BCR30AM-12LB

Triac

Medium Power Use

(The product guaranteed maximum junction temperature of 150°C)

REJ03G0472-0300
Rev.3.00
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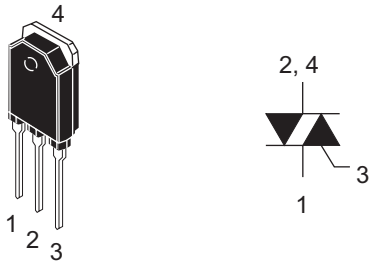
Features

- $I_{T(RMS)}$: 30 A
- V_{DRM} : 600 V
- $I_{FGT\ I}$, $I_{RGT\ I}$, $I_{RGT\ III}$: 50 mA
- Non-Insulated Type
- Planar Passivation Type

Outline

RENESAS Package code: PRSS0004ZE-A
(Package name: TO-3P)



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

Applications

Contactless AC switch, electric heater control, light dimmer, on/off and speed control of small induction motor, on/off control of copier lamp

Warning

1. Refer to the recommended circuit values around the triac before using.
2. Be sure to exchange the specification before using. Otherwise, general triacs with the maximum junction temperature of 125°C will be supplied.

Maximum Ratings

Parameter	Symbol	Voltage class	Unit
		12	
Repetitive peak off-state voltage[Note1]	V_{DRM}	600	V
Non-repetitive peak off-state voltage[Note1]	V_{DSM}	720	V

Parameter	Symbol	Ratings	Unit	Conditions
RMS on-state current	$I_{T(RMS)}$	30	A	Commercial frequency, sine full wave, Tc = 100°C
Surge on-state current	I_{TSM}	300	A	60Hz sinewave 1 full cycle, peak value, non-repetitive
I^2t for fusing	I^2t	378	A^2s	Value corresponding to 1 cycle of half wave 60Hz, 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	A	
Junction temperature	Tj	– 40 to +150	°C	
Storage temperature	Tstg	– 40 to +150	°C	
Mass	—	4.8	g	Typical value

Notes: 1. Gate open.

Electrical Characteristics

Parameter		Symbol	Min.	Typ.	Max.	Unit	Test conditions
Repetitive peak off-state current		I_{DRM}	—	—	3.0/5.0	mA	Tj = 125°C/150°C, V_{DRM} applied
On-state voltage		V_{TM}	—	—	1.6	V	Tc = 25°C, I_{TM} = 45A
Gate trigger voltage[Note2]	I	V_{FGTI}	—	—	2.5	V	Tj = 25°C, V_D = 6 V, R_L = 6 Ω, R_G = 330 Ω
	II	V_{RGTI}	—	—	2.5	V	
	III	V_{RGTIII}	—	—	2.5	V	
Gate trigger current[Note2]	I	I_{FGTI}	—	—	50	mA	Tj = 25°C, V_D = 6 V, R_L = 6 Ω, R_G = 330 Ω
	II	I_{RGTI}	—	—	50	mA	
	III	I_{RGTIII}	—	—	50	mA	
Gate non-trigger voltage		V_{GD}	0.2/0.1	—	—	V	Tj = 125°C/150°C, V_D = 1/2V_{DRM}
Thermal resistance		$R_{th(j-c)}$	—	—	1.2	°C/W	Junction to case[Note3]
Critical-rate of rise of off-state commutating voltage[Note4]		(dv/dt)c	20/2	—	—	V/µs	Tj = 125°C/150°C

Notes: 2. Measurement using the gate trigger characteristics measurement circuit.
3. The contact thermal resistance $R_{th\ (c\text{-}f)}$ in case of greasing is 0.3°C/W.
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/150°C 2. Rate of decay of on-state commutating current (di/dt)c = –16 A/ms 3. Peak off-state voltage V_D = 400 V