



BCR08AM-14A

Triac

Low Power Use

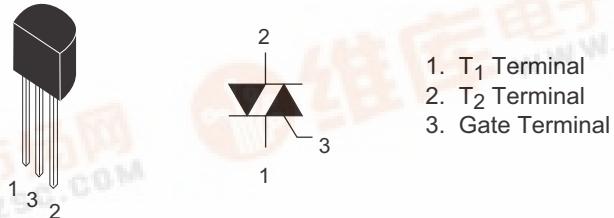
REJ03G1200-0200
Rev.2.00
Nov 30, 2007

Features

- $I_T(\text{RMS})$: 0.8 A
- V_{DRM} : 700 V
- $I_{\text{FGT I}}, I_{\text{RGIT I}}, I_{\text{RGIT III}}$: 5 mA
- Planar Passivation Type

Outline

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



Applications

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

Maximum Ratings

Parameter	Symbol	Voltage class		Unit
		14		
Repetitive peak off-state voltage ^{Note1}	V_{DRM}	700		V
Non-repetitive peak off-state voltage ^{Note1}	V_{DSM}	840		V

Parameter	Symbol	Ratings	Unit	Conditions
RMS on-state current	I_{TRMS}	0.8	A	Commercial frequency, sine full wave 360° conduction, $T_c = 67^\circ\text{C}$
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

Notes: 1. Gate open.

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	$T_c = 25^\circ\text{C}$, $I_{TM} = 1.2$ A, Instantaneous measurement
Gate trigger voltage ^{Note2}	I	V_{FGT_I}	—	2.0	V	$T_j = 25^\circ\text{C}$, $V_D = 6$ V, $R_L = 6$ Ω , $R_G = 330$ Ω
	II	V_{RGTI}	—	2.0	V	
	III	$V_{RGTI_{III}}$	—	2.0	V	
Gate trigger current ^{Note2}	I	I_{FGT_I}	—	5	mA	$T_j = 25^\circ\text{C}$, $V_D = 6$ V, $R_L = 6$ Ω , $R_G = 330$ Ω
	II	I_{RGTI}	—	5	mA	
	III	$I_{RGTI_{III}}$	—	5	mA	
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	—	—	V/ μ s	$T_j = 125^\circ\text{C}$

Notes: 2. Measurement using the gate trigger characteristics measurement circuit.

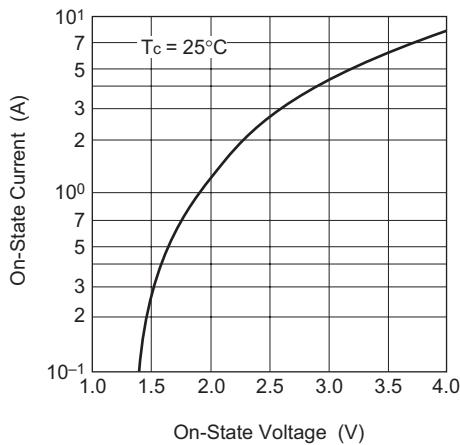
3. Case temperature is measured at the T_2 terminal 1.5 mm away from the molded case.

4. Test conditions of the critical-rate of rise of off-state commutating voltage is shown in the table below.

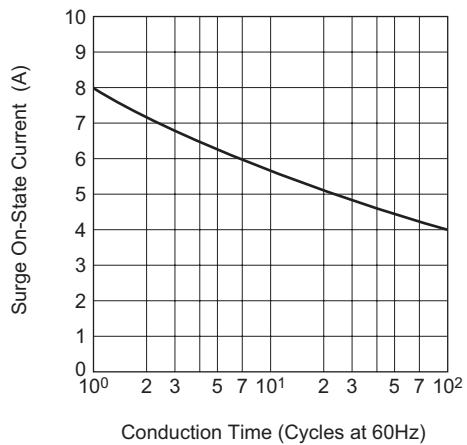
Test conditions	Commutating voltage and current waveforms (inductive load)
<ol style="list-style-type: none"> 1. Junction temperature $T_j = 125^\circ\text{C}$ 2. Rate of decay of on-state commutating current $(di/dt)_c = -0.4$ A/ms 3. Peak off-state voltage $V_D = 400$ V 	<p>Supply Voltage</p> <p>Main Current</p> <p>Main Voltage</p> <p>$(dv/dt)_c$</p> <p>V_D</p>

Performance Curves

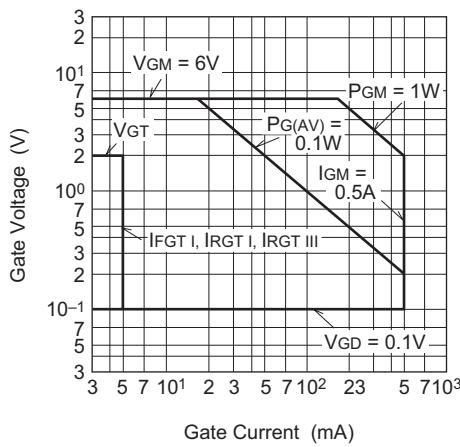
Maximum On-State Characteristics



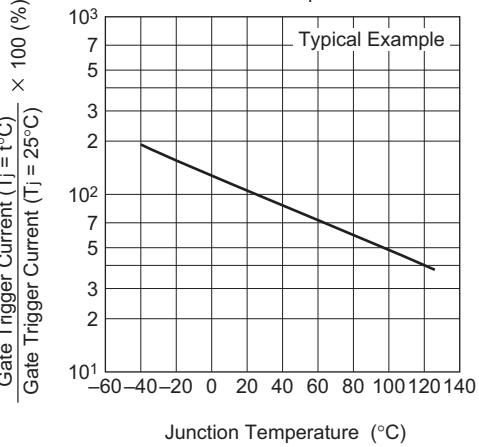
Rated Surge On-State Current



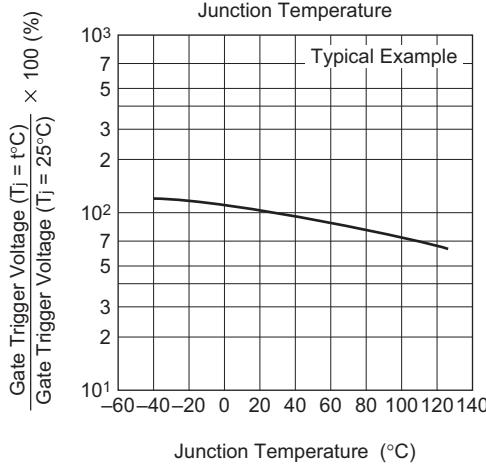
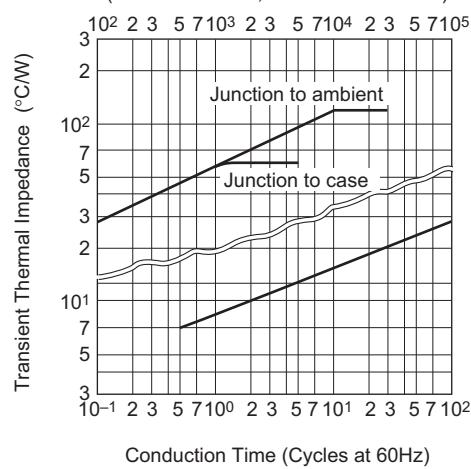
Gate Characteristics



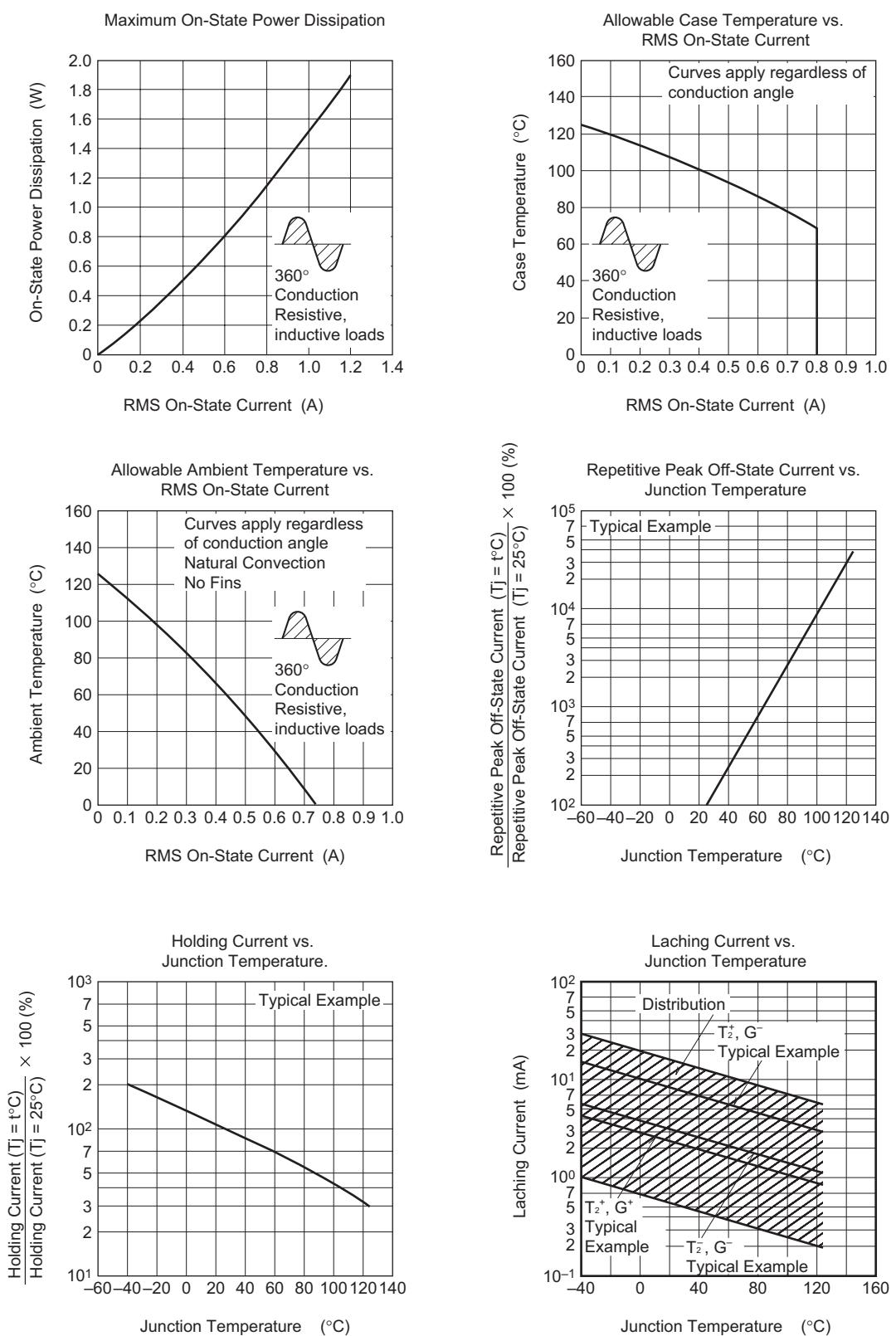
Gate Trigger Current vs. Junction Temperature



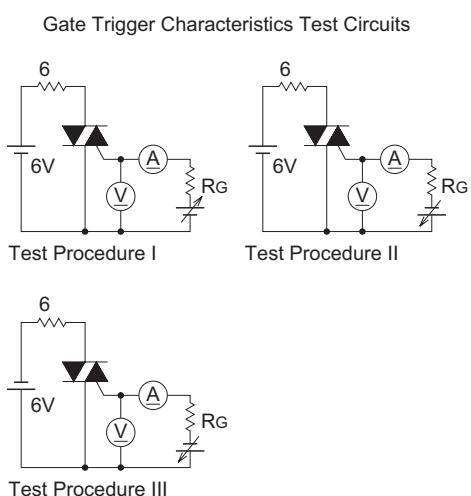
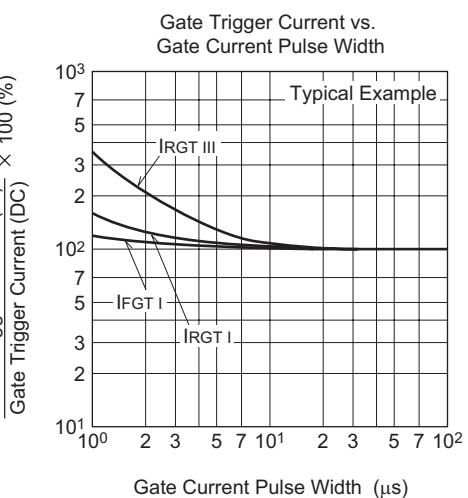
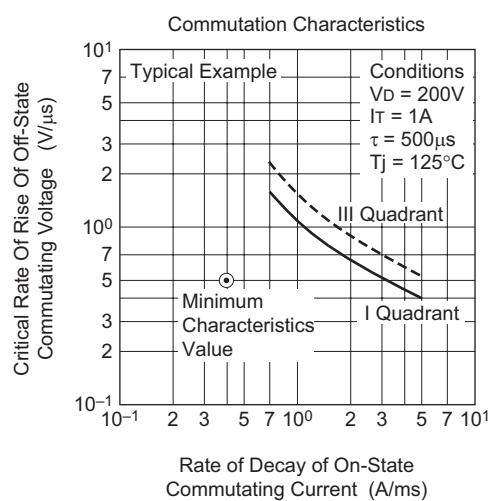
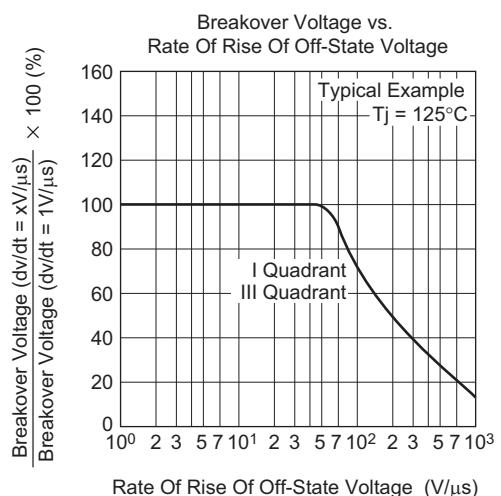
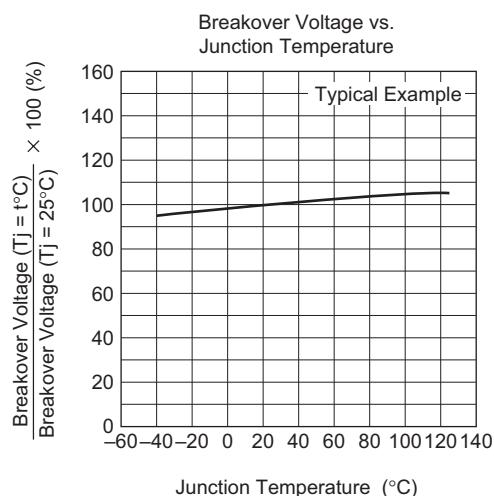
Gate Trigger Voltage vs. Junction Temperature

Maximum Transient Thermal Impedance Characteristics
(Junction to case, Junction to ambient)

BCR08AM-14A



BCR08AM-14A



BCR08AM-14A

Package Dimensions

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

Top view diagram of the BCR08AM-14A package showing dimensions: top width 4.4, top height 5.0Max, bottom height 11.5Min, lead spacing 1.25, lead thickness 1.25, and a circumscribed circle of 0.7 at the bottom.

Order Code

Lead form	Standard packing	Quantity	Standard order code	Standard order code example
Straight type	Vinyl sack	500	Type name	BCR08AM-14A
Lead form	Vinyl sack	500	Type name – Lead forming code	BCR08AM-14A-A6
Form A8	Taping	2000	Type name – TB	BCR08AM-14A-TB

Note : Please confirm the specification about the shipping in detail.

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