BCR2EM-14LB

700V - 2A - Triac
Medium Power Use

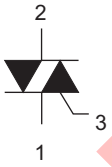
R07DS0968EJ0001
Rev.0.01
Nov 28, 2012

Features

- $I_{T\ (RMS)}$: 2 A
- V_{DRM}: 800 V (Tj = 125°C)
- I_{FGTI}, I_{RGTI}, I_{RGTIII}: 10 mA
- Tj: 150 °C
- Planar Passivation Type

Outline

RENESAS Package code: PRSS0003ZM-A
(Package name : TO-126)



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

Applications

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

Maximum Ratings

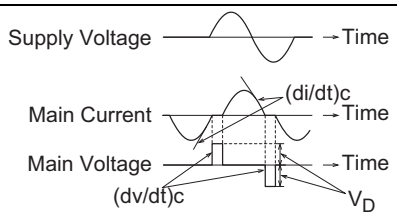
Parameter	Symbol	Voltage class	Unit	Conditions
		14		
Repetitive peak off-state voltage Note1	V_{DRM}	800	V	Tj = 125°C
		700	V	Tj = 150°C
Non-repetitive peak off-state voltage Note1	V_{DSM}	840	V	

Parameter	Symbol	Ratings	Unit	Conditions
RMS on-state current	$I_{T\ (RMS)}$	2	A	Commercial frequency, sine full wave 360° conduction Tc = 138°C Note3
Surge on-state current	I_{TSM}	8	A	50 Hz sinewave 1 full cycle, peak value, non-repetitive
I^2t for fusion	I^2t	0.27	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}	1	A	
Junction Temperature	Tj	–40 to +150	°C	
Storage temperature	Tstg	–40 to +150	°C	
Mass	—	0.715	g	Typical value

Electrical Characteristics

Parameter		Symbol	Min.	Typ.	Max.	Unit	Test conditions
Repetitive peak off-state current		I_{DRM}	—	—	2.0	mA	Tj = 150°C, V_{DRM} applied
On-state voltage		V_{TM}	—	—	2.1	V	Tc = 25°C, I_{TM} = 3A, 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 curent Note2	I	I_{FGTI}	—	—	10	mA	Tj = 25°C, V_D = 6 V, R_L = 6 Ω, R_G = 330 Ω
	II	I_{RGTI}	—	—	10	mA	
	III	I_{RGTIII}	—	—	10	mA	
Gate non-trigger voltage		V_{GD}	0.2	—	—	V	Tj = 125°C, V_D = 1/2 V_{DRM}
			0.1	—	—	V	Tj = 150°C, V_D = 1/2 V_{DRM}
Thermal resistance		$R_{th\ (j-c)}$	—	—	4.0	°C/W	Junction to case Note3
		$R_{th\ (j-a)}$	—	—	75	°C/W	Junction to ambient Natural convection, No fins
Critical-rate of rise of off-state commutation voltage Note4		(dv/dt)c	0.5	—	—	V/μs	Tj = 125°C

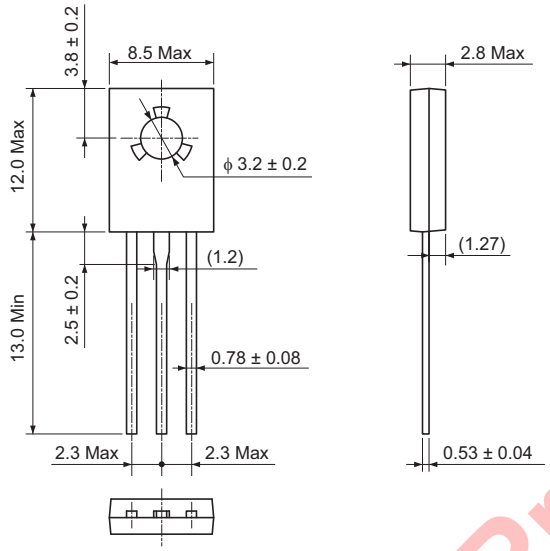
Notes: 1. Gate open.
2. Measurement using the gate trigger characteristics measurement circuit.
3. Case temperature is measured at the T_2 terminal 2.0 mm apart from the molded case.
4. Test conditions of the critical-rate of rise of off-state commutating voltage shown in the table below.

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 = –1.0 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-126	—	PRSS0003ZM-A	TO-126H	0.715g

Unit: mm



Ordering Information

Orderable Part Number	Packing	Quantity	Remark
BCR2EM-14LB#B00	Tube	60 pcs.	Straight type

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