

BCR2PM-14LE

Triac
Low Power Use

R07DS0233EJ0100
Rev.1.00
Jan 05, 2011

Features

- $I_{T(RMS)}$: 2 A
- V_{DRM} : 800 V ($T_j = 125^\circ\text{C}$)
- $I_{FGT I}$, $I_{RGT I}$, $I_{RGT III}$: 10 mA
- Planar Passivation Type
- The product guaranteed maximum junction temperature 150°C .

Outline

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



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-14LE is used, do not attach the heat radiating fin.

Maximum Ratings

Parameter	Symbol	Voltage class	Unit	Condition
		14		
Repetitive peak off-state voltage ^{Note1}	V_{DRM}	800	V	$T_j = 125^\circ\text{C}$
		700	V	$T_j = 150^\circ\text{C}$
Non-repetitive peak off-state voltage ^{Note1}	V_{DSM}	840	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	60 Hz 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 60 Hz, 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

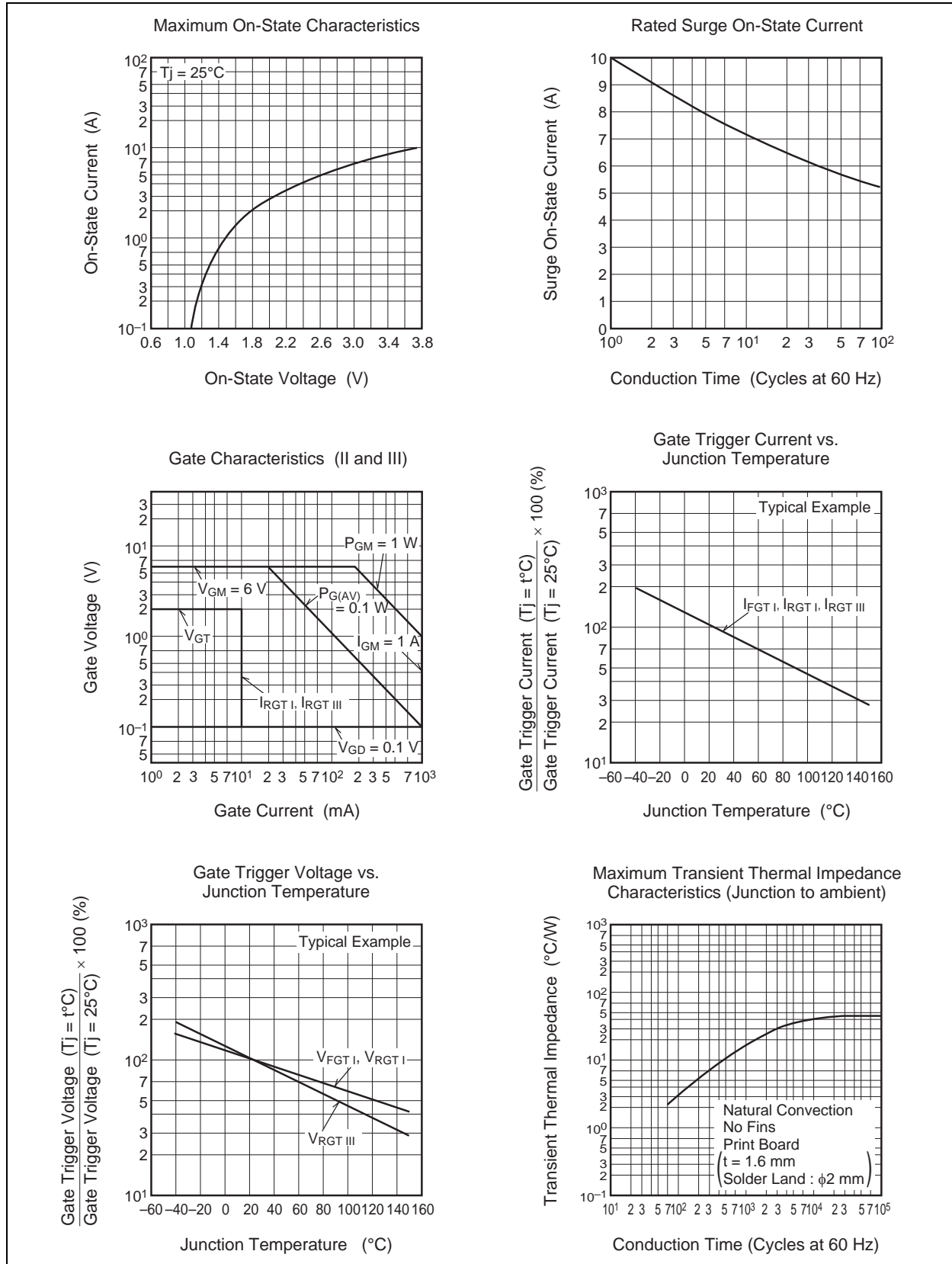
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions	
Repetitive peak off-state current	I_{DRM}	—	—	1.0	mA	$T_j = 150^\circ C$, V_{DRM} applied	
On-state voltage	V_{TM}	—	—	2.1	V	$T_j = 25^\circ C$, $I_{TM} = 3 A$, Instantaneous measurement	
Gate trigger voltage ^{Note2}	I	V_{FGTI}	—	—	2.0	V	$T_j = 25^\circ C$, $V_D = 6 V$, $R_L = 6 \Omega$, $R_G = 330 \Omega$
	II	V_{RGTI}	—	—	2.0	V	
	III	V_{RGTIII}	—	—	2.0	V	
Gate trigger current ^{Note2}	I	I_{FGTI}	—	—	10	mA	$T_j = 25^\circ C$, $V_D = 6 V$, $R_L = 6 \Omega$, $R_G = 330 \Omega$
	II	I_{RGTI}	—	—	10	mA	
	III	I_{RGTIII}	—	—	10	mA	
Gate non-trigger voltage	V_{GD}	0.1	—	—	V	$T_j = 150^\circ C$, $V_D = 1/2 V_{DRM}$	
Thermal resistance	$R_{th(j-a)}$	—	—	45	°C/W	Junction to ambient, Natural convection	
Critical-rate of rise of off-state commutation voltage ^{Note3}	$(dv/dt)_c$	0.5	—	—	V/ μs	$T_j = 125^\circ C$	

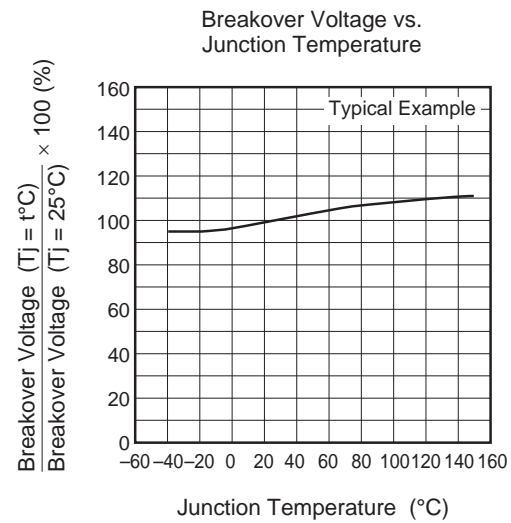
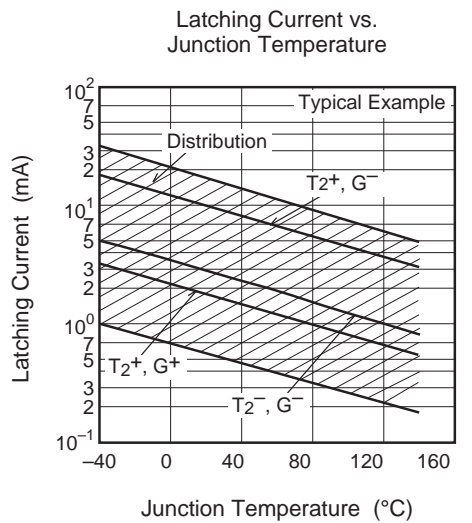
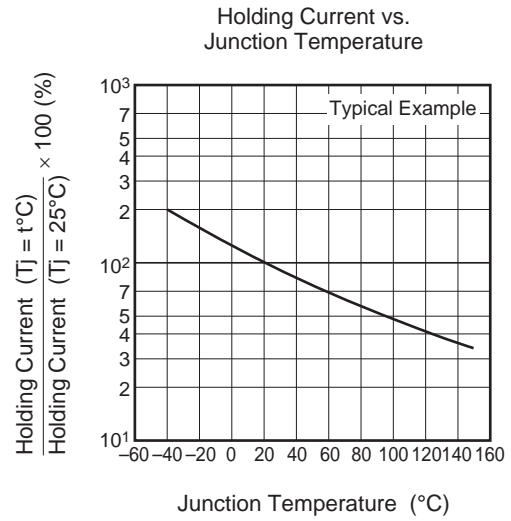
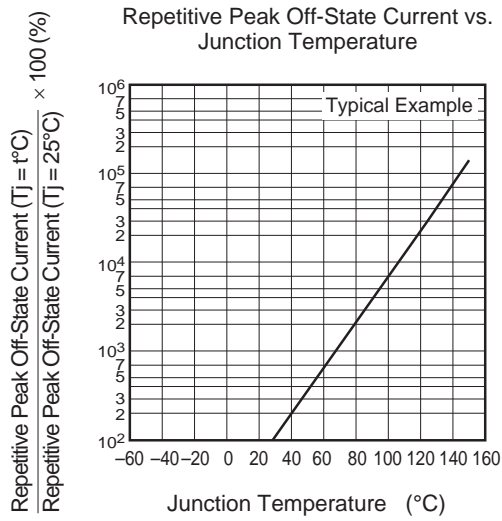
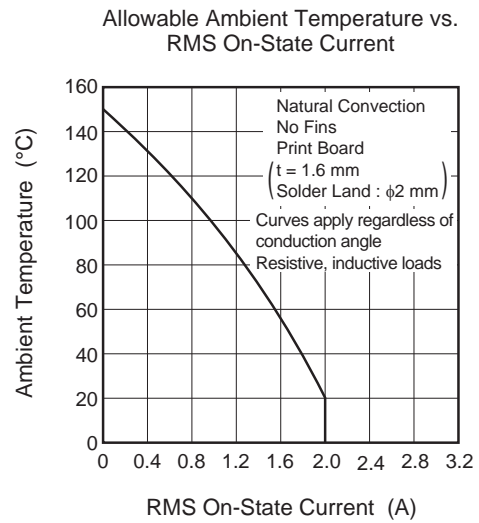
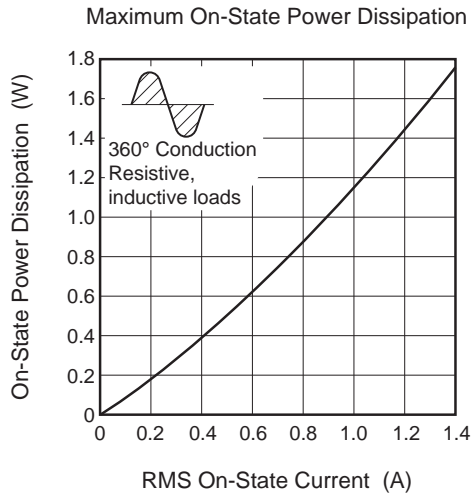
Notes: 2. Measurement using the gate trigger characteristics measurement circuit.

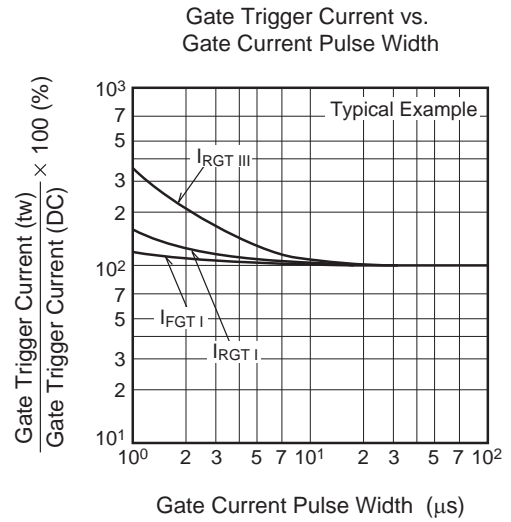
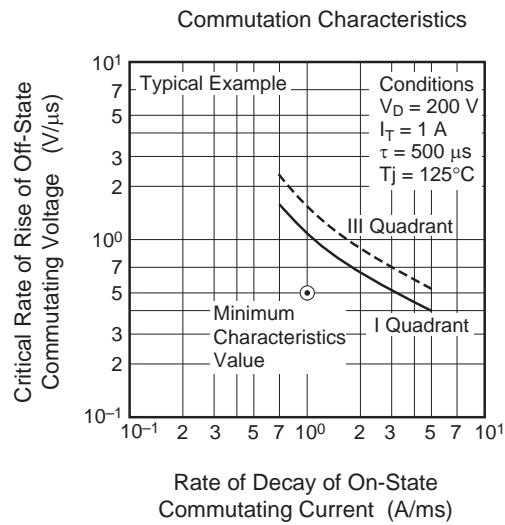
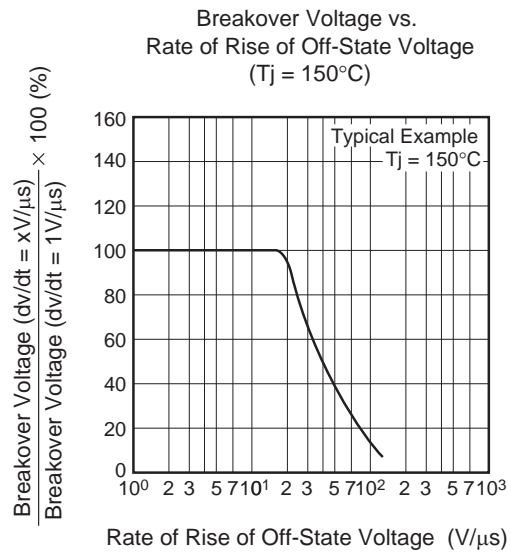
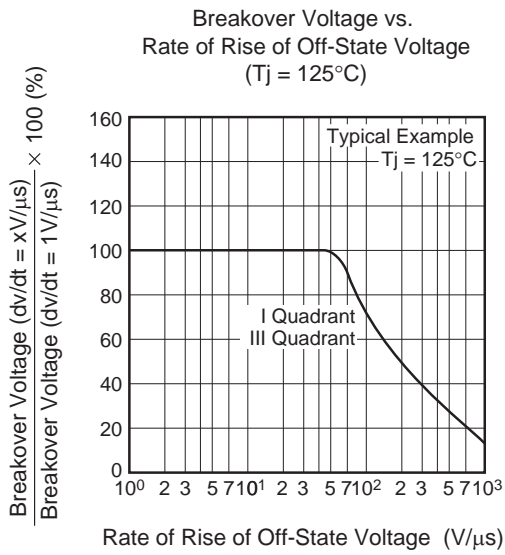
3. Test conditions of the critical-rate of rise of off-state commutation voltage is shown in the table below.

Test conditions	Commutating voltage and current waveforms (inductive load)
1. Junction temperature $T_j = 125^\circ C$ 2. Rate of decay of on-state commutating current $(di/dt)_c = -1.0 A/ms$ 3. Peak off-state voltage $V_D = 400 V$	

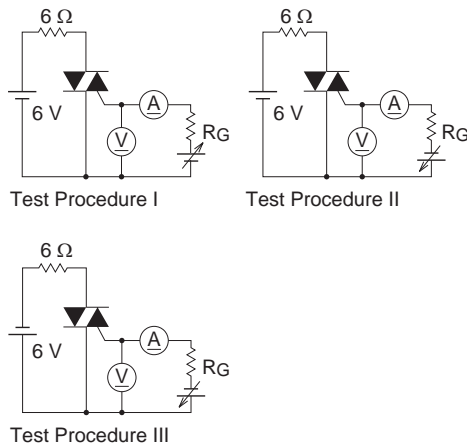
Performance Curves



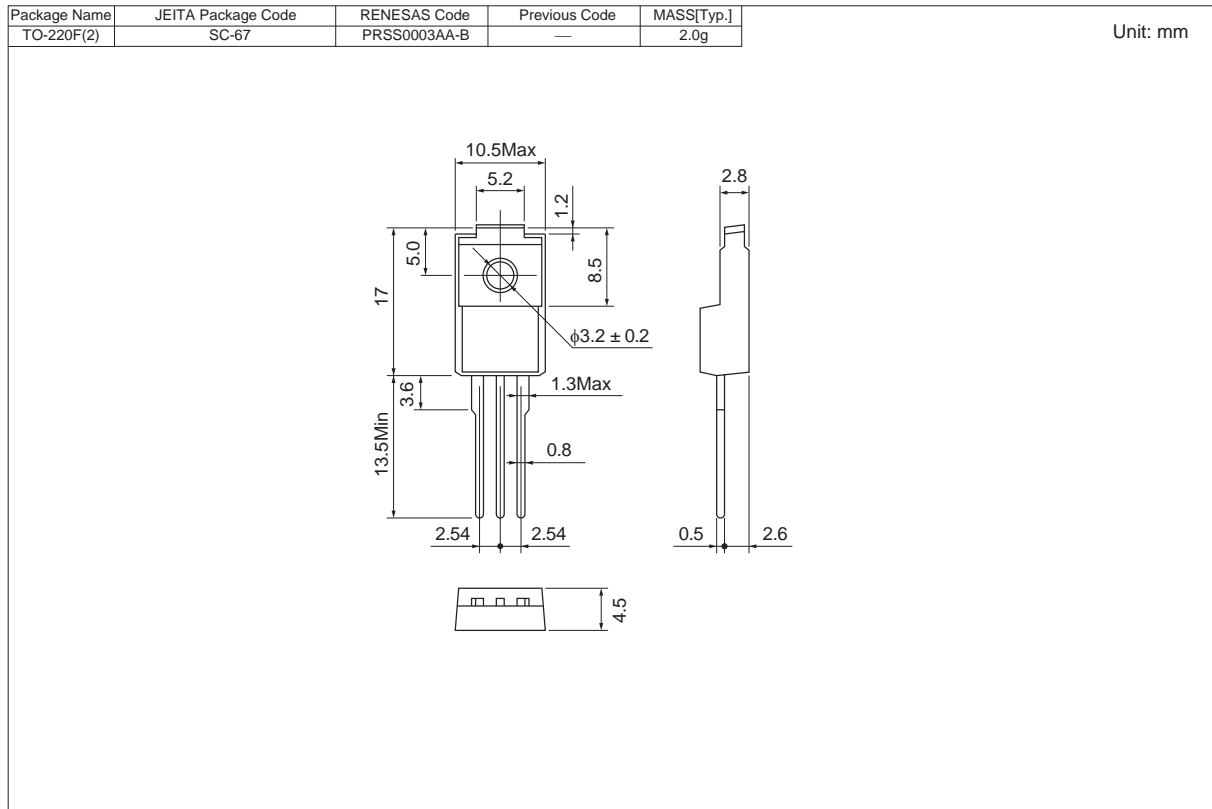




Gate Trigger Characteristics Test Circuits



Package Dimensions



Ordering Information

Orderable Part Number	Packing	Quantity	Remark
BCR2PM-14LE#B00	Bag	100 pcs.	Straight type
BCR2PM-14LE-AS#B00	Tube	50 pcs.	AS Lead form

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

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