BCR2PM-12

Triac

Low Power Use

REJ03G0300-0100
Rev.1.00
Aug.20.2004

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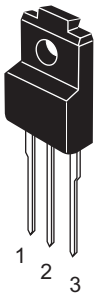
Features

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

Outline

TO-220F



1. 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-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

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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^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	$P_{G\ (AV)}$	0.1	W	
Peak gate voltage	V_{GM}	6	V	
Peak gate current	I_{GM}	1	A	
Junction temperature	Tj	– 40 to +125	°C	
Storage temperature	Tstg	– 40 to +125	°C	
Mass	—	2.0	g	Typical value

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Notes: 1. Gate open.

Electrical Characteristics

Parameter		Symbol	Min.	Typ.	Max.	Unit	Test conditions
Repetitive peak off-state current		I_{DRM}	—	—	0.5	mA	Tj = 125°C, V_{DRM} applied
On-state voltage		V_{TM}	—	—	1.6	V	Tj = 25°C, I_{TM} = 1.5 A, Instantaneous measurement
Gate trigger voltage[Note2]	II	V_{RGTI}	—	—	2.0	V	Tj = 25°C, V_D = 6 V, R_L = 6 Ω, R_G = 330 Ω
	III	V_{RGTIII}	—	—	2.0	V	
Gate trigger current[Note2]	II	I_{RGTI}	—	—	10	mA	Tj = 25°C, V_D = 6 V, R_L = 6 Ω, R_G = 330 Ω
	III	I_{RGTIII}	—	—	10	mA	
Gate non-trigger voltage		V_{GD}	0.1	—	—	V	Tj = 125°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.

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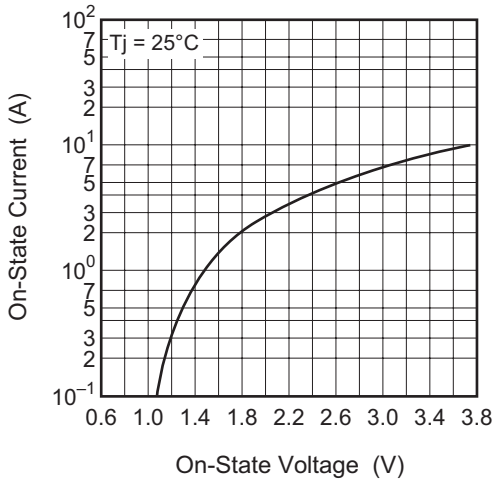
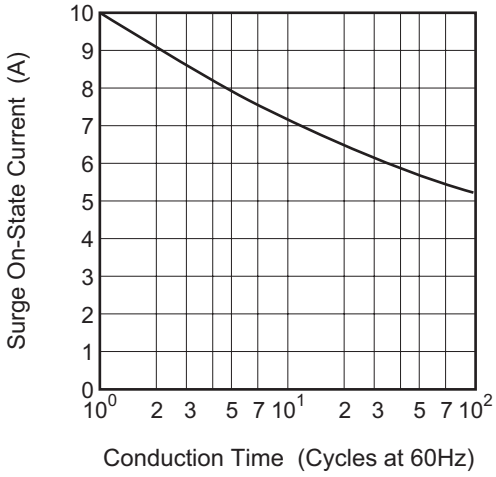
Performance Curves

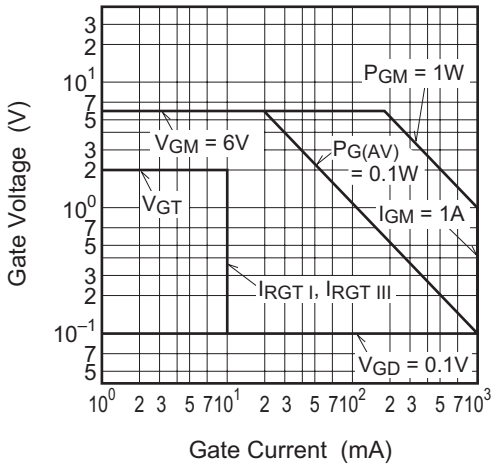
Maximum On-State Characteristics



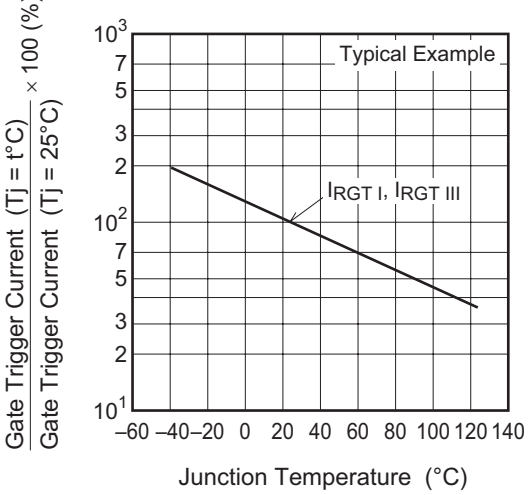
Rated Surge On-State Current



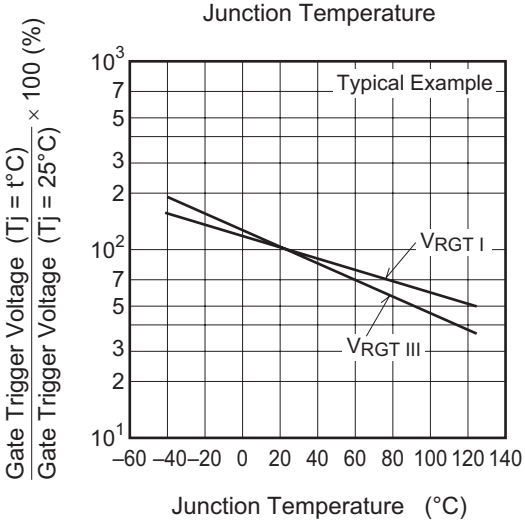
Gate Characteristics (II and III)



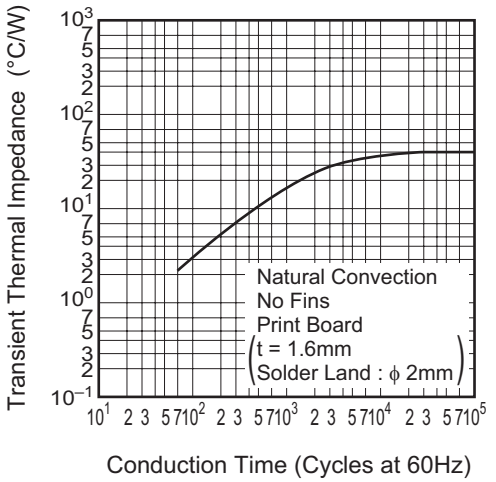
Gate Trigger Current vs. Junction Temperature



Gate Trigger Voltage vs. Junction Temperature



Maximum Transient Thermal Impedance Characteristics (Junction to ambient)



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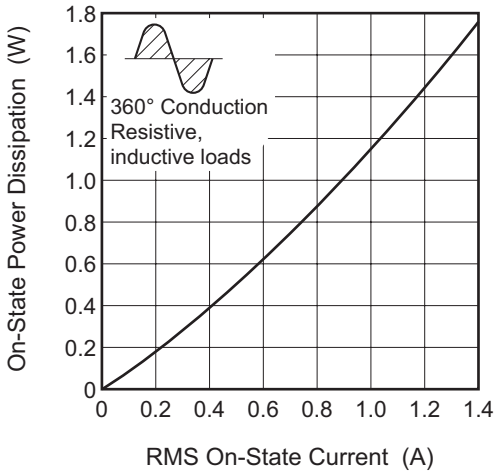
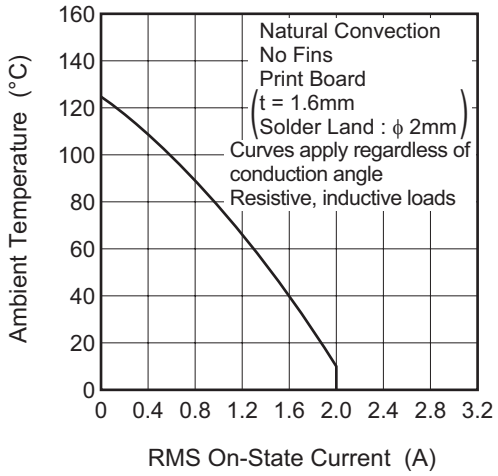
Maximum On-State Power Dissipation



Allowable Ambient Temperature vs.
RMS On-State Current



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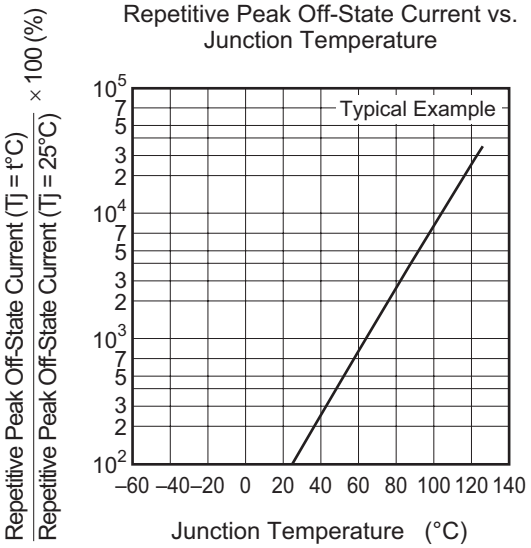
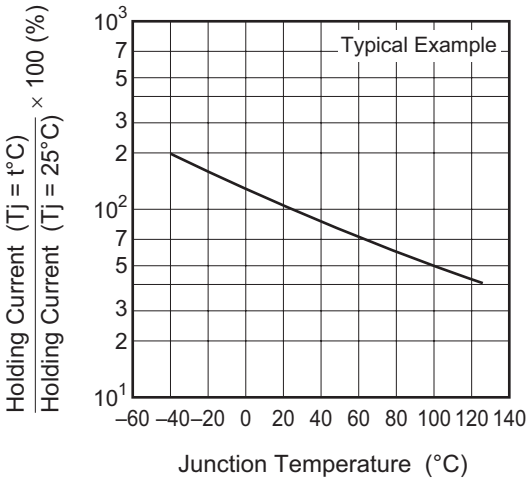
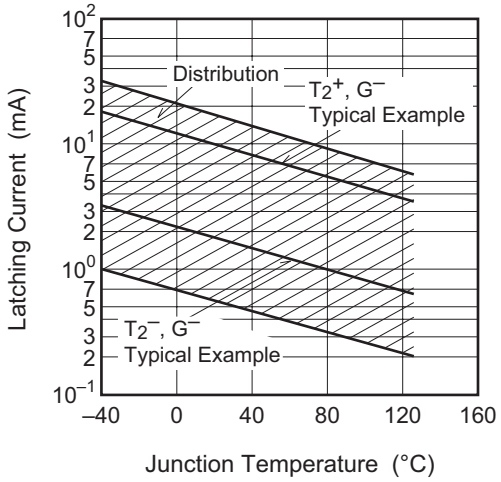
Repetitive Peak Off-State Current vs.
Junction Temperature



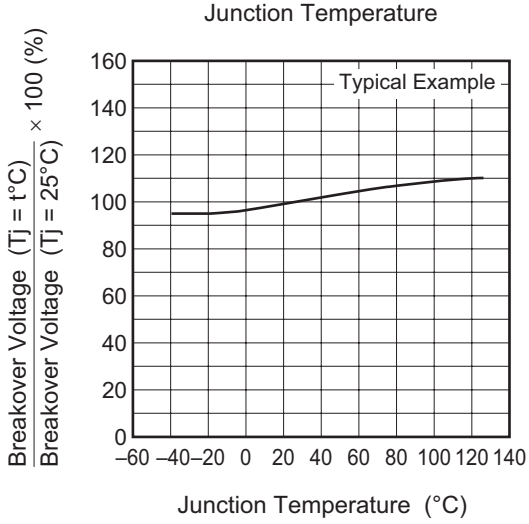
Holding Current vs.
Junction Temperature



Latching Current vs.
Junction Temperature



Breakover Voltage vs.
Junction Temperature



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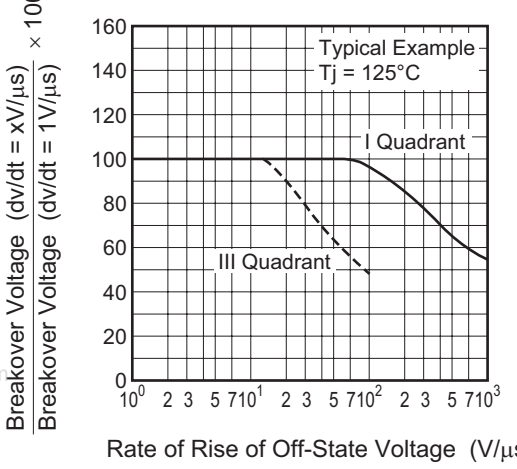
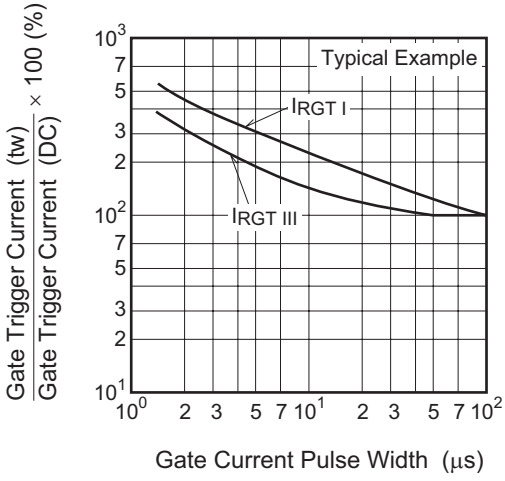
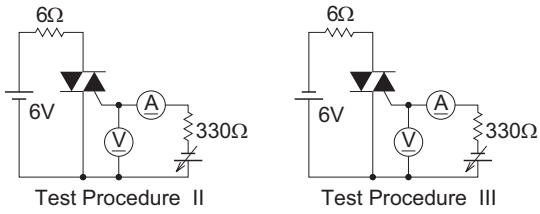
Breakover Voltage vs.
Rate of Rise of Off-State Voltage



Gate Trigger Current vs.
Gate Current Pulse Width



Gate Trigger Characteristics Test Circuits



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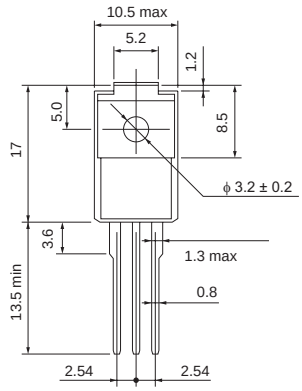
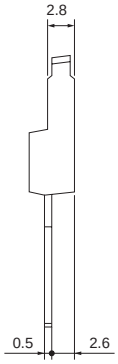
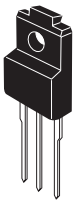
Package Dimensions

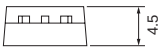
TO-220F

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









Symbol	Dimension in Millimeters		
	Min	Typ	Max
A			
A_1			
A_2			
b			
D			
E			
e			
x			
y			
y_1			
ZD			
ZE			

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

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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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