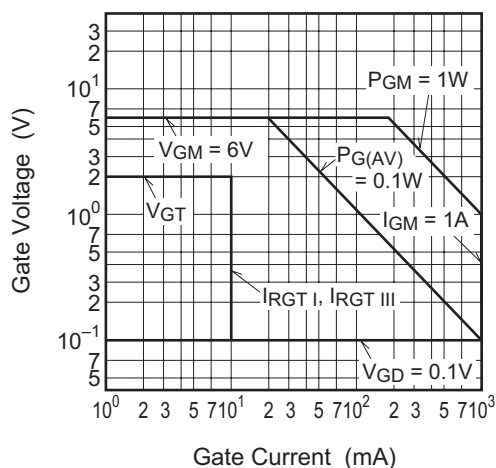
Maximum On-State Characteristics



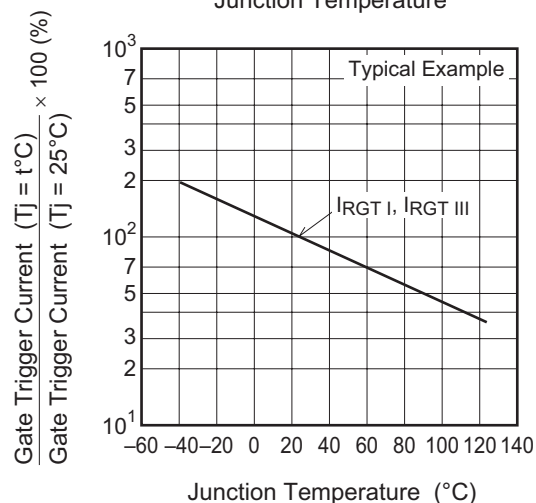
Rated Surge On-State Current



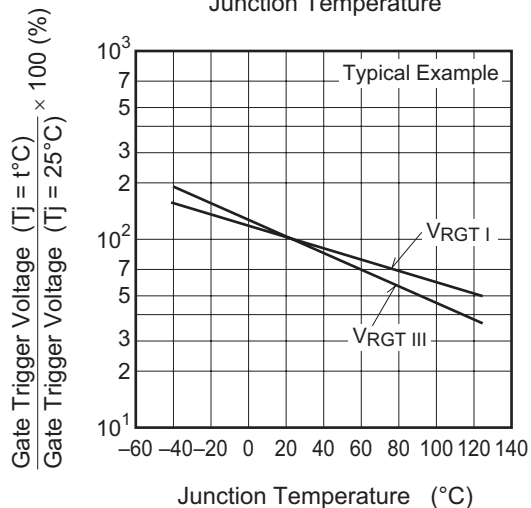
Gate Characteristics (II and III)



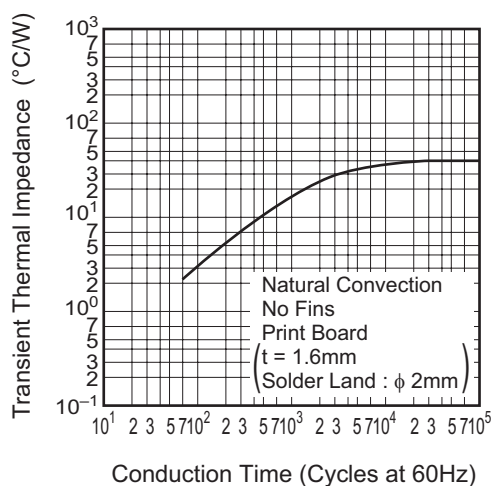
Gate Trigger Current vs. Junction Temperature

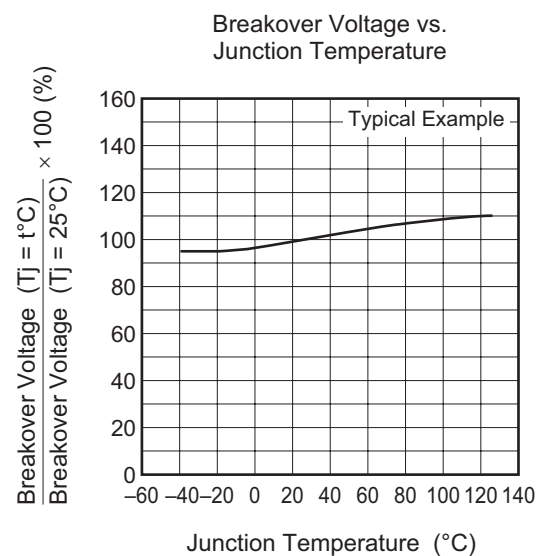
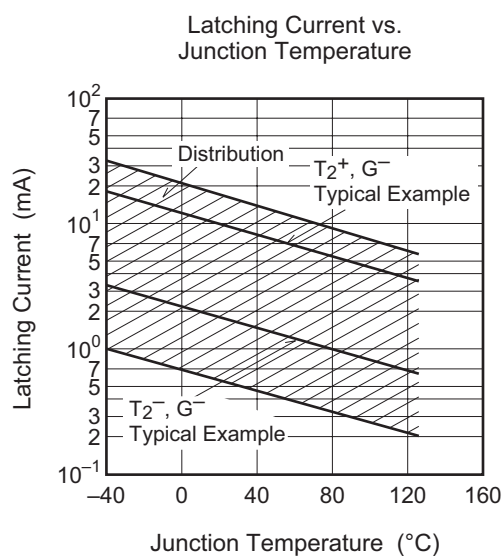
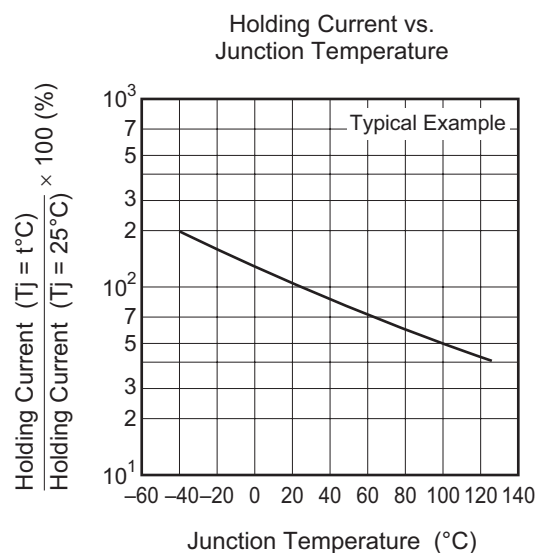
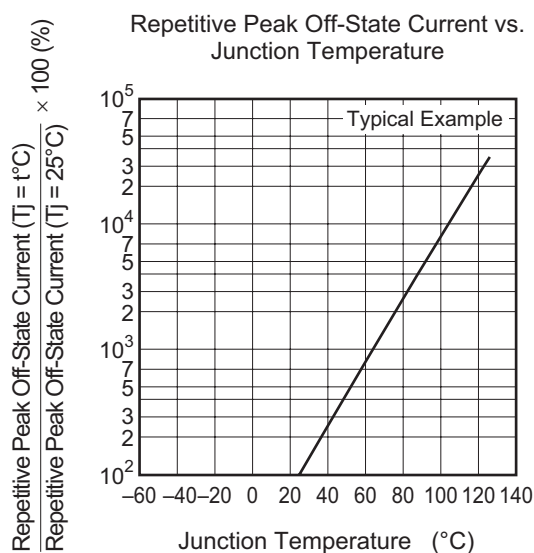
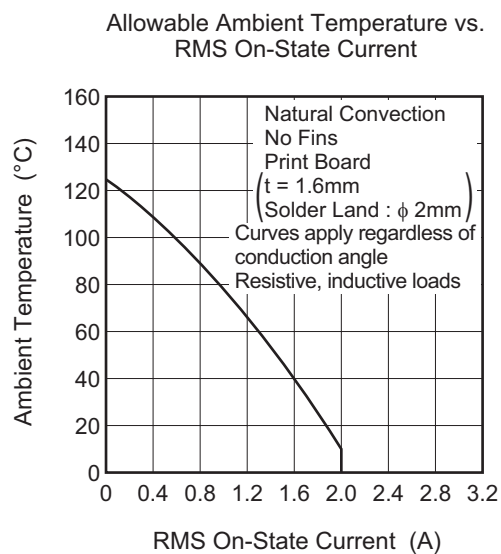
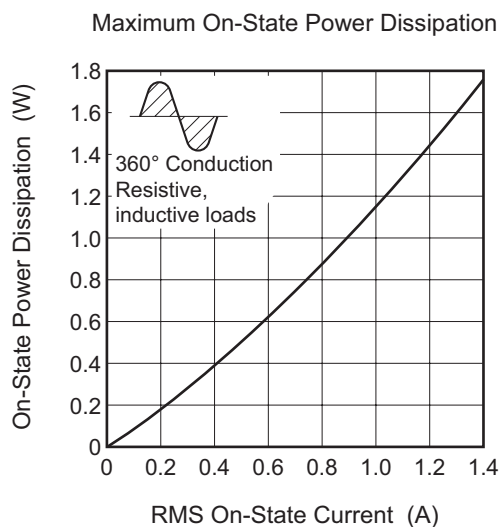


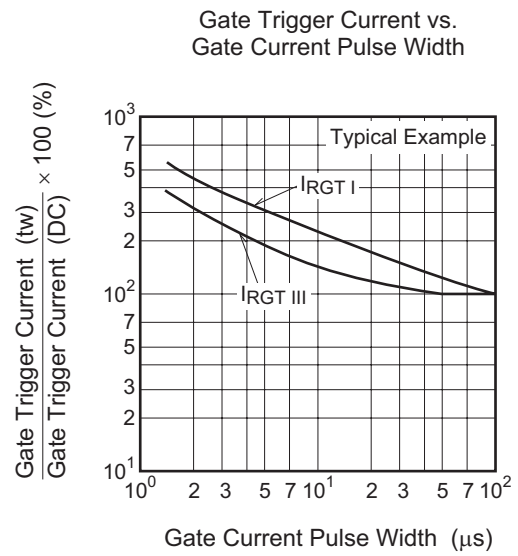
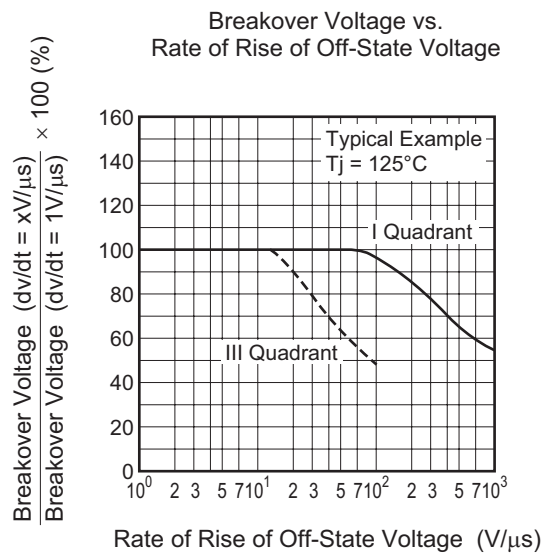
Gate Trigger Voltage vs. Junction Temperature



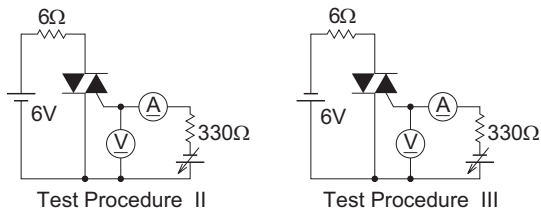
Maximum Transient Thermal Impedance Characteristics (Junction to ambient)







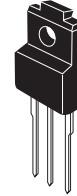
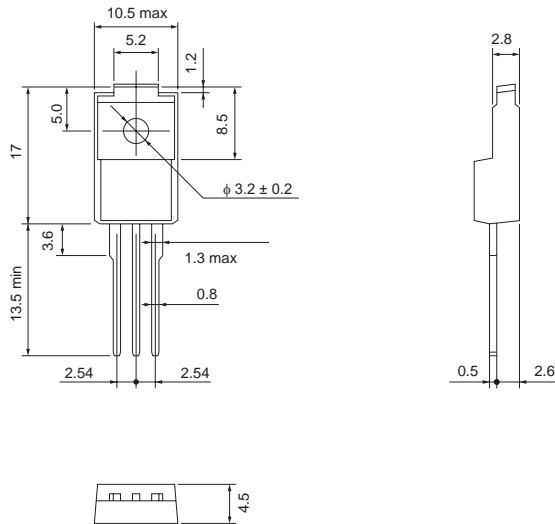
Gate Trigger Characteristics Test Circuits



Package Dimensions

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 ₁	—	—	—
A ₂	—	—	—
b	—	—	—
D	—	—	—
E	—	—	—
e	—	—	—
x	—	—	—
y	—	—	—
y ₁	—	—	—
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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