

CR8CM-12A

600V - 8A - Thyristor

Medium Power Use

R07DS1034EJ0400

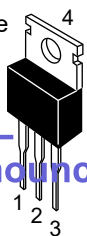
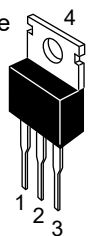
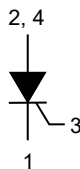
Rev.4.00

Jan. 15, 2019

Features

- $I_{T(AV)}$: 8 A
- V_{DRM} : 600 V
- I_{GT} : 15 mA
- Non-insulated Type
- Planar Passivation Type

Outline

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

Power supply, motor control, heater control and other general purpose applications.

Maximum Ratings

Parameter	Symbol	Voltage class		Unit
		12		
Repetitive peak reverse voltage	V_{RRM}	600		V
Non-repetitive peak reverse voltage	V_{RSM}	720		V
DC reverse voltage	$V_R(DC)$	480		V
Repetitive peak off-state voltage	V_{DRM}	600		V
DC off-state voltage	$V_D(DC)$	480		V

Parameter	Symbol	Ratings	Unit	Conditions
RMS on-state current	$I_{T(RMS)}$	12.6	A	
Average on-state current	$I_{T(AV)}$	8	A	Commercial frequency, sine half wave 180°conduction, $T_c = 99^\circ\text{C}$ ^{Note1}
Surge on-state current	I_{TSM}	120	A	50 Hz sinewave 1 full cycle, peak value, non-repetitive
I^2t for fusing	I^2t	72	A ² s	Value corresponding to 1 cycle of half wave 50 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 forward voltage	V_{FGM}	6	V	
Peak gate reverse voltage	V_{RGM}	10	V	
Peak gate forward current	I_{FGM}	2	A	
Junction temperature	T_j	-40 to +125	°C	
Storage temperature	T_{stg}	-40 to +125	°C	

Electrical Characteristics

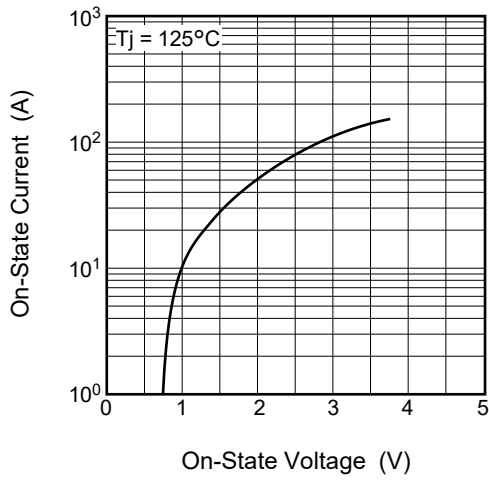
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions
Repetitive peak reverse current	I_{RRM}	—	—	2.0	mA	$T_j = 125^\circ\text{C}$, V_{RRM} applied
Repetitive peak off-state current	I_{DRM}	—	—	2.0	mA	$T_j = 125^\circ\text{C}$, V_{DRM} applied
On-state voltage	V_{TM}	—	—	1.4	V	$T_c = 25^\circ\text{C}$, $I_{TM} = 25\text{ A}$, instantaneous value
Gate trigger voltage	V_{GT}	—	—	1.0	V	$T_j = 25^\circ\text{C}$, $V_D = 6\text{ V}$, $I_T = 1\text{ A}$
Gate non-trigger voltage	V_{GD}	0.2	—	—	V	$T_j = 125^\circ\text{C}$, $V_D = 1/2 V_{DRM}$
Gate trigger current	I_{GT}	—	—	15	mA	$T_j = 25^\circ\text{C}$, $V_D = 6\text{ V}$, $I_T = 1\text{ A}$
Holding current	I_H	—	15	—	mA	$T_j = 25^\circ\text{C}$, $V_D = 12\text{ V}$
Thermal resistance	$R_{th(j-c)}$	—	—	2.0	$^\circ\text{C/W}$	Junction to case ^{Note1 Note2}

Notes: 1. Case temperature is measured at anode tab 1.5 mm away from the molded case.

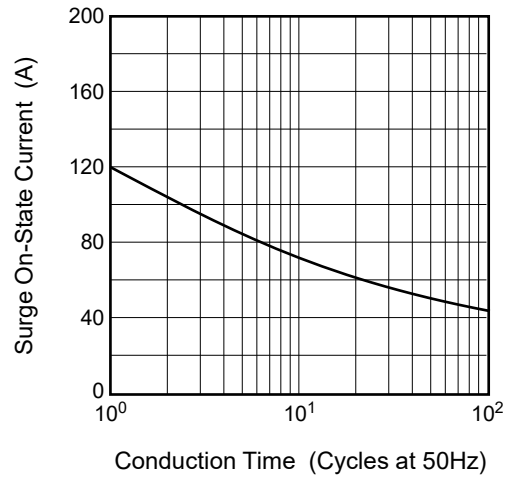
2. The contact thermal resistance $R_{th(c-f)}$ in case of greasing is 1.0°C/W .

Performance Curves

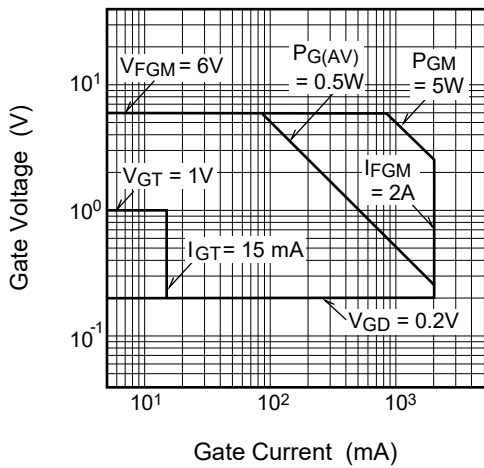
Maximum On-State Characteristics



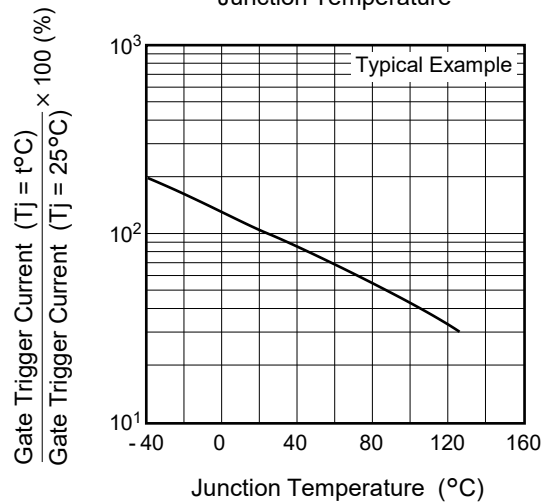
Rated Surge On-State Current



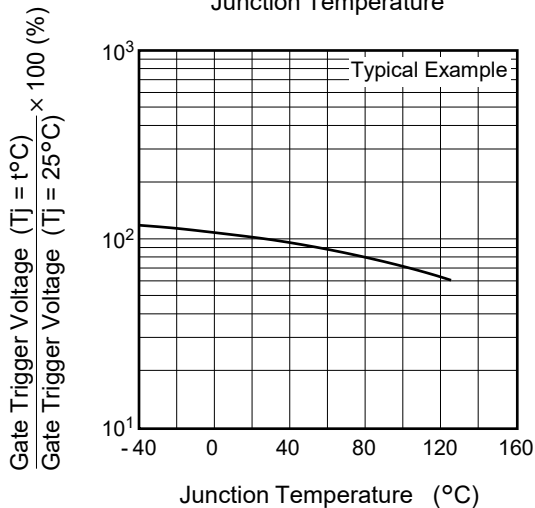
Gate Characteristics



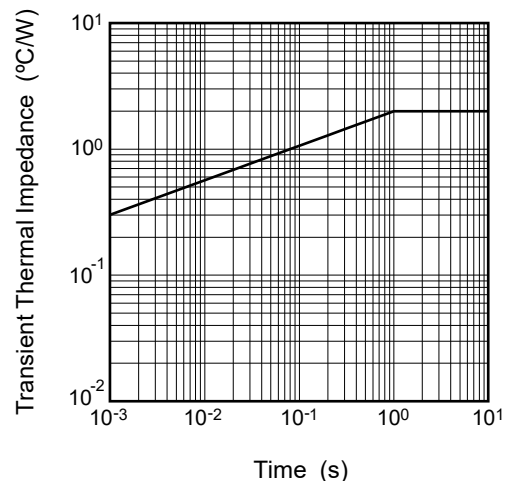
Gate Trigger Current vs. Junction Temperature

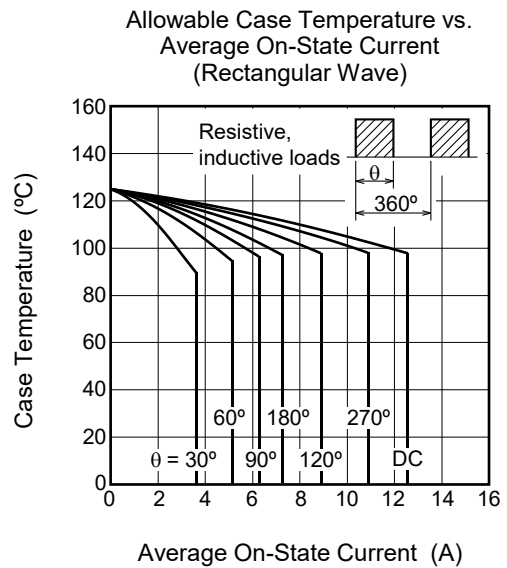
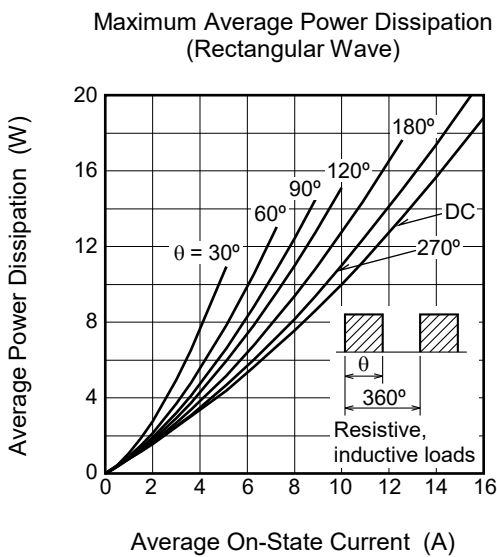
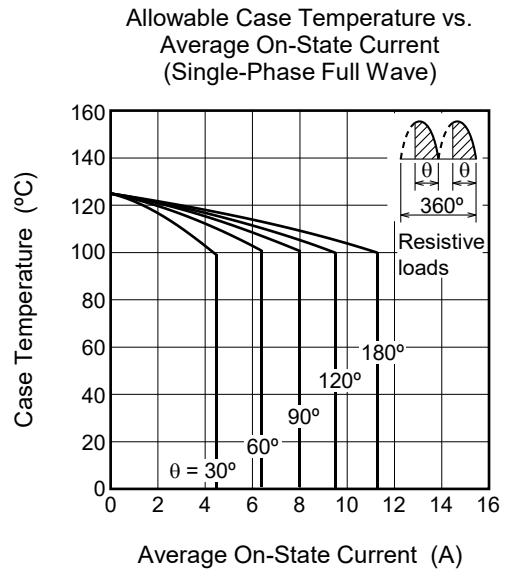
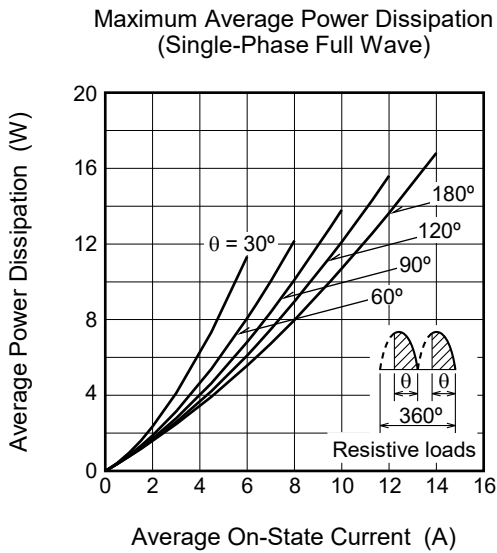
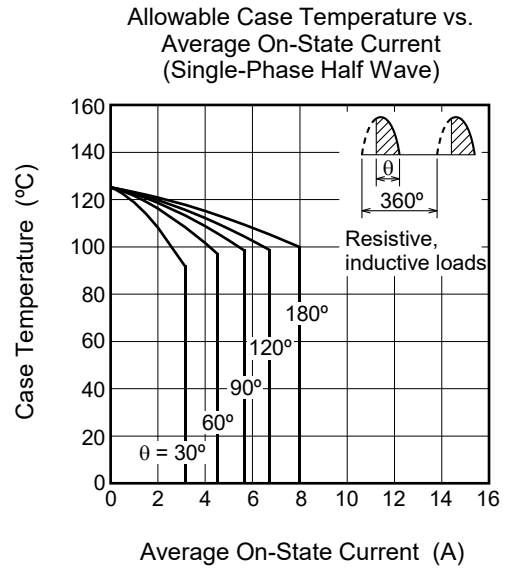
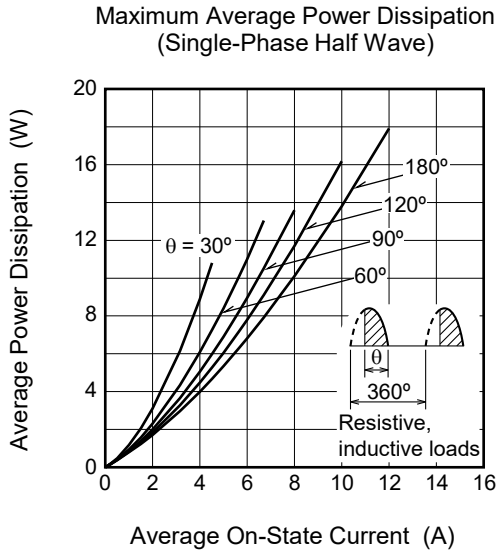


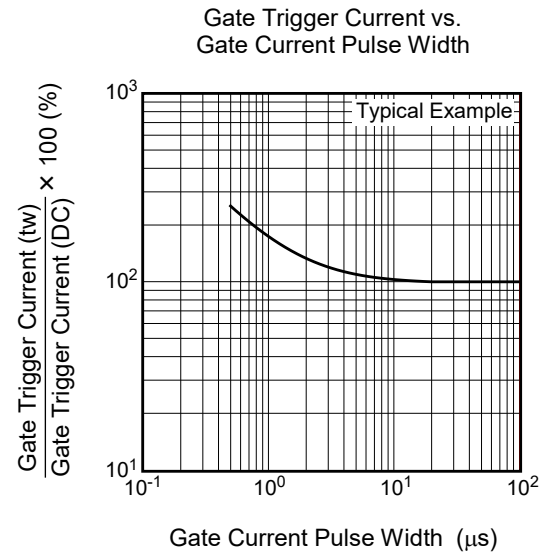
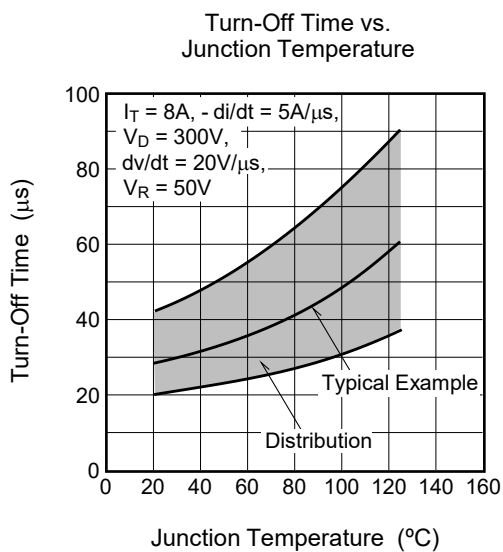
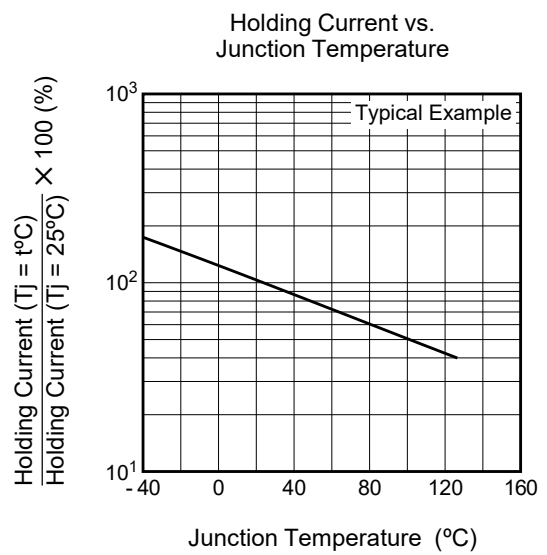
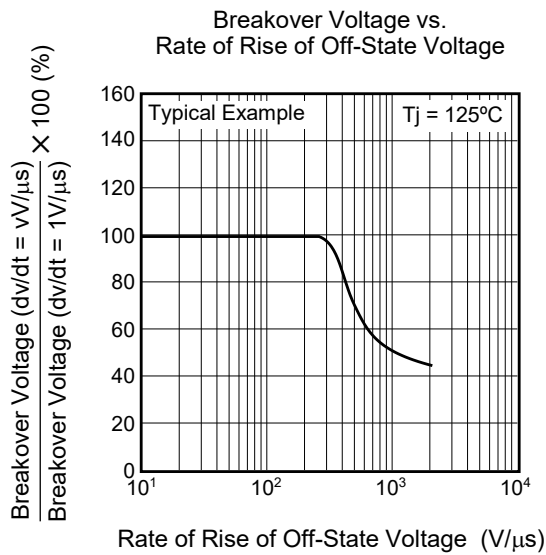
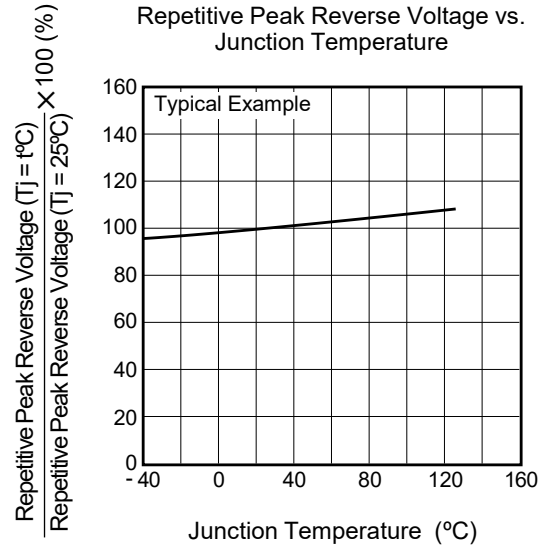
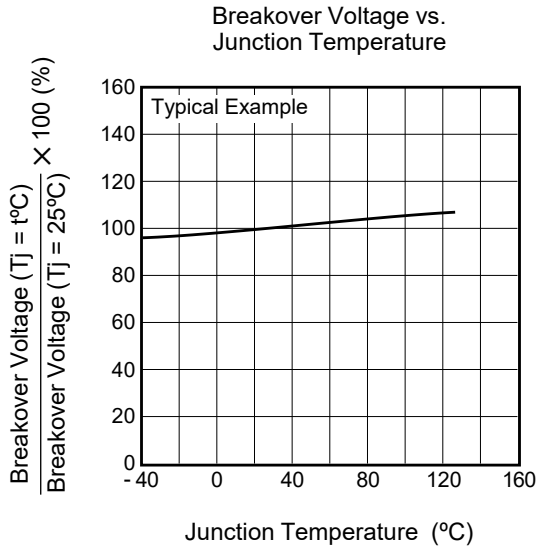
Gate Trigger Voltage vs. Junction Temperature



Maximum Transient Thermal Impedance Characteristics (Junction to case)

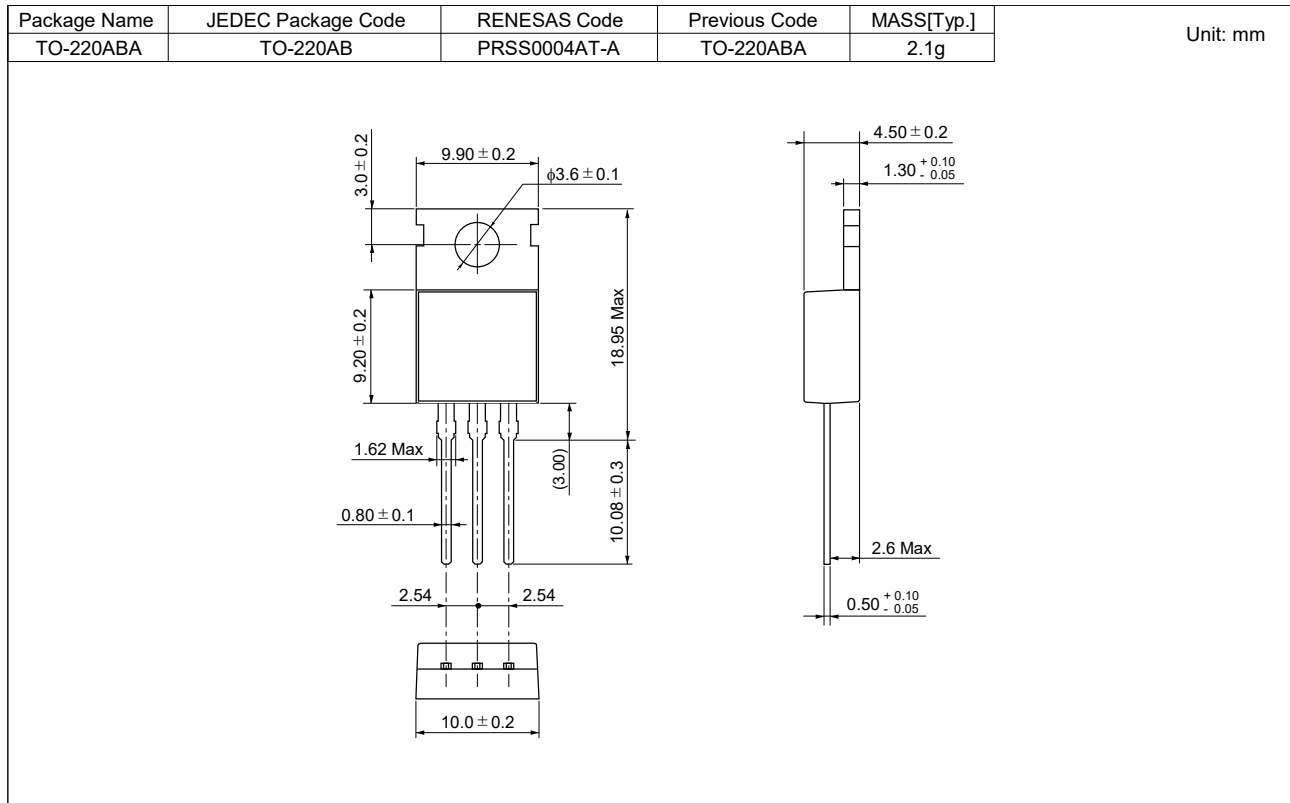




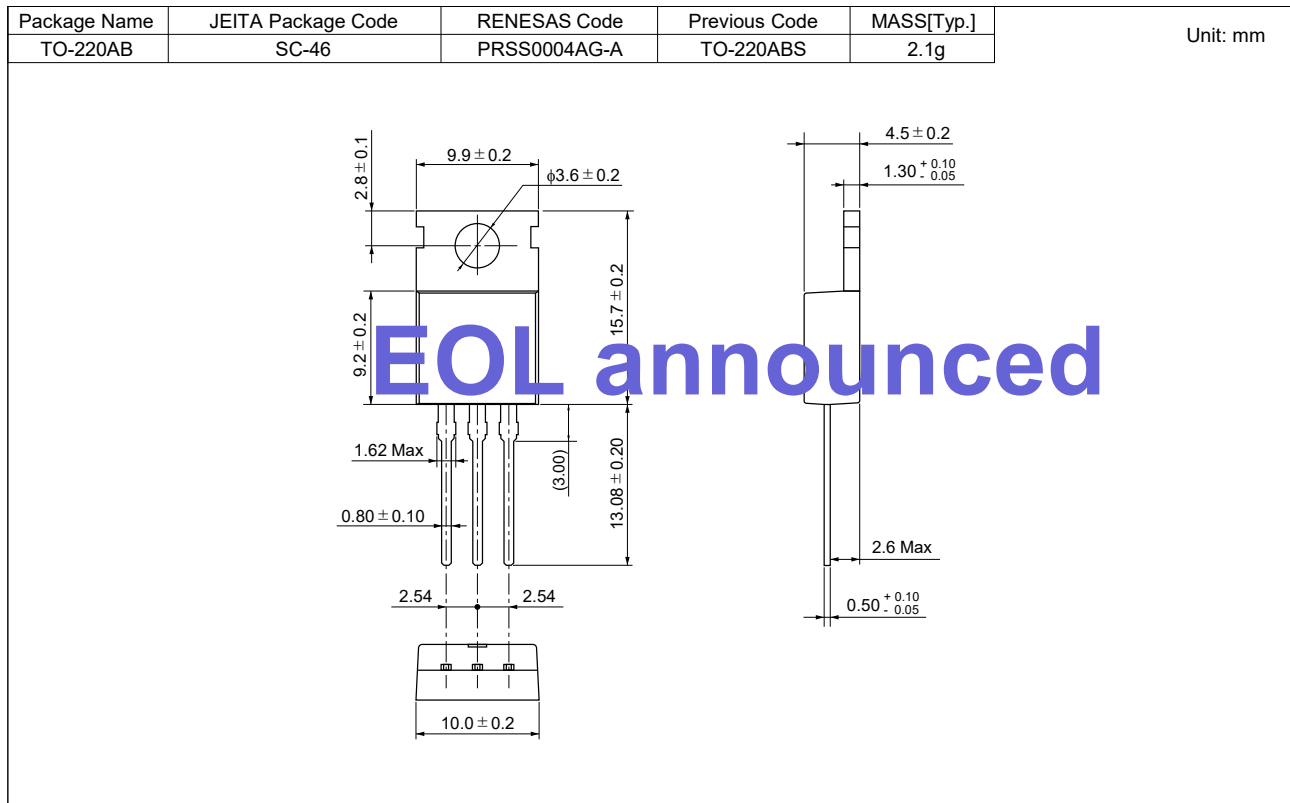


Package Dimensions

Ordering code: #BH0



Ordering code: #BB0



Ordering Information

Orderable Part Number	Package	Quantity ^{Note3}	Remark	Status
CR8CM-12A#BH0	TO-220ABA	50 pcs./ tube	Straight type	Mass Production
CR8CM-12A#BB0	TO-220ABS	50 pcs./ tube	Straight type	EOL announced

Notes: 3. Please confirm the specification about the shipping in detail.

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Renesas Electronics Corporation
TOYOSU FORESIA, 3-2-24 Toyosu, Koto-ku, Tokyo 135-0061, Japan

Renesas Electronics America Inc.
1001 Murphy Ranch Road, Milpitas, CA 95035, U.S.A.
Tel: +1-408-432-8888, Fax: +1-408-434-5351

Renesas Electronics Canada Limited
9251 Yonge Street, Suite 8309 Richmond Hill, Ontario Canada L4C 9T3
Tel: +1-905-237-2004

Renesas Electronics Europe Limited
Dukes Meadow, Millboard Road, Bourne End, Buckinghamshire, SL8 5FH, U.K
Tel: +44-1628-651-700

Renesas Electronics Europe GmbH
Arcadiastrasse 10, 40472 Düsseldorf, Germany
Tel: +49-211-6503-0, Fax: +49-211-6503-1327

Renesas Electronics (China) Co., Ltd.
Room 1709 Quantum Plaza, No.27 ZhichunLu, Haidian District, Beijing, 100191 P. R. China
Tel: +86-10-8235-1155, Fax: +86-10-8235-7679

Renesas Electronics (Shanghai) Co., Ltd.
Unit 301, Tower A, Central Towers, 555 Langao Road, Putuo District, Shanghai, 200333 P. R. China
Tel: +86-21-2226-0888, Fax: +86-21-2226-0999

Renesas Electronics Hong Kong Limited
Unit 1601-1611, 16/F., Tower 2, Grand Century Place, 193 Prince Edward Road West, Mongkok, Kowloon, Hong Kong
Tel: +852-2265-6688, Fax: +852 2886-9022

Renesas Electronics Taiwan Co., Ltd.
13F, No. 363, Fu Shing North Road, Taipei 10543, Taiwan
Tel: +886-2-8175-9600, Fax: +886 2-8175-9670

Renesas Electronics Singapore Pte. Ltd.
80 Bendemeer Road, Unit #06-02 Hyflux Innovation Centre, Singapore 339949
Tel: +65-6213-0200, Fax: +65-6213-0300

Renesas Electronics Malaysia Sdn.Bhd.
Unit 1207, Block B, Menara Amcorp, Amcorp Trade Centre, No. 18, Jln Persiaran Barat, 46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia
Tel: +60-3-7955-9390, Fax: +60-3-7955-9510

Renesas Electronics India Pvt. Ltd.
No.777C, 100 Feet Road, HAL 2nd Stage, Indiranagar, Bangalore 560 038, India
Tel: +91-80-67208700, Fax: +91-80-67208777

Renesas Electronics Korea Co., Ltd.
17F, KAMCO Yangjae Tower, 262, Gangnam-daero, Gangnam-gu, Seoul, 06265 Korea
Tel: +82-2-558-3737, Fax: +82-2-558-5338