

# BCR3FM-12RB

600V - 3A - Triac  
Medium Power Use

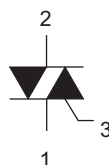
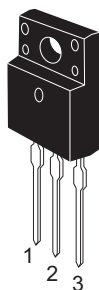
R07DS0962EJ0001  
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## Features

- $I_{T(RMS)}$  : 3 A
- $V_{DRM}$  : 600 V
- $T_j$ : 150 °C
- $I_{FGT}$ ,  $I_{RGT}$ ,  $I_{RGTIII}$ : 15 mA (10 mA) <sup>Note4</sup>
- Insulated Type
- Planar Passivation Type
- Viso: 2000 V

## Outline

RENESAS Package code: PRSS0003AG-A  
(Package name: TO-220FP)



1. T<sub>1</sub> Terminal
2. T<sub>2</sub> Terminal
3. Gate Terminal

## Applications

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

## Maximum Ratings

Parameter	Symbol	Voltage class	
		12	Unit
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

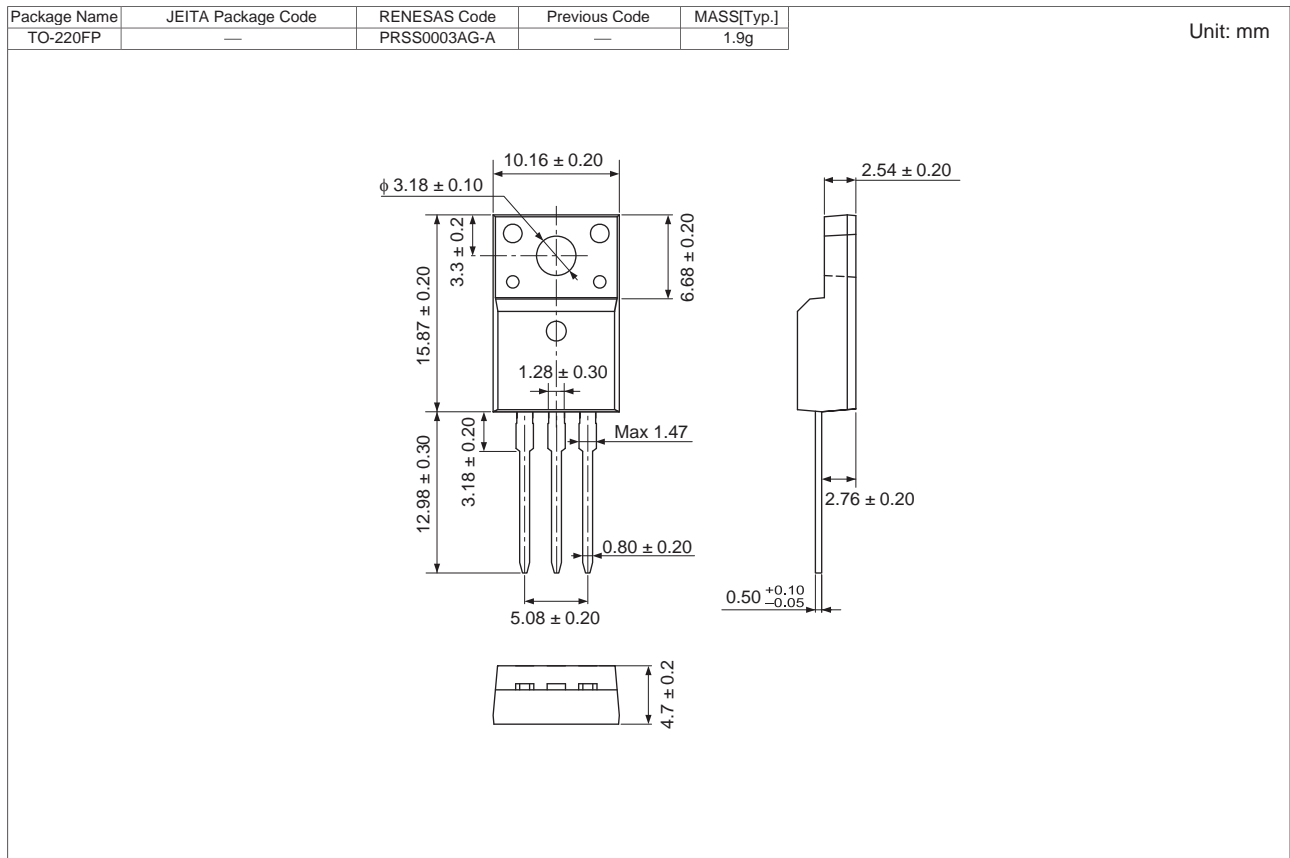
Parameter	Symbol	Ratings	Unit	Conditions
RMS on-state current	$I_{T(RMS)}$	3	A	Commercial frequency, sine full wave 360° conduction, $T_c = 136^\circ\text{C}$
Surge on-state current	$I_{TSM}$	30	A	60 Hz sinewave 1 full cycle, peak value, non-repetitive
$I^2t$ for fusion	$I^2t$	3.7	A <sup>2</sup> s	Value corresponding to 1 cycle of half wave 60Hz, surge on-state current
Peak gate power dissipation	$P_{GM}$	3	W	
Average gate power dissipation	$P_{G(AV)}$	0.3	W	
Peak gate voltage	$V_{GM}$	6	V	
Peak gate current	$I_{GM}$	0.5	A	
Junction Temperature	$T_j$	-40 to +150	°C	
Storage temperature	$T_{stg}$	-40 to +150	°C	
Mass	—	1.9	g	Typical value
Isolation voltage <sup>Note5</sup>	Viso	2000	V	$T_a = 25^\circ\text{C}$ , AC 1 minute T <sub>1</sub> • T <sub>2</sub> • G terminal to case

## Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions	
Repetitive peak off-state current	$I_{DRM}$	—	—	2.0	mA	$T_j = 150^\circ\text{C}$ , $V_{DRM}$ applied	
On-state voltage	$V_{TM}$	—	—	1.5	V	$T_c = 25^\circ\text{C}$ , $I_{TM} = 4.5\text{ A}$ , instantaneous measurement	
Gate trigger voltage <sup>Note2</sup>	I	$V_{FGTI}$	—	—	1.5	V	$T_j = 25^\circ\text{C}$ , $V_D = 6\text{ V}$ , $R_L = 6\ \Omega$ , $R_G = 330\ \Omega$
	II	$V_{RGTI}$	—	—	1.5	V	
	III	$V_{RGTIII}$	—	—	1.5	V	
Gate trigger current <sup>Note2</sup>	I	$I_{FGTI}$	—	—	15 <sup>Note4</sup>	mA	$T_j = 25^\circ\text{C}$ , $V_D = 6\text{ V}$ , $R_L = 6\ \Omega$ , $R_G = 330\ \Omega$
	II	$I_{RGTI}$	—	—	15 <sup>Note4</sup>	mA	
	III	$I_{RGTIII}$	—	—	15 <sup>Note4</sup>	mA	
Gate non-trigger voltage	$V_{GD}$	0.2	—	—	V	$T_j = 125^\circ\text{C}$ , $V_D = 1/2 V_{DRM}$	
		0.1	—	—	V	$T_j = 150^\circ\text{C}$ , $V_D = 1/2 V_{DRM}$	
Thermal resistance	$R_{th(j-c)}$	—	—	4.0	$^\circ\text{C/W}$	Junction to case <sup>Note3</sup>	

- Notes: 1. Gate open.  
 2. Measurement using the gate trigger characteristics measurement circuit.  
 3. The contact thermal resistance  $R_{th(c-f)}$  in case of greasing is  $0.5^\circ\text{C/W}$ .  
 4. High sensitivity ( $I_{GT} \leq 10\text{ mA}$ ) is also available ( $I_{GT}$  item: 1).  
 5. Make sure that your finished product containing this device meets your safe isolation requirements.  
 For safety, it's advisable that heatsink is electrically floating.

## Package Dimensions



## Ordering Information

Orderable Part Number	Packing	Quantity	Remark
BCR3FM-12RB#BB0	Tube	50 pcs.	Straight type
BCR3FM-12RB-A8#BB0	Tube	50 pcs.	A8 Lead form

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

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