

BCR30FM-8LB

400V - 30A - Triac

Medium Power Use

R07DS0965EJ0101 Rev.1.01 Feb. 19, 2019

Features

I_{T (RMS)}: 30 A
 V_{DRM}: 400 V
 Tj: 150 °C

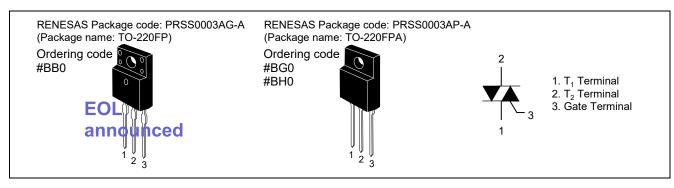
I_{FGTI}, I_{RGTI}, I_{RGT III}: 30 mA

• Insulated Type

• Planar Passivation Type

• Viso: 2000V

Outline



Application

Motor control, Heater control, Power supply, Solid state relay, and other general purpose AC control applications.

Maximum Ratings

Parameter	Symbol	Voltage class	Unit
		8	
Repetitive peak off-state voltage ^{Note1}	V _{DRM}	400	V
Non-repetitive peak off-state voltage ^{Note1}	V _{DSM}	500	V

Parameter	Symbol	Ratings	Unit	Conditions
RMS on-state current	I _{T (RMS)}	30	Α	Commercial frequency, sine full wave
				360°conduction,
				Tc = 33°C (#BB0, #BH0) ^{Note2}
				Tc = 21°C (#BG0) ^{Note2}
Surge on-state current	I _{TSM}	300	Α	50 Hz sinewave 1 full cycle, peak value,
				non-repetitive
I ² t for fusion	l ² t	450	A ² s	Value corresponding to 1 cycle of half wave
				50 Hz, surge on-state current
Peak gate power dissipation	P_{GM}	5	W	
Average gate power dissipation	P _G (AV)	0.5	W	
Peak gate voltage	V _{GM}	10	V	
Peak gate current	I _{GM}	2	Α	
Junction Temperature	Tj	-40 to +150	°C	
Storage temperature	Tstg	-40 to +150	°C	
Isolation voltage Note6	Viso	2000	V	Ta=25°C, AC 1 minute,
				T ₁ • T ₂ • G terminal to case

Notes: 1. Gate open.

2. Please refer to the Ordering Information.

Electrical Characteristics

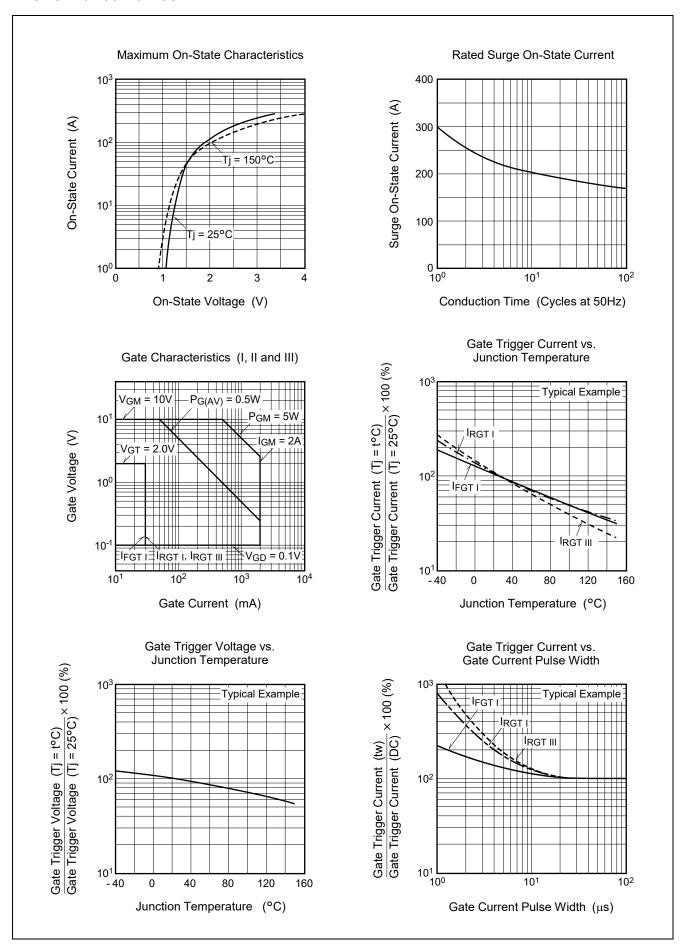
Parameter		Symbol	Min.	Тур.	Max.	Unit	Test conditions
Repetitive peak off-state current		I _{DRM}	_	_	3.0	mA	Tj = 125°C, V _{DRM} applied
			_	_	5.0	mA	Tj = 150°C, V _{DRM} applied
On-state voltage		V _{тм}	_	_	1.5	V	Tc = 25°C, I _{TM} = 45 A, instantaneous measurement
Gate trigger voltage ^{Note3}	I	V_{FGTI}	_	_	2.0	V	Tj = 25°C, V_D = 6 V, R_L = 6 Ω ,
	II	V _{RGTI}	_	_	2.0	V	$R_G = 330 \Omega$
	III	V_{RGTIII}	_	_	2.0	V	
Gate trigger curent ^{Note3}	I	I _{FGTI}	_	_	30	mA	Tj = 25°C, V_D = 6 V, R_L = 6 Ω,
	II	I _{RGTI}	_	_	30	mA	$R_G = 330 \Omega$
	III	IRGTIII	_	_	30	mA	
Gate non-trigger voltage		V_{GD}	0.2	_	_	V	Tj = 125°C, V _D = 1/2 V _{DRM}
			0.1	_	_		Tj = 150°C, V _D = 1/2 V _{DRM}
Thermal resistance		R _{th (j-c)}	_	_	3.0	°C/W	Junction to case ^{Note4} (#BB0, #BH0) ^{Note2}
			_	_	3.3	°C/W	Junction to case ^{Note4} (#BG0) ^{Note2}
Critical-rate of rise of off-state commutation voltage ^{Note5}		(dv/dt)c	10	_	_	V/μs	Tj = 125°C
			1	_	_		Tj = 150°C

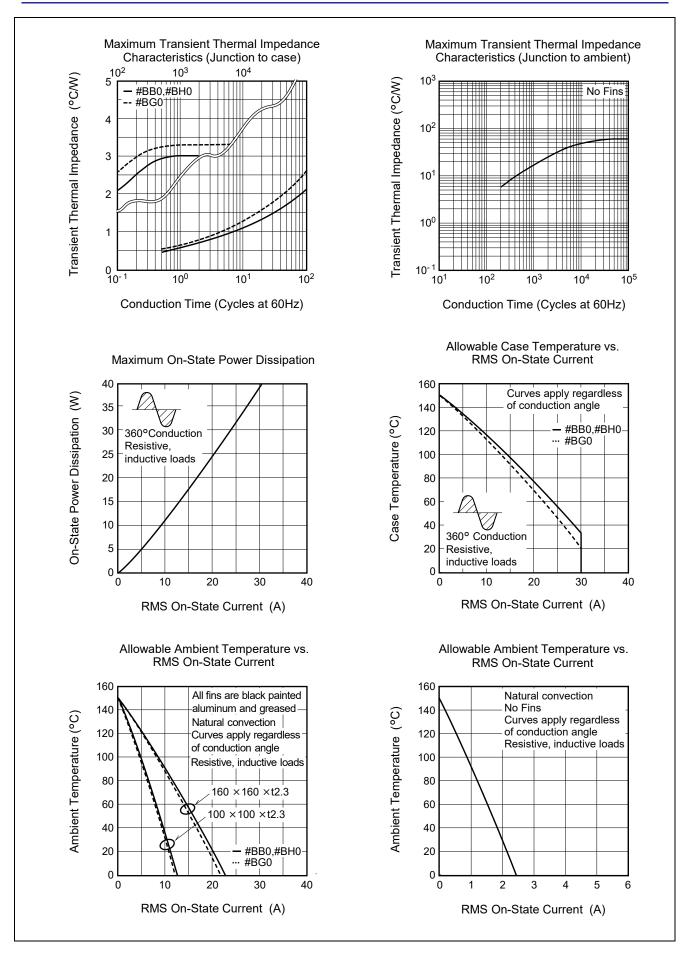
Notes: 3. Measurement using the gate trigger characteristics measurement circuit.

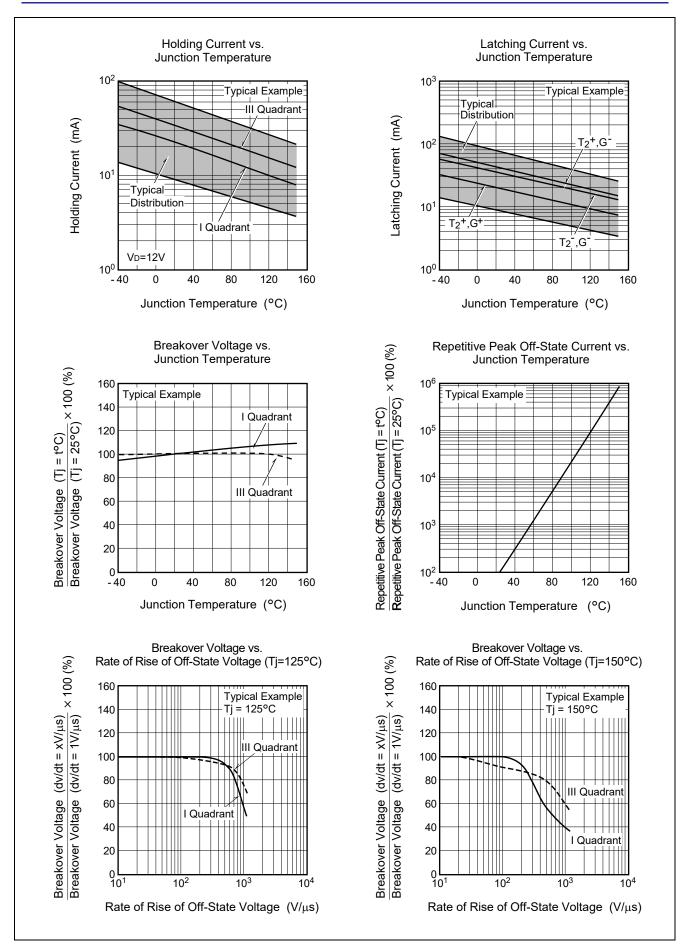
- 4. The contact thermal resistance $R_{th(c-f)}$ in case of greasing is 0.5°C/W .
- 5. Test conditions of the critical-rate of rise of off-state commutation voltage is shown in the table below.
- 6. Make sure that your finished product containing this device meets your safe isolation requirements. For safety, it's advisable that heatsink is electrically floating.

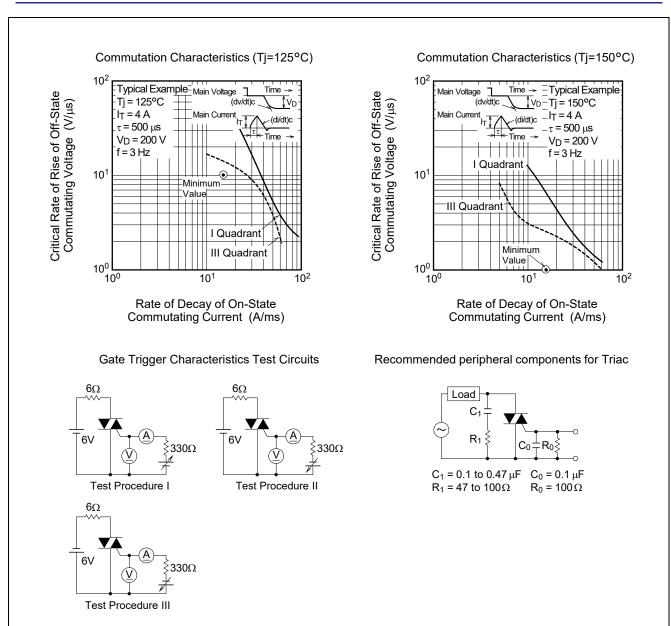
Test conditions	Commutating voltage and current waveforms (inductive load)		
 Junction temperature Tj = 125°C/150°C Rate of decay of on-state commutating current (di/dt)c = - 16 A/ms Peak off-state voltage V_D = 400 V 	Supply Voltage Main Current Main Voltage (di/dt)c Time Main Voltage (dv/df)c		

Performance Curves









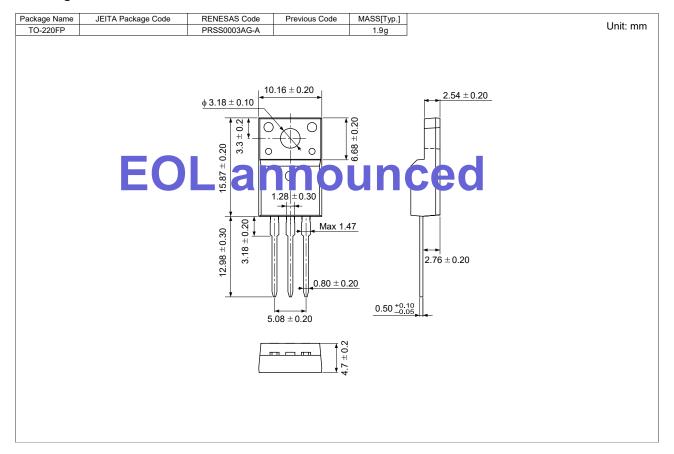
Package Dimensions

Ordering code: #BG0, #BH0

JEITA Package Code	RENESAS Code	Previous Code	MASS (Typ) [g]
-	PRSS0003AP-A	TO-220FPA	1.65
10.0±0.3 10.0±0.3 10.0±0.3 2.54±0.25		.7±0.2	Unit: mi

Package Dimensions

Ordering code: #BB0 <EOL announced>



Ordering Information

Orderable Part Number	Package	Quantity Note7	Remark	Status
BCR30FM-8LB#BG0	TO-220FPA	50 pcs./ tube	Straight type	Mass Production
BCR30FM-8LB-□□#BG0	TO-220FPA	50 pcs./ tube	□□:Lead form type	
BCR30FM-8LB#BH0	TO-220FPA	50 pcs./ tube	Straight type	
BCR30FM-8LB-□□#BH0	TO-220FPA	50 pcs./ tube	□□:Lead form type	
BCR30FM-8LB#BB0	TO-220FP	50 pcs./ tube	Straight type	EOL announced
BCR30FM-8LB-□□#BB0	TO-220FP	50 pcs./ tube	□□:Lead form type	

Notes: 7. Please confirm the specification about the shipping in detail.

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