

BCR5CM-12RA

600V - 5A - Triac

Medium Power Use

R07DS1149EJ0200

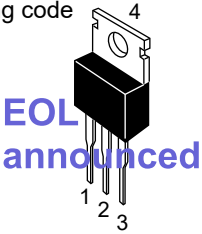
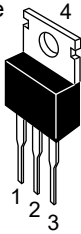
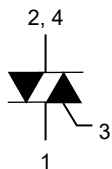
Rev.2.00

Feb. 1, 2019

Features

- $I_T (RMS)$: 5 A
- V_{DRM} : 600 V
- I_{FGT1} , I_{RGT1} , $I_{RGT III}$: 15 mA (10 mA)^{Note5}
- Non-insulated Type
- Planar Passivation Type

Outline

<p>RENESAS Package code: PRSS0004AG-A (Package name: TO-220AB) Ordering code #BB0</p> 	<p>RENESAS Package code: PRSS0004AT-A (Package name: TO-220ABA) Ordering code #BH0</p> 	 <p>1. T₁ Terminal 2. T₂ Terminal 3. Gate Terminal 4. T₂ Terminal</p>
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Application

Electric rice cooker, electric pot, and other resistive loads

Maximum Ratings

Parameter	Symbol	Voltage class	
		12	Unit
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	$I_T (RMS)$	5	A	Commercial frequency, sine full wave 360° conduction, $T_c = 103^\circ C$ ^{Note3}
Surge on-state current	I_{TSM}	50	A	60 Hz sinewave 1 full cycle, peak value, non-repetitive
I^2t for fusion	I^2t	10.4	A ² s	Value corresponding to 1 cycle of half wave 60 Hz, surge on-state current
Peak gate power dissipation	P_{GM}	3	W	
Average gate power dissipation	$P_{G(AV)}$	0.3	W	
Peak gate voltage	V_{GM}	10	V	
Peak gate current	I_{GM}	2	A	
Junction Temperature	T_j	-40 to +125	°C	
Storage temperature	T_{stg}	-40 to +125	°C	

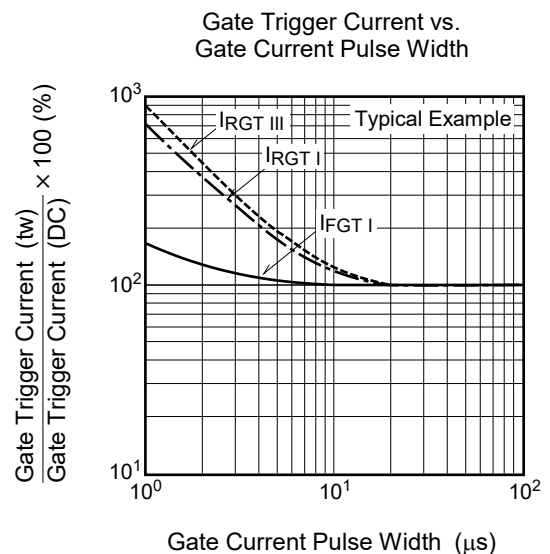
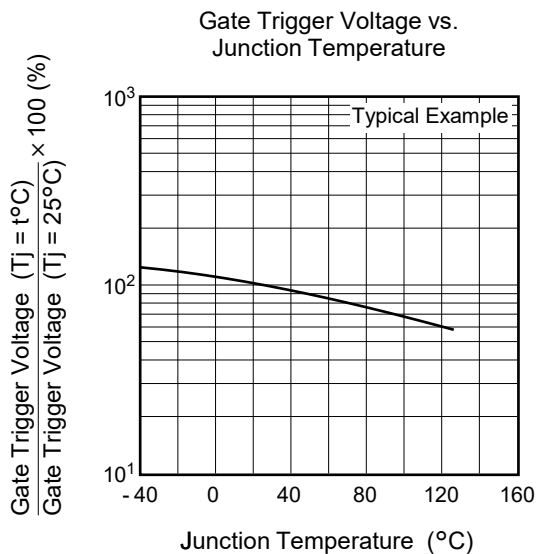
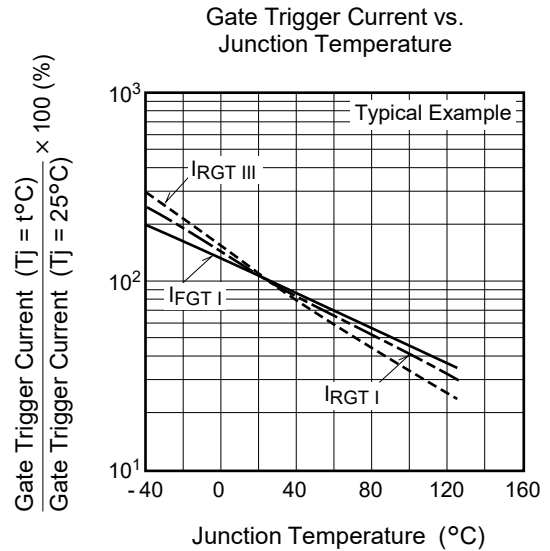
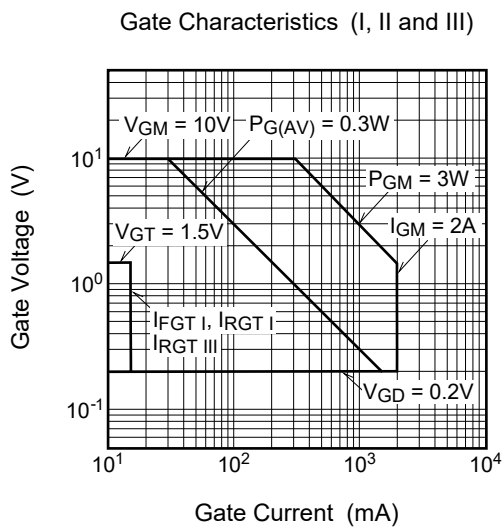
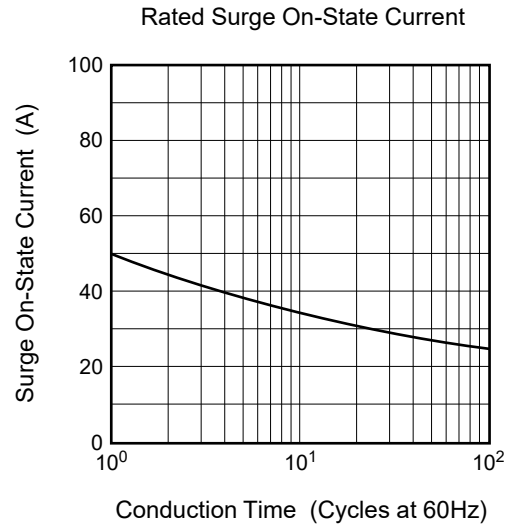
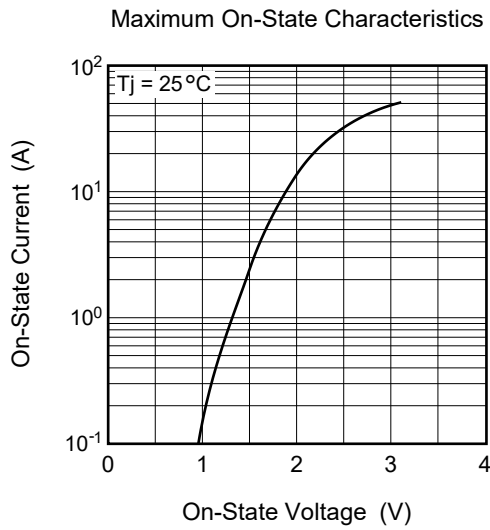
Electrical Characteristics

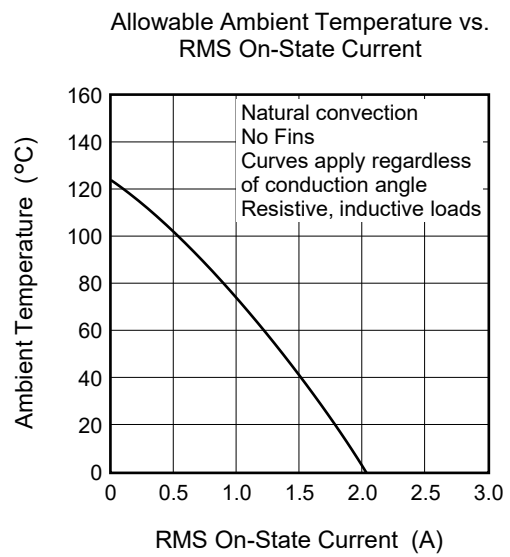
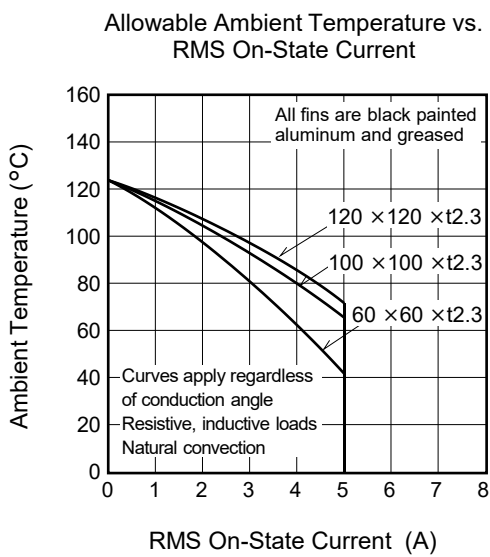
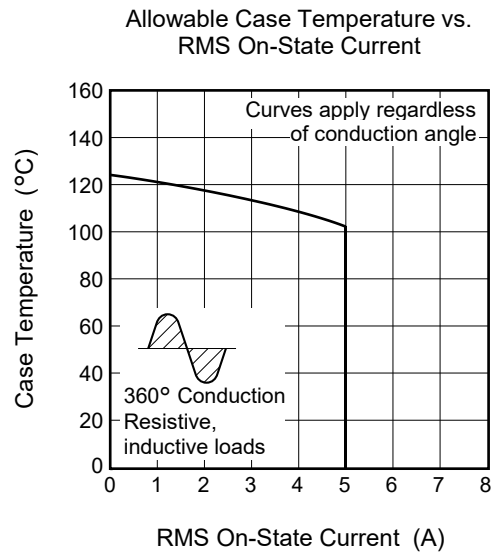
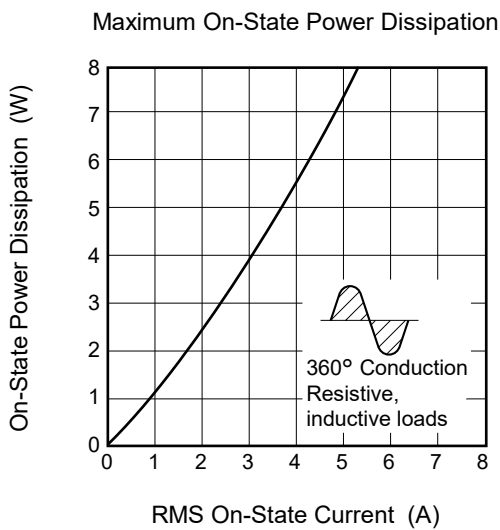
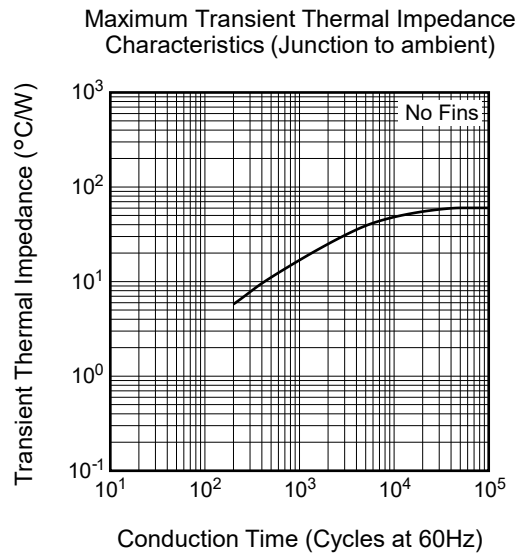
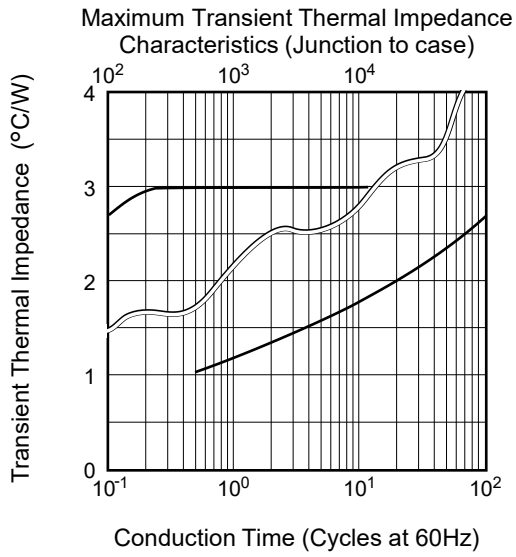
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions	
Repetitive peak off-state current	I_{DRM}	—	—	2.0	mA	$T_j = 125^\circ\text{C}$, V_{DRM} applied	
On-state voltage	V_{TM}	—	—	1.8	V	$T_c = 25^\circ\text{C}$, $I_{TM} = 7\text{ A}$, instantaneous measurement	
Gate trigger voltage ^{Note2}	I	V_{FGTI}	—	—	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}	—	—	15 ^{Note5}	mA	$T_j = 25^\circ\text{C}$, $V_D = 6\text{ V}$, $R_L = 6\ \Omega$, $R_G = 330\ \Omega$
	II	I_{RGTI}	—	—	15 ^{Note5}	mA	
	III	I_{RGTIII}	—	—	15 ^{Note5}	mA	
Gate non-trigger voltage	V_{GD}	0.2	—	—	V	$T_j = 125^\circ\text{C}$, $V_D = 1/2 V_{DRM}$	
Thermal resistance	$R_{th(j-c)}$	—	—	3.0	$^\circ\text{C/W}$	Junction to case ^{Note3 Note4}	

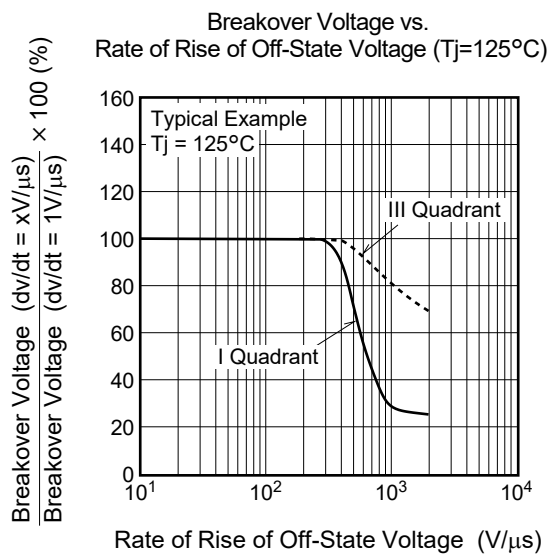
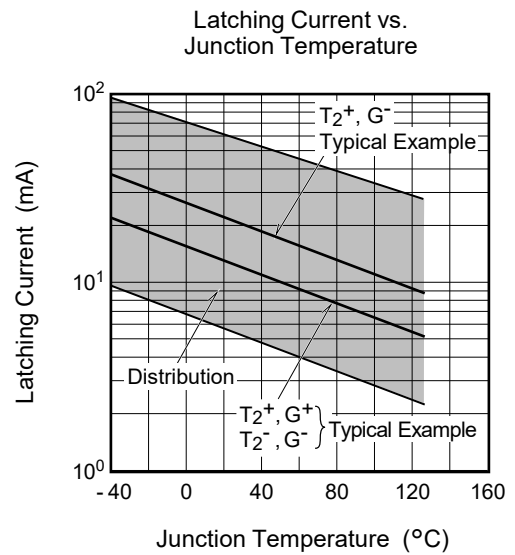
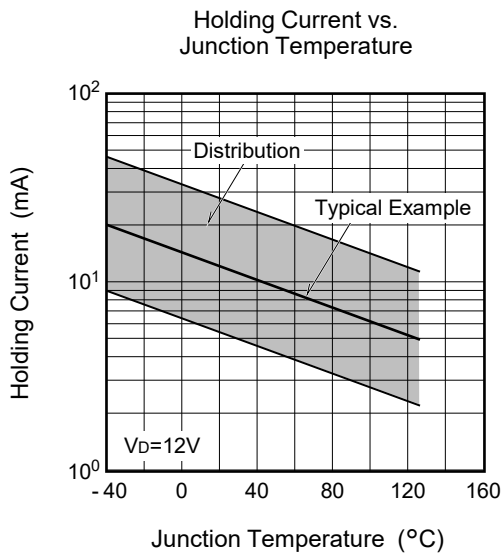
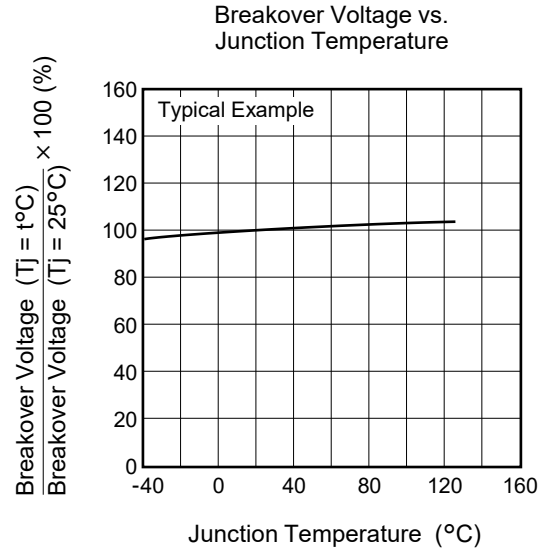
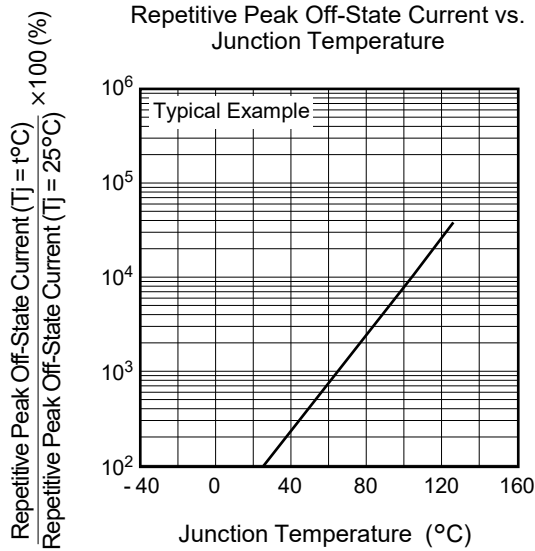
Notes: 1. Gate open.

2. Measurement using the gate trigger characteristics measurement circuit.
3. Case temperature is measured at the T_2 tab 1.5 mm away from the molded case.
4. The contact thermal resistance $R_{th(c-f)}$ in case of greasing is 1.0°C/W .
5. High sensitivity ($I_{GT} \leq 10\text{ mA}$) is also available. (I_{GT} item:1)

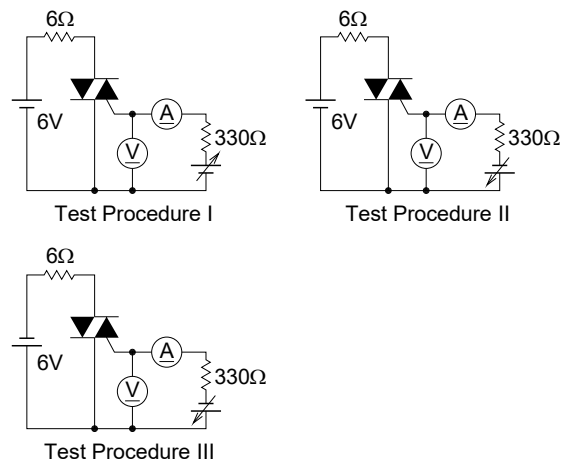
Performance Curves





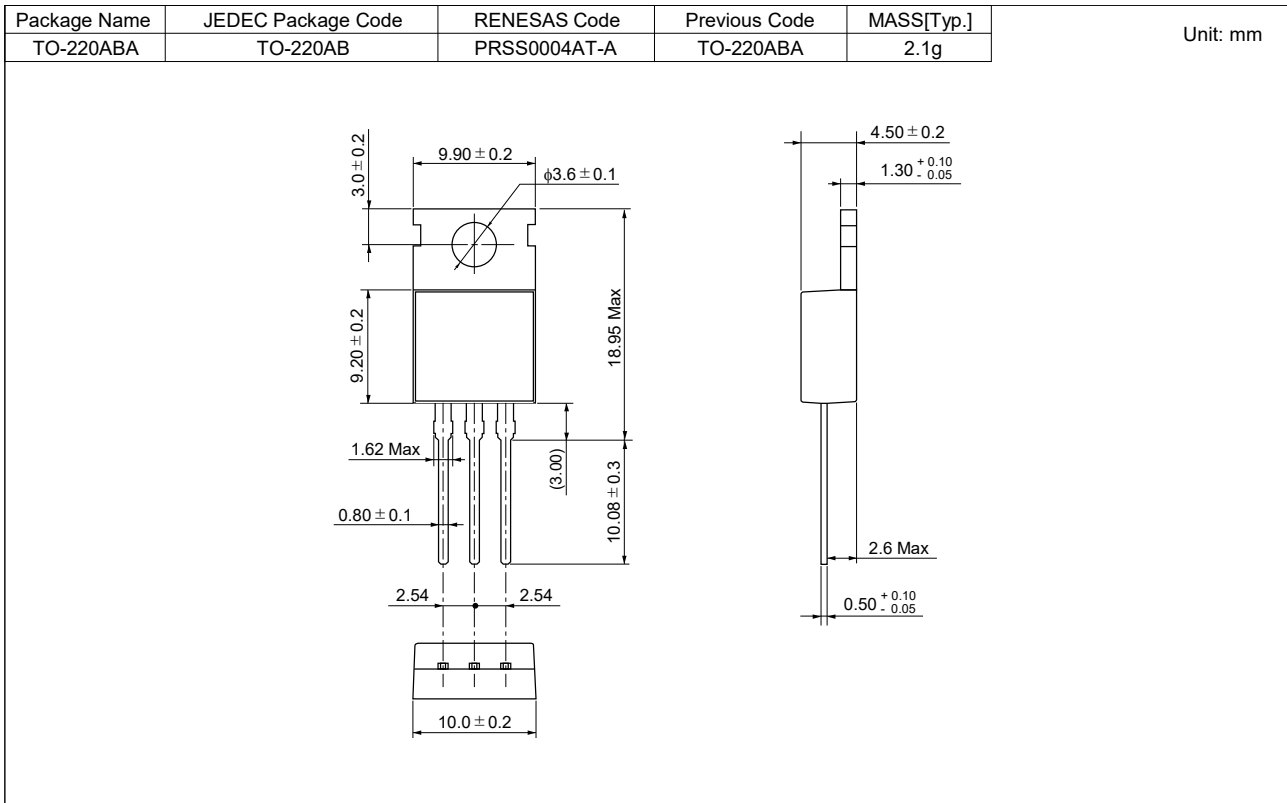


Gate Trigger Characteristics Test Circuits

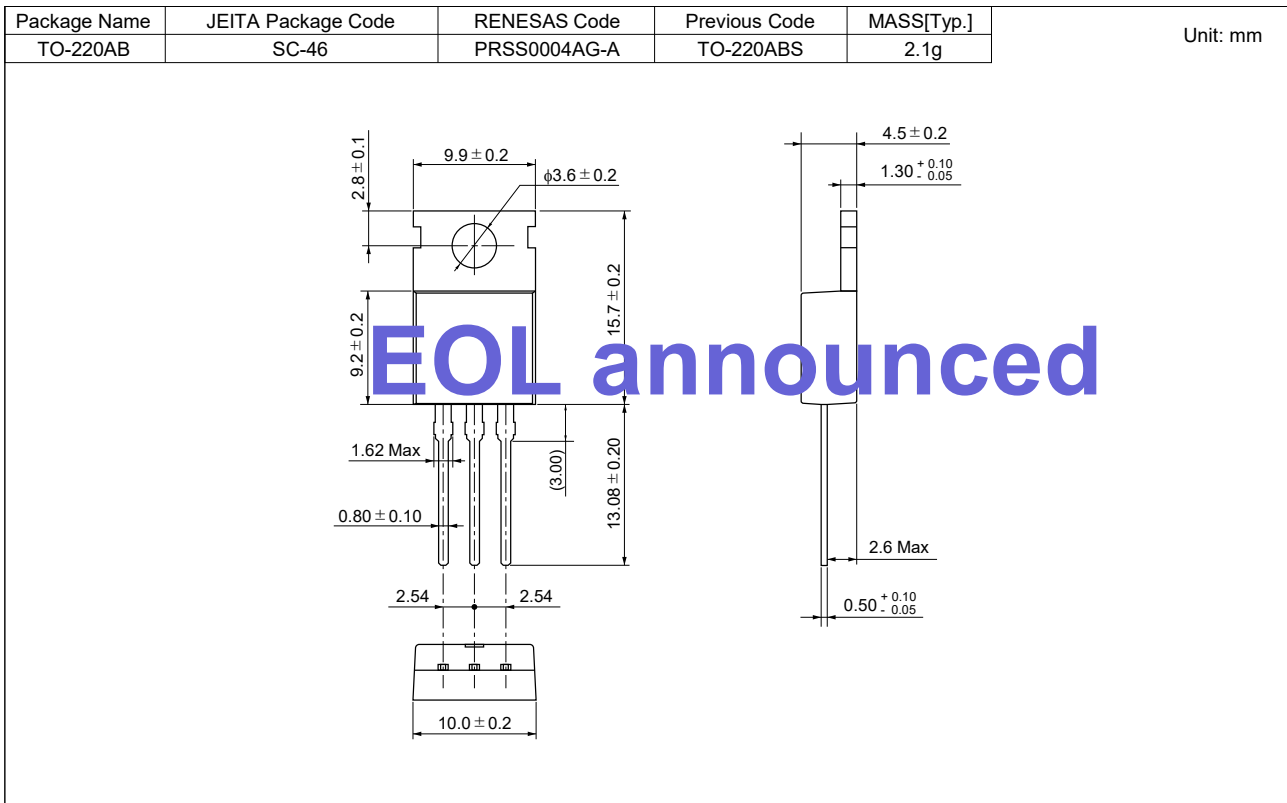


Package Dimensions

Ordering code: #BH0



Ordering code: #BB0



Ordering Information

Orderable Part Number	Package	Quantity ^{Note6}	Remark	Status
BCR5CM-12RA#BH0	TO-220ABA	50 pcs./ tube	Straight type	Mass Production
BCR5CM-12RA#BB0	TO-220ABS	50 pcs./ tube	Straight type	EOL announced

Notes: 6. Please confirm the specification about the shipping in detail.

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