BCR1BM-16A

800V - 1A - Triac
Low Power Use

R07DS0967EJ0001
Rev.0.01
Nov 28, 2012

Features

- $I_{T\ (RMS)}$: 1 A
- V_{DRM} : 800 V (Tj = 125°C)
- I_{FGTI}, I_{RGTI}, I_{RGTIII} : 15 mA
- Tj: 125 °C
- Planar Passivation Type

Outline

RENESAS Package code: PRSS0003EA-A
(Package name: TO-92)

1. T_2 Terminal
2. Gate Terminal
3. T_1 Terminal

Applications

Washing machine, electric fan, air cleaner, other general purpose control applications

Maximum Ratings

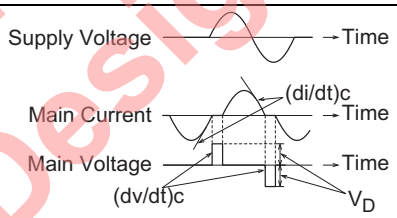
Parameter	Symbol	Voltage class	Unit
		16	
Repetitive peak off-state voltage Note1	V_{DRM}	800	V

Parameter	Symbol	Ratings	Unit	Conditions
RMS on-state current	$I_{T\ (RMS)}$	1	A	Commercial frequency, sine full wave 360° conduction, Tc = 49°C
Surge on-state current	I_{TSM}	8	A	60 Hz sinewave 1 full cycle, peak value, non-repetitive
I^2t for fusing	I^2t	0.26	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}	0.5	A	
Junction temperature	Tj	– 40 to +125	°C	
Storage temperature	Tstg	– 40 to +125	°C	
Mass	—	0.23	g	Typical value

Electrical Characteristics

Parameter		Symbol	Min.	Typ.	Max.	Unit	Test conditions
Repetitive peak off-state current		I_{DRM}	—	—	1.0	mA	Tj = 125°C, V_{DRM} applied
On-state voltage		V_{TM}	—	—	2.0	V	Tc = 25°C, I_{TM} = 1.2 A, Instantaneous measurement
Gate trigger voltage[Note2]	I	V_{FGTI}	—	—	2.0	V	Tj = 25°C, V_D = 6 V, R_L = 6 Ω, R_G = 330 Ω
	II	V_{RGTI}	—	—	2.0	V	
	III	V_{RGTIII}	—	—	2.0	V	
Gate trigger current[Note2]	I	I_{FGTI}	—	—	15	mA	Tj = 25°C, V_D = 6 V, R_L = 6 Ω, R_G = 330 Ω
	II	I_{RGTI}	—	—	15	mA	
	III	I_{RGTIII}	—	—	15	mA	
Gate non-trigger voltage		V_{GD}	0.1	—	—	V	Tj = 125°C, V_D = 1/2 V_{DRM}
Thermal resistance		$R_{th\ (j-c)}$	—	—	50	°C/W	Junction to case[Note3]
Critical-rate of rise of off-state commutating voltage[Note4]		(dv/dt)c	0.5	—	—	V/μs	Tj = 125°C

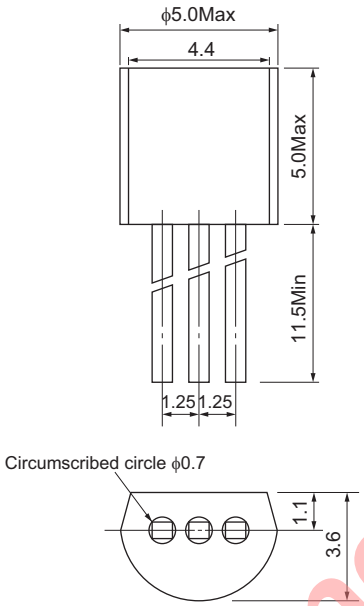
Notes: 1. Gate open.
2. Measurement using the gate trigger characteristics measurement circuit.
3. Case temperature is measured at the T_2 terminal 1.5 mm away from the molded case.
4. Test conditions of the critical-rate of rise of off-state commutating voltage is shown in the table below.

Test conditions	Commutating voltage and current waveforms (inductive load)
1. Junction temperature Tj = 125°C 2. Rate of decay of on-state commutating current (di/dt)c = – 0.5 A/ms 3. Peak off-state voltage V_D = 400 V	

Package Dimensions

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
TO-92*	SC-43A	PRSS0003EA-A	T920	0.23g

Unit: mm



Ordering Information

Orderable Part Number	Packing	Quantity	Remark
BCR1BM-16A#B00	Bag	500 pcs.	Straight type
BCR1BM-16A-A6#B00	Bag	500 pcs.	A6 Lead form
BCR1BM-16A-TB#B00	Adhesive Tape	2000 pcs.	A8 Lead form

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

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