

BCR30AM-12LB

Triac

Medium Power Use

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

REJ03G0472-0300 Rev.3.00 Nov 30, 2007

Features

• $I_{T(RMS)}$: 30 A

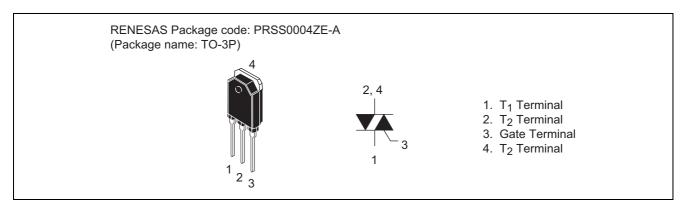
• V_{DRM} : 600 V

• I_{FGT I}, I_{RGT I}, I_{RGT III}: 50 mA

Non-Insulated Type

Planar Passivation Type

Outline



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	
Farameter	Syllibol	12	Offic	
Repetitive peak off-state voltage ^{Note1}	V_{DRM}	600	V	
Non-repetitive peak off-state voltage ^{Note1}	V_{DSM}	720	V	

BCR30AM-12LB (The product guaranteed maximum junction temperature of 150°C)

Parameter	Symbol	Ratings	Unit	Conditions
RMS on-state current	I _{T(RMS)}	30	А	Commercial frequency, sine full wave, Tc = 100°C
Surge on-state current	I _{TSM}	300	А	60Hz sinewave 1 full cycle, peak value, non-repetitive
I ² t for fusing	l ² t	378	A ² s	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	Α	
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.	Тур.	Max.	Unit	Test conditions
Repetitive peak off-state curr	rent	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,
	II	V_{RGTI}	_	_	2.5	V	$R_G = 330 \Omega$
	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,
	II	I_{RGTI}			50	mA	$R_G = 330 \Omega$
	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-stat commutating voltage ^{Note4}	е	(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 $R_{\text{th (c-f)}}$ 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	Supply Voltage
 2. Rate of decay of on-state commutating current (di/dt)c = -16 A/ms 3. Peak off-state voltage V_D = 400 V 	Main Current Main Voltage (dv/dt)c Time (dv/dt)c