

BCR3FM-14LB

700V - 3A - Triac Medium Power Use R07DS0963EJ0001 Rev.0.01 Nov 28, 2012

Features

- $I_{T (RMS)}$: 3 A
- V_{DRM} : 800 V (Tj =125 °C)
- Tj: 150 °C

Outline

• I_{FGTI}, I_{RGTI}, I_{RGTIII}: 30 mA

Insulated TypePlanar Passivation Type

• Viso: 2000 V

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

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

Applications

240-V AC electric equipment, washing machine, vacuum cleaner, garbage disposer, solenoid driver, small motor control, and other general purpose control applications

Maximum Ratings

Parameter	Symbol	Voltage class	Unit	Conditions
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Repetitive peak off-state voltage ^{Note1}	V _{DRM}	800	V	Tj = 125°C
		700		Tj = 150°C
Non-repetitive peak off-state voltage ^{Note1}	V _{DSM}	840	V	



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Parameter	Symbol	Ratings	Unit	Conditions
RMS on-state current	I _{T (RMS)}	3	A	Commercial frequency, sine full wave 360° conduction, Tc = 133°C
Surge on-state current	I _{TSM}	30	A	60 Hz sinewave 1 full cycle, peak value, non-repetitive
I ² t for fusion	l ² t	3.7	A ² s	Value corresponding to 1 cycle of half wave 60 Hz, 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	Α	
Junction Temperature	Tj	-40 to +150	°C	
Storage temperature	Tstg	-40 to +150	°C	
Mass		1.9	g	Typical value
Isolation voltage Note5	Viso	2000	V	Ta = 25°C, AC 1 minute T ₁ • T ₂ • G terminal to case

Electrical Characteristics

Parameter		Symbol	Min.	Тур.	Max.	Unit	Test conditions
Repetitive peak off-state cur	rent	I _{DRM}	_	—	2.0	mA	Tj = 150°C, V _{DRM} applied
On-state voltage		V _{TM}	_	—	1.6	V	$Tc = 25^{\circ}C$, $I_{TM} = 4.5A$,
							instantaneous measurement
Gate trigger voltage ^{Note2}	Ι	V_{FGTI}	—	—	1.5	V	$Tj = 25^{\circ}C, V_D = 6 V, R_L = 6 \Omega,$
	II	V_{RGTI}	—	—	1.5	V	$R_G = 330 \Omega$
	III	V _{RGTIII}	_	—	1.5	V	
Gate trigger curent ^{Note2}	Ι	I _{FGTI}	—	—	30	mA	$Tj = 25^{\circ}C, V_D = 6 V, R_L = 6 \Omega,$
	II	I _{RGTI}	_	—	30	mA	R _G = 330 Ω
	III	I _{RGTIII}	—		30	mA	
Gate non-trigger voltage	•	V_{GD}	0.2	_	_	V	$Tj = 125^{\circ}C, V_D = 1/2 V_{DRM}$
			0.1	—	_	V	$Tj = 150^{\circ}C, V_{D} = 1/2 V_{DRM}$
Thermal resistance		R _{th (j-c)}	_	—	4.0	°C/W	Junction to case ^{Note3}
Critical-rate of rise of off-stat	е	(dv/dt)c	5	—	—	V/µs	Tj = 125°C
commutation voltage ^{Note4}			1		_	V/µs	Tj = 150°C

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°C /W.

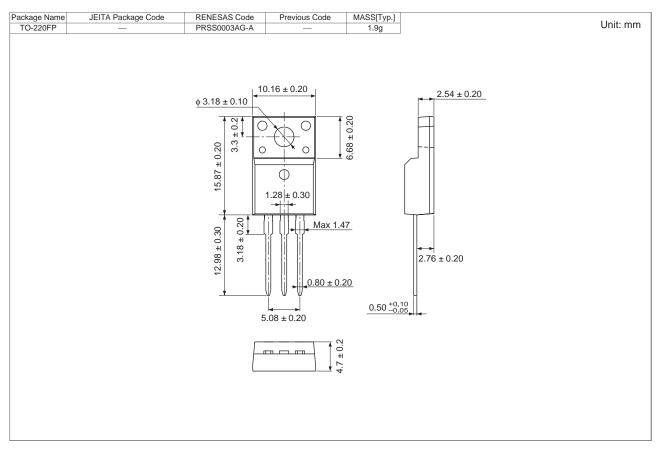
4. Test conditions of the critical-rate of rise of off-state commutation voltage is shown in the table below.

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.

Test conditions	Commutating voltage and current waveforms (inductive load)			
1. Junction temperature Tj = 125/150°C	Supply Voltage			
 Rate of decay of on-state commutating current (di/dt)c = -1.5A/ms 	Main Current → Time			
3. Peak off-state voltage V _D = 400 V	Main Voltage → Time (dv/dt)c V _D			



Package Dimensions



Ordering Information

Orderable Part Number	Packing	Quantity	Remark
BCR3FM-14LB#BB0	Tube	50 pcs.	Straight type
BCR3FM-14LB-A8#BB0	Tube	50 pcs.	A8 Lead form

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



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