

BCR16CM-12LC

600V - 16A - Triac

Medium Power Use

R07DS1031EJ0200
 (Previous: REJ03G1804-0100)
 Rev.2.00
 Feb 25, 2013

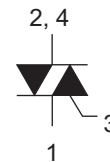
Features

- $I_{T(RMS)}$: 16 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: PRSS0004AG-A
 (Package name: TO-220AB)

RENESAS Package code: PRSS0004AA-A
 (Package name: TO-220)



1. T₁ Terminal
2. T₂ Terminal
3. Gate Terminal
4. T₂ Terminal

Applications

Switching mode power supply, washing machine, motor control, heater control, and other general purpose control applications.

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}	700	V

Parameter	Symbol	Ratings	Unit	Conditions
RMS on-state current	$I_{T(RMS)}$	16	A	Commercial frequency, sine full wave 360°conduction, T _c = 110 °C
Surge on-state current	I_{TSM}	96	A	60 Hz sinewave 1 full cycle, peak value, non-repetitive
I ² t for fusion	I ² t	38	A ² s	Value corresponding to 1 cycle of half wave 60 Hz, 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	T _j	-40 to +150	°C	
Storage temperature	T _{stg}	-40 to +150	°C	
Mass	—	2.1	g	Typical value

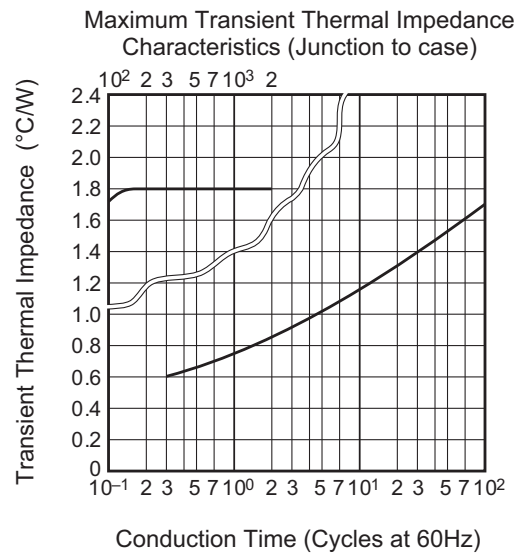
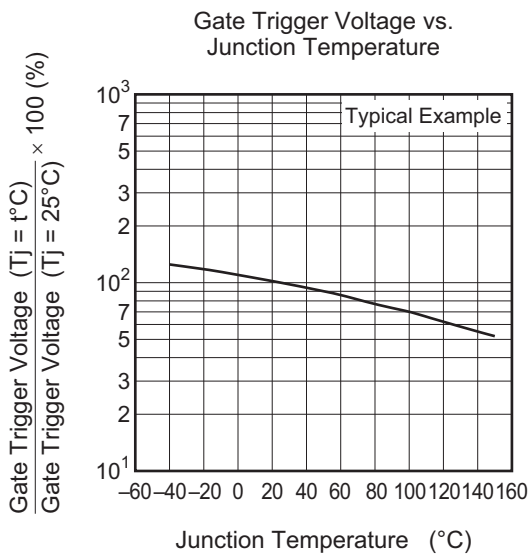
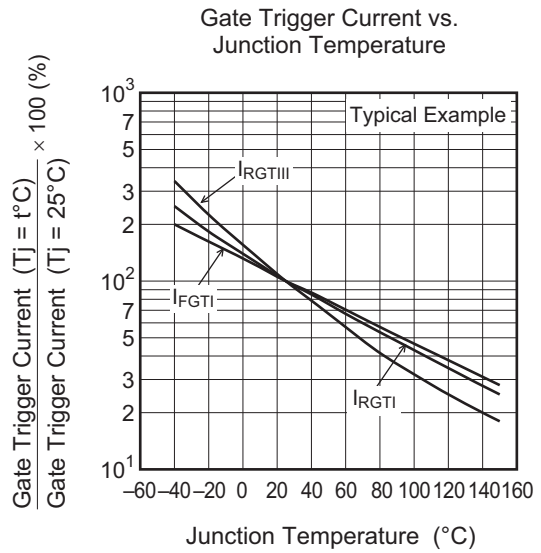
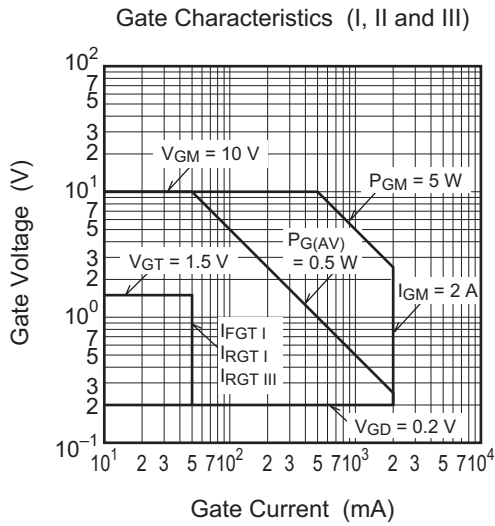
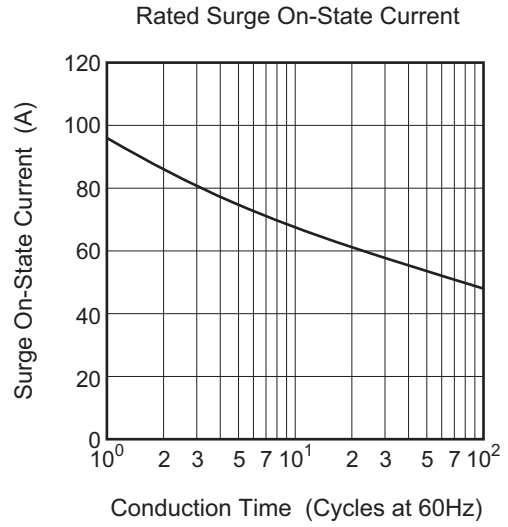
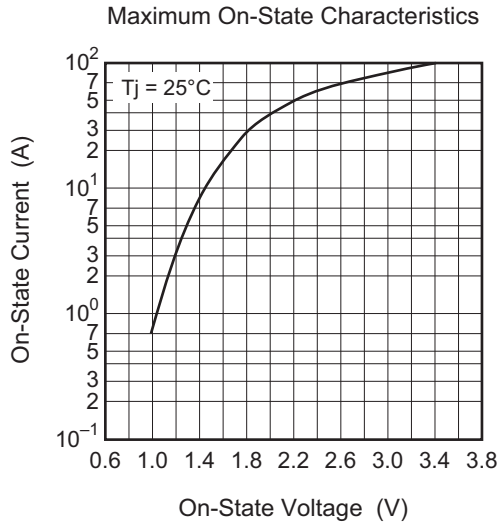
Electrical Characteristics

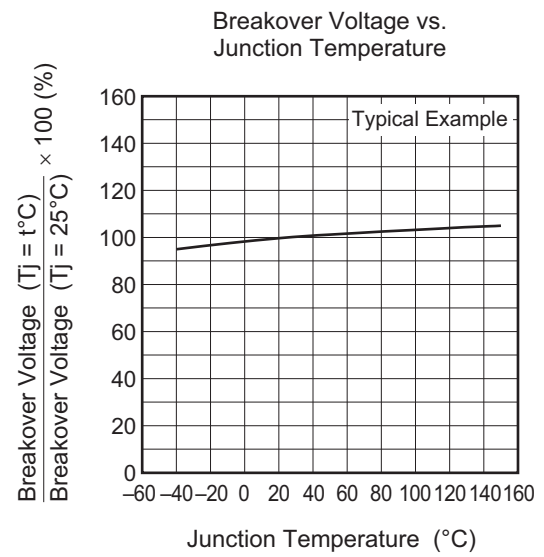
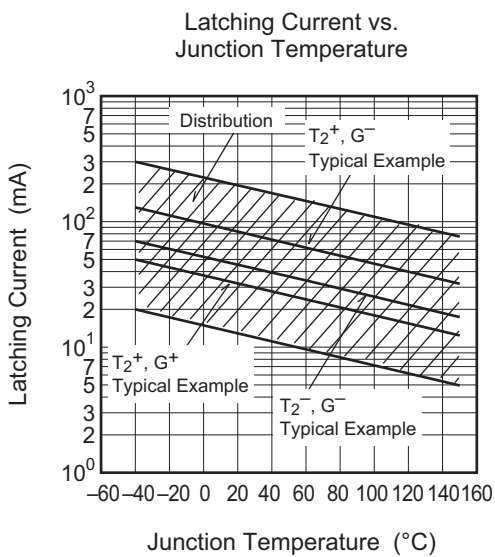
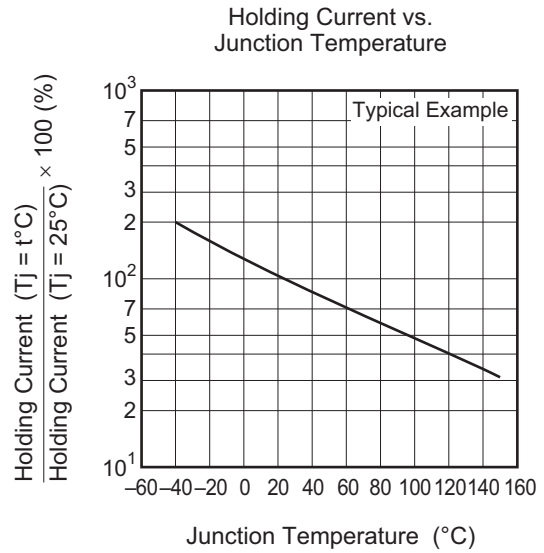
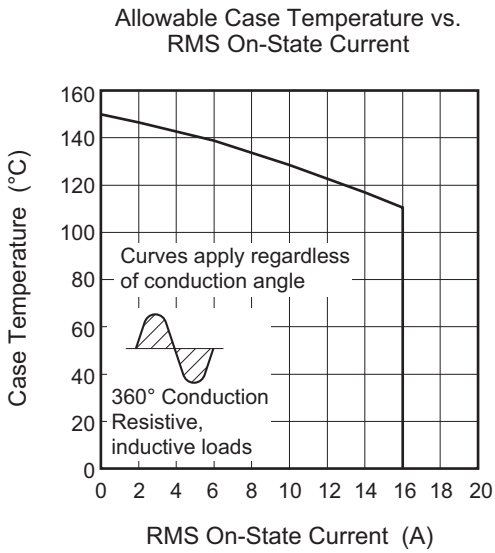
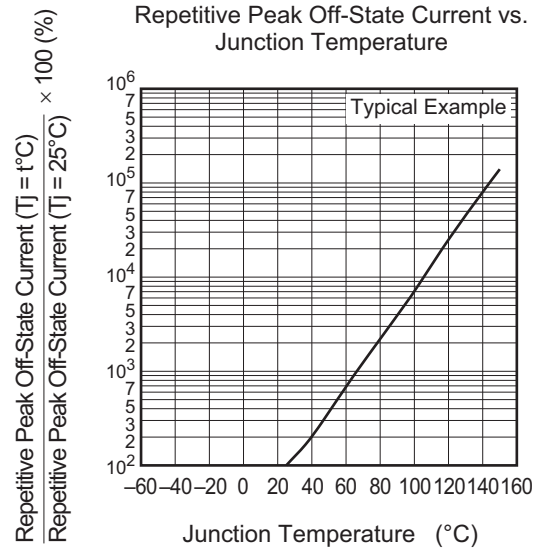
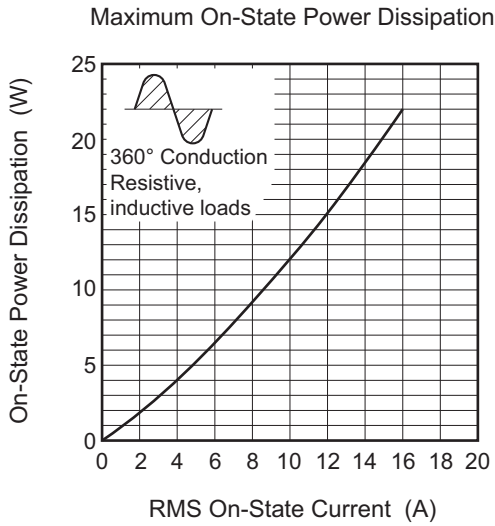
Parameter	Symbol	Rated value			Unit	Test conditions	
		Min.	Typ.	Max.			
Repetitive peak off-state current	I_{DRM}	—	—	2.0	mA	$T_j = 125^\circ\text{C}$, V_{DRM} applied	
On-state voltage	V_{TM}	—	—	1.75	V	$T_c = 25^\circ\text{C}$, $I_{TM} = 25\text{A}$, instantaneous measurement	
Gate trigger voltage ^{Note2}	I	V_{FGTI}	—	—	1.5	V	$T_j = 25^\circ\text{C}$, $V_D = 6\text{V}$, $R_L = 6\ \Omega$, $R_G = 330\ \Omega$
	II	V_{RGTI}	—	—	1.5	V	
	III	V_{RGTIII}	—	—	1.5	V	
Gate trigger current ^{Note2}	I	I_{FGTI}	—	—	50	mA	$T_j = 25^\circ\text{C}$, $V_D = 6\text{V}$, $R_L = 6\ \Omega$, $R_G = 330\ \Omega$
	II	I_{RGTI}	—	—	50	mA	
	III	I_{RGTIII}	—	—	50	mA	
Gate non-trigger voltage	V_{GD}	0.2	—	—	V	$T_j = 125^\circ\text{C}$, $V_D = 1/2 V_{DRM}$	
Thermal resistance	$R_{th(j-c)}$	—	—	1.8	$^\circ\text{C/W}$	Junction to case ^{Note3, Note 4}	
Critical-rate of rise of off-state commutation voltage ^{Note5}	$(dv/dt)_c$	10	—	—	$\text{V}/\mu\text{s}$	$T_j = 125^\circ\text{C}$	

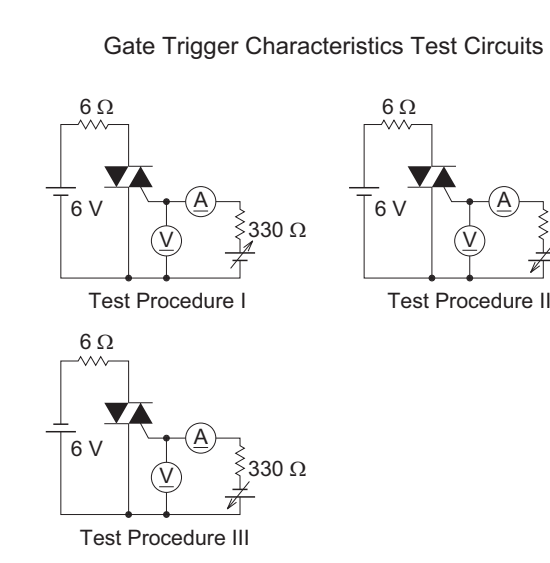
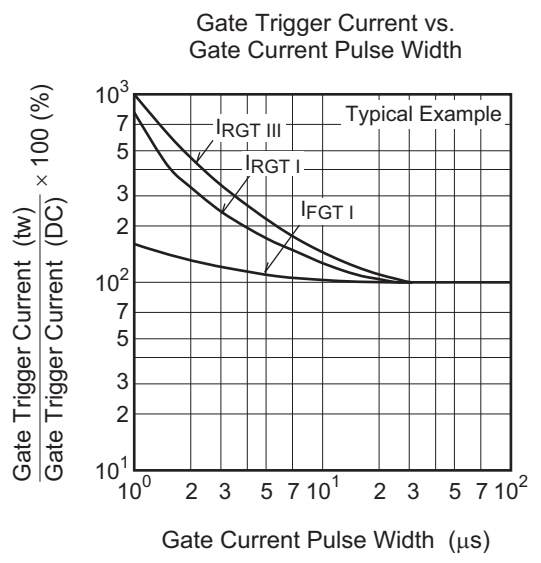
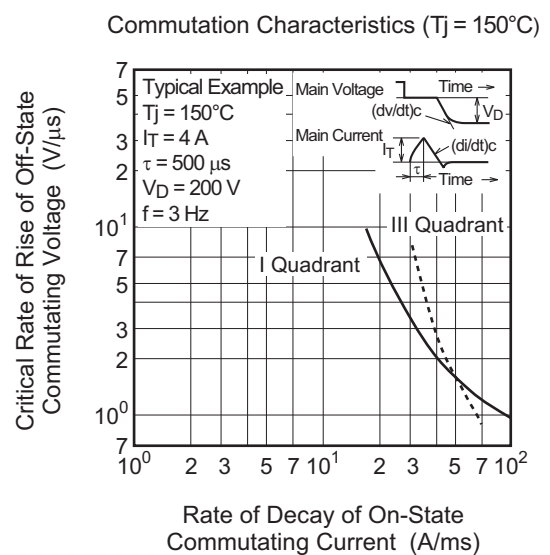
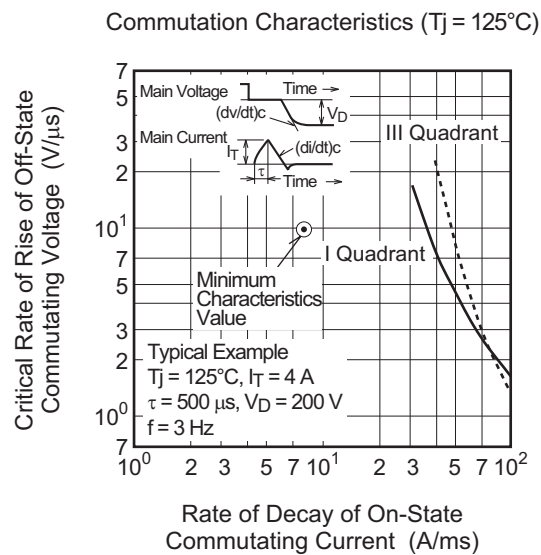
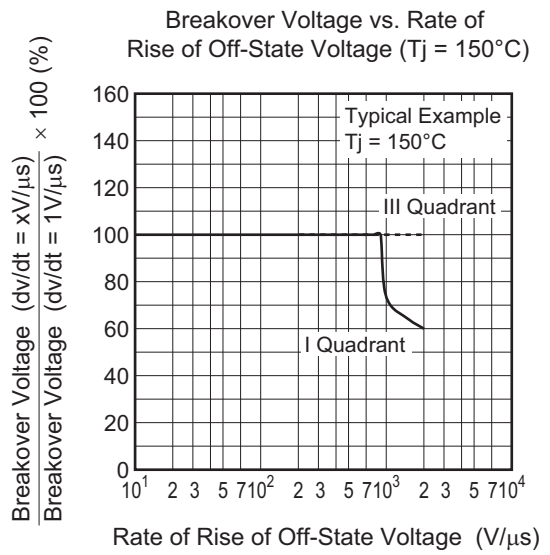
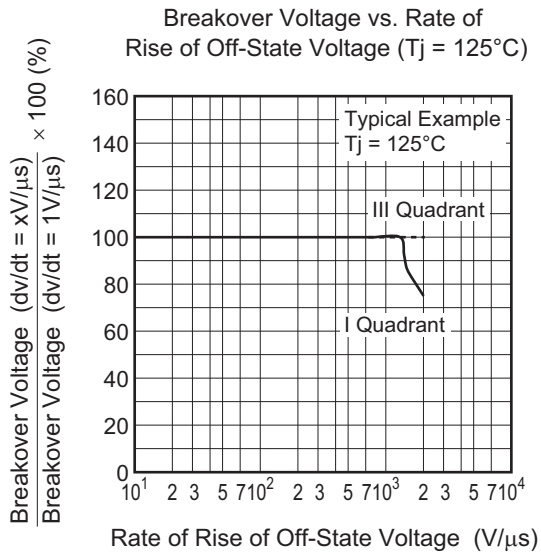
- Notes: 1. Gate open.
 2. Measurement using the gate trigger characteristics measurement circuit.
 3. Case temperature T_c measured at the T_2 tab 1.5mm away from the molded case.
 4. The contact thermal resistance $R_{th(c-f)}$ in case of greasing is 1.0°C/W .
 5. Test conditions of the critical-rate of rise of off-state commutation voltage is 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 $(di/dt)_c = -8\text{ A/ms}$ 3. Peak off-state voltage $V_D = 400\text{ V}$	

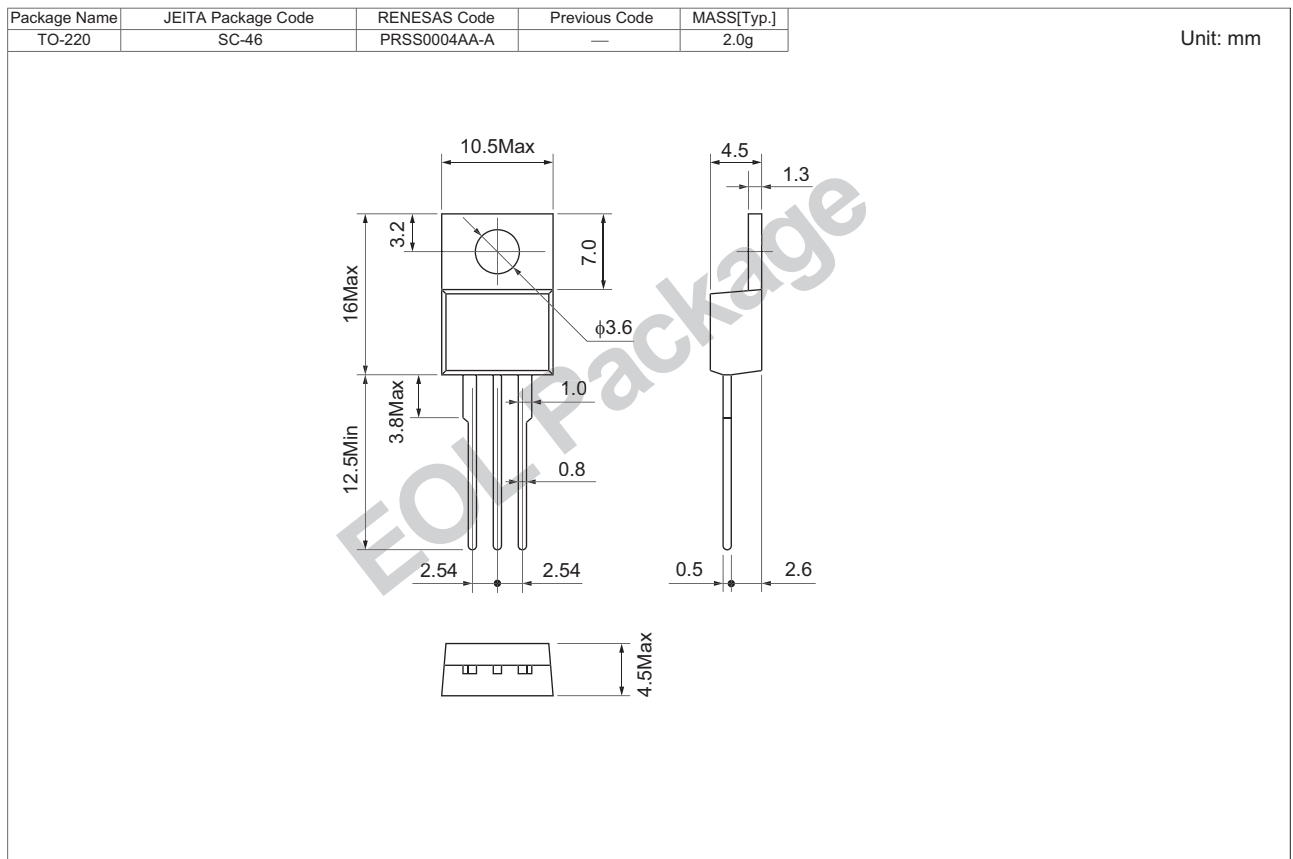
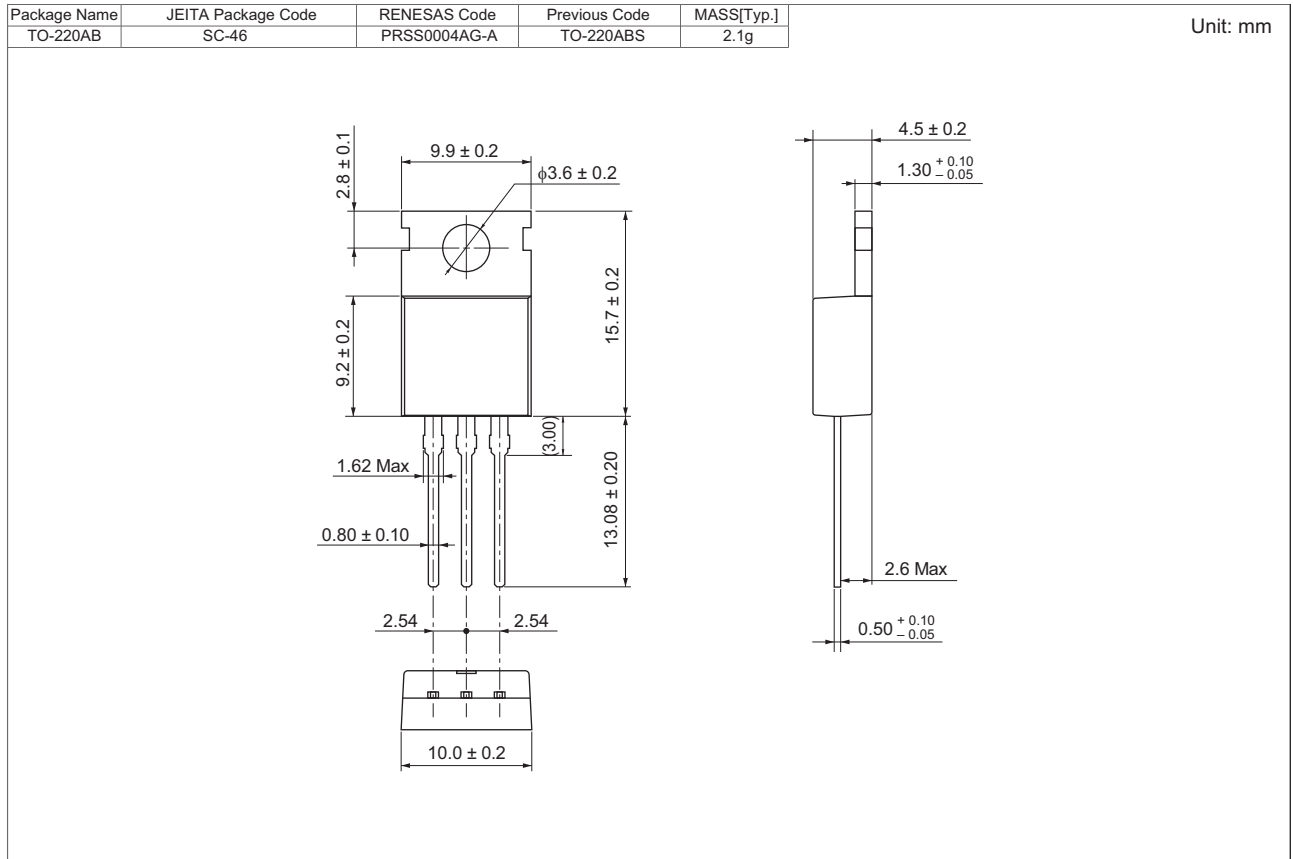
Performance Curves







Package Dimensions



Ordering Information

Orderable Part Number	Packing	Quantity	Remark
BCR16CM-12LC#BB0	Tube	50 pcs.	Straight type
BCR16CM-12LCA8#BB0	Tube	50 pcs.	A8 Lead form

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

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