

# BCR08AS-14A

700V - 0.8A - Triac

Low Power Use

R07DS0970EJ0001

Rev.0.01

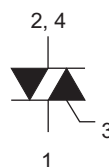
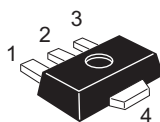
Nov 28, 2012

## Features

- $I_{T(RMS)}$  : 0.8 A
- $V_{DRM}$  : 700 V
- $I_{FGT1}$ ,  $I_{RGT1}$ ,  $I_{RGTIII}$  : 5 mA
- Completed Pb Free
- Non-Insulated Type
- Planar Passivation Type
- Surface Mounted Type

## Outline

RENESAS Package code: PLZZ0004CA-A)  
(Package name: UPAK)



1. T<sub>1</sub> Terminal
2. T<sub>2</sub> Terminal
3. Gate Terminal
4. T<sub>2</sub> Terminal

## Applications

Hybrid IC, solid state relay, electric fan, washing machine, and other general purpose control applications

## Maximum Ratings

Parameter	Symbol	Voltage class	Unit
		14	
Repetitive peak off-state voltage <sup>Note1</sup>	$V_{DRM}$	700	V
Non- repetitive peak off-state voltage <sup>Note1</sup>	$V_{DSM}$	840	V

Parameter	Symbol	Ratings	Unit	Conditions
RMS on-state current	$I_{T(RMS)}$	0.8	A	Commercial frequency, sine full wave 360° conduction, $T_a = 40^{\circ}C$ <sup>Note3</sup>
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 <sup>2</sup> s	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	°C	
Storage temperature	$T_{stg}$	- 40 to +125	°C	
Mass	—	50	mg	Typical value

## Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions
Repetitive peak off-state current	$I_{\text{DRM}}$	—	—	1.0	mA	$T_j = 125^\circ\text{C}$ , $V_{\text{DRM}}$ applied
On-state voltage	$V_{\text{TM}}$	—	—	2.0	V	$T_c = 25^\circ\text{C}$ , $I_{\text{TM}} = 1.2\text{ A}$ , Instantaneous measurement
Gate trigger voltage <sup>Note2</sup>	I	$V_{\text{FGTI}}$	—	—	2.0	$T_j = 25^\circ\text{C}$ , $V_D = 6\text{ V}$ , $R_L = 6\ \Omega$ , $R_G = 330\ \Omega$
	II	$V_{\text{RGTI}}$	—	—	2.0	
	III	$V_{\text{RGTIII}}$	—	—	2.0	
Gate trigger current <sup>Note2</sup>	I	$I_{\text{FGTI}}$	—	—	5	$T_j = 25^\circ\text{C}$ , $V_D = 6\text{ V}$ , $R_L = 6\ \Omega$ , $R_G = 330\ \Omega$
	II	$I_{\text{RGTI}}$	—	—	5	
	III	$I_{\text{RGTIII}}$	—	—	5	
Gate non-trigger voltage	$V_{\text{GD}}$	0.2	—	—	V	$T_j = 125^\circ\text{C}$ , $V_D = 1/2 V_{\text{DRM}}$
Thermal resistance	$R_{\text{th (j-a)}}$	—	—	65	$^\circ\text{C/W}$	Junction to ambient <sup>Note3</sup>
Critical-rate of rise of off-state commutating voltage <sup>Note4</sup>	$(dv/dt)_c$	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. Soldering with ceramic plate (25 mm×25 mm×t0.7 mm)  
 4. Test conditions of the critical-rate of rise of off-state commutating voltage are 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 $(di/dt)_c = -0.4\text{ A/ms}$ 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
UPAK	SC-62	PLZZ0004CA-A	UPAK / UPAKV	0.050g	

The drawing shows three views of the package: a top view, a side view, and a bottom view. The top view shows a rectangular package with a diameter of  $\phi 1$  in the center. Dimensions include a total width of  $4.5 \pm 0.1$  mm, a top width of  $1.8$  Max mm, a top thickness of  $0.4$  mm, a central height of  $2.5 \pm 0.1$  mm, and a total height of  $4.25$  Max mm. The bottom view shows a width of  $3.0$  mm and a distance of  $0.48$  Max mm from the center to the edge. The side view shows a total height of  $1.5 \pm 0.1$  mm and a width of  $0.44$  Max mm. The bottom view also shows a width of  $0.53$  Max mm and a distance of  $0.48$  Max mm from the center to the edge. The bottom view also shows a width of  $1.5$  mm and a distance of  $0.8$  Min mm from the center to the edge. The bottom view also shows a width of  $0.4$  mm and a distance of  $0.2$  mm from the center to the edge.

## Ordering Information

Orderable Part Number	Packing	Quantity	Remark
BCR08AS-14AT14#B10	Embossed Tape	4000 pcs.	Taping direction "T1"

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