

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 ($T_j = 125^{\circ}\text{C}$)
- I_{FGT} , I_{RGT} , I_{RGTIII} : 15 mA
- T_j : 125 °C
- Planar Passivation Type

Outline

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



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

Applications

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

Maximum Ratings

Parameter	Symbol	Voltage class	
		16	Unit
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, $T_c = 49^{\circ}\text{C}$
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	T_j	- 40 to +125	$^{\circ}\text{C}$	
Storage temperature	T_{stg}	- 40 to +125	$^{\circ}\text{C}$	
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	$T_j = 125^\circ\text{C}$, V_{DRM} applied
On-state voltage	V_{TM}	—	—	2.0	V	$T_c = 25^\circ\text{C}$, $I_{TM} = 1.2\text{ A}$, Instantaneous measurement
Gate trigger voltage ^{Note2}	I	V_{FGTI}	—	—	2.0	$T_j = 25^\circ\text{C}$, $V_D = 6\text{ V}$, $R_L = 6\ \Omega$, $R_G = 330\ \Omega$
	II	V_{RGTI}	—	—	2.0	
	III	V_{RGTIII}	—	—	2.0	
Gate trigger current ^{Note2}	I	I_{FGTI}	—	—	15	$T_j = 25^\circ\text{C}$, $V_D = 6\text{ V}$, $R_L = 6\ \Omega$, $R_G = 330\ \Omega$
	II	I_{RGTI}	—	—	15	
	III	I_{RGTIII}	—	—	15	
Gate non-trigger voltage	V_{GD}	0.1	—	—	V	$T_j = 125^\circ\text{C}$, $V_D = 1/2 V_{DRM}$
Thermal resistance	$R_{th(j-c)}$	—	—	50	$^\circ\text{C/W}$	Junction to case ^{Note3}
Critical-rate of rise of off-state commutating voltage ^{Note4}	$(dv/dt)_c$	0.5	—	—	$\text{V}/\mu\text{s}$	$T_j = 125^\circ\text{C}$

- 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 $T_j = 125^\circ\text{C}$ 2. Rate of decay of on-state commutating current $(di/dt)_c = -0.5\text{ A/ms}$ 3. Peak off-state voltage $V_D = 400\text{ V}$	

Package Dimensions

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

The drawing shows the package dimensions in millimeters. The top view is a square with a maximum side length of 5.0 mm. The width of the leads is 4.4 mm. The distance between the centerlines of the leads is 1.25 mm. The side view shows a maximum height of 5.0 mm and a minimum lead length of 11.5 mm. The bottom view shows a semi-circular lead form with a circumscribed circle diameter of 0.7 mm, a lead height of 1.1 mm, and a total width of 3.6 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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