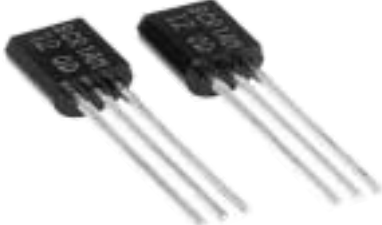


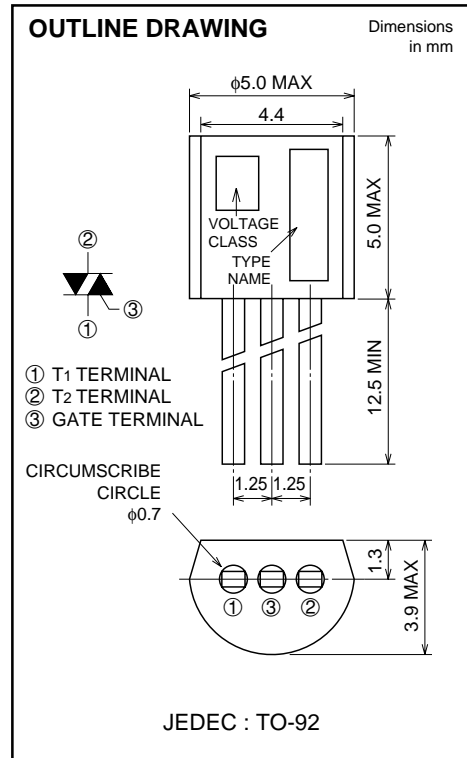
# BCR1AM

LOW POWER USE  
GLASS PASSIVATION TYPE

**BCR1AM**



- $I_T$  (RMS) ..... 1A
- $V_{DRM}$  ..... 600V
- $I_{FGT I}$ ,  $I_{RG T I}$ ,  $I_{RG T II}$  ..... 5mA (3mA) \*5
- $I_{FGT II}$  ..... 10mA



## APPLICATION

Contactless AC switches, heating, refrigerator, washing machine, electric fan, vending machines, trigger circuit for low and medium triac, solid state relay, other general purpose control applications

## MAXIMUM RATINGS

Symbol	Parameter	Voltage class		Unit
		12	600	
$V_{DRM}$	Repetitive peak off-state voltage *1	600		V
$V_{DSM}$	Non-repetitive peak off-state voltage *1	720		V

Symbol	Parameter	Conditions	Ratings	Unit
$I_T$ (RMS)	RMS on-state current	Commercial frequency, sine full wave 360° conduction, $T_c=56^\circ\text{C}$ *3	1.0	A
$I_{TSM}$	Surge on-state current	60Hz sinewave 1 full cycle, peak value, non-repetitive	10	A
$I^2t$	$I^2t$ for fusing	Value corresponding to 1 cycle of half wave 60Hz, surge on-state current	0.41	$\text{A}^2\text{s}$
PGM	Peak gate power dissipation		1	W
PG (AV)	Average gate power dissipation		0.1	W
VGM	Peak gate voltage		6	V
IGM	Peak gate current		1	A
$T_j$	Junction temperature		-40 ~ +125	$^\circ\text{C}$
$T_{stg}$	Storage temperature		-40 ~ +125	$^\circ\text{C}$
—	Weight	Typical value	0.23	g

\*1. Gate open.

# BCR1AM

LOW POWER USE  
GLASS PASSIVATION TYPE

## ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Test conditions	Limits			Unit	
			Min.	Typ.	Max.		
IDRM	Repetitive peak off-state current	T <sub>j</sub> =125°C, V <sub>DRM</sub> applied	—	—	1.0	mA	
V <sub>TM</sub>	On-state voltage	T <sub>c</sub> =25°C, I <sub>TM</sub> =1.5A, Instantaneous measurement	—	—	1.6	V	
V <sub>FGT I</sub>	Gate trigger voltage *2	T <sub>j</sub> =25°C, V <sub>D</sub> =6V, R <sub>L</sub> =6Ω, R <sub>G</sub> =330Ω	I	—	—	2.0	V
V <sub>RGT I</sub>			II	—	—	2.0	V
V <sub>RGT III</sub>			III	—	—	2.0	V
V <sub>FGT III</sub>			IV	—	—	2.0	V
I <sub>FGT I</sub>	Gate trigger current *2	T <sub>j</sub> =25°C, V <sub>D</sub> =6V, R <sub>L</sub> =6Ω, R <sub>G</sub> =330Ω	I	—	—	5	mA
I <sub>RGT I</sub>			II	—	—	5*5	mA
I <sub>RGT III</sub>			III	—	—	5*5	mA
I <sub>FGT III</sub>			IV	—	—	10	mA
V <sub>GD</sub>	Gate non-trigger voltage	T <sub>j</sub> =125°C, V <sub>D</sub> =1/2V <sub>DRM</sub>	0.1	—	—	V	
R <sub>th(j-c)</sub>	Thermal resistance	Junction to case *3	—	—	50	°C/W	
(dv/dt) <sub>c</sub>	Critical-rate of rise of off-state commutating voltage *4	T <sub>j</sub> =125°C	2	—	—	V/μs	

\*2. Measurement using the gate trigger characteristics measurement circuit.

\*3. Case temperature is measured at the T<sub>2</sub> terminal 1.5mm away from the molded case.

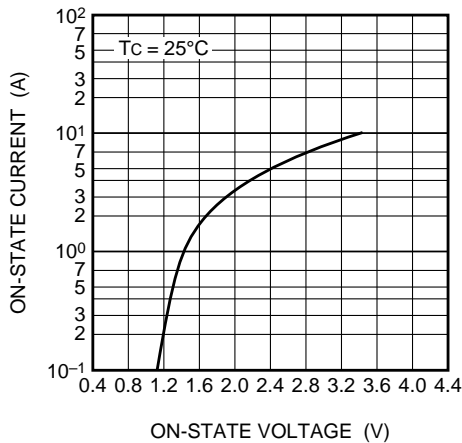
\*4. Test conditions of the critical-rate of rise of off-state commutating voltage is shown in the table below.

\*5. High sensitivity (IGT ≤ 3mA) is also available. (IGT item ①)

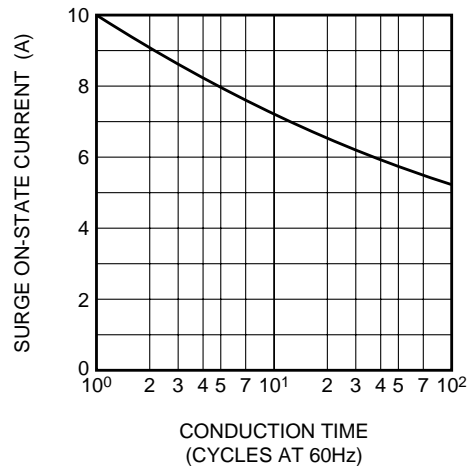
Test conditions	Commutating voltage and current waveforms (inductive load)
1. Junction temperature T <sub>j</sub> =125°C  2. Rate of decay of on-state commutating current (di/dt) <sub>c</sub> =-0.5A/ms  3. Peak off-state voltage V <sub>D</sub> =400V	

## PERFORMANCE CURVES

MAXIMUM ON-STATE CHARACTERISTICS

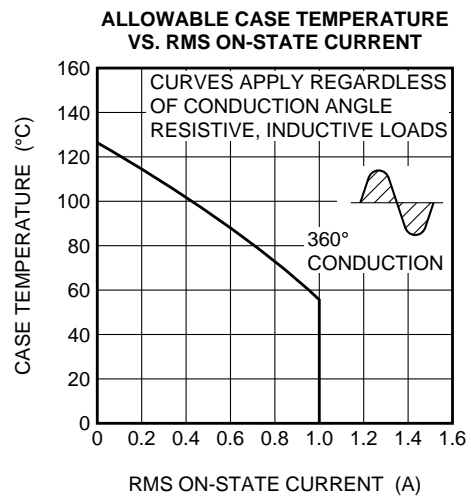
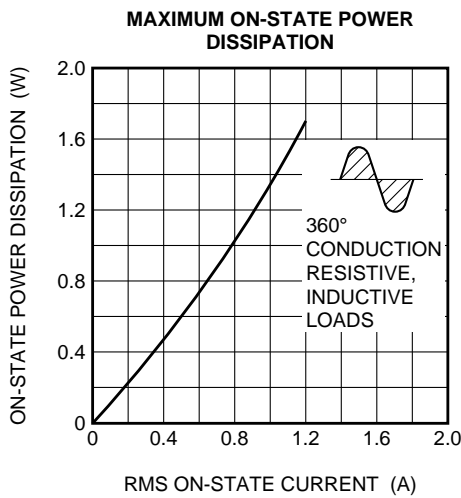
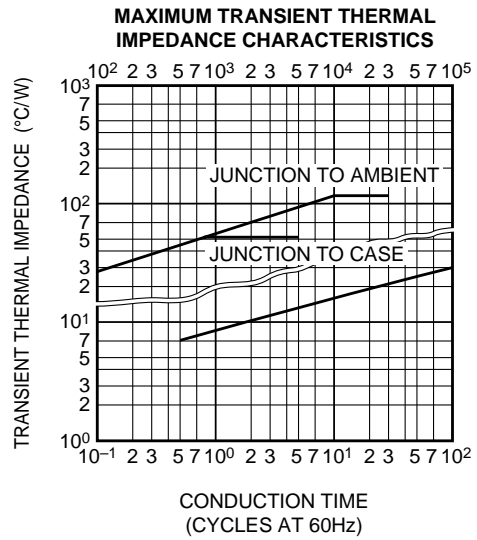
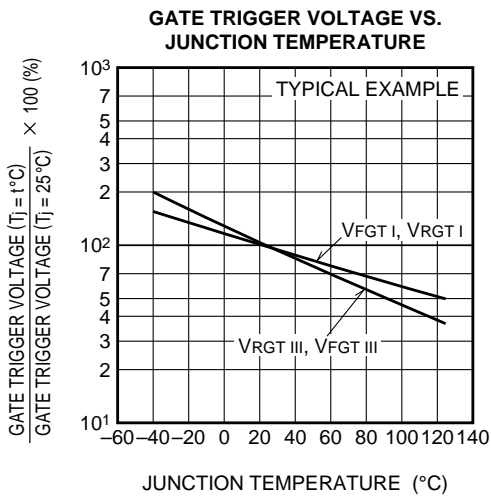
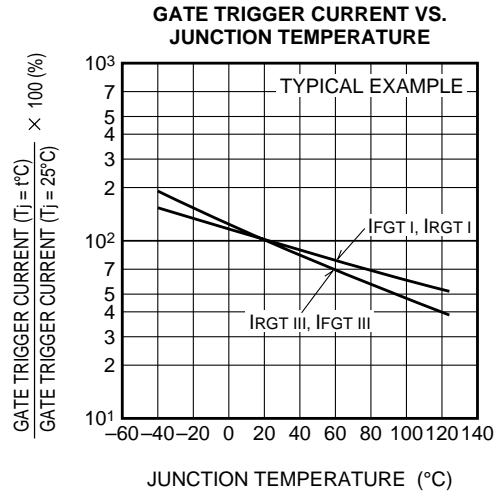
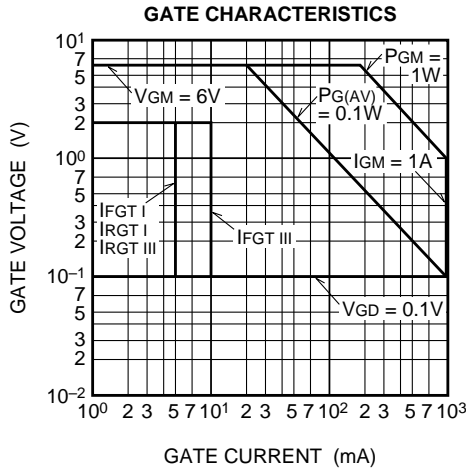


RATED SURGE ON-STATE CURRENT



# BCR1AM

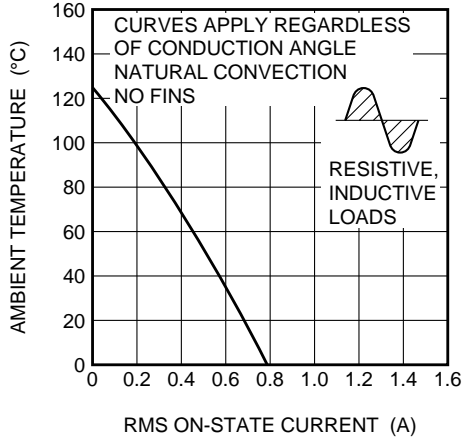
LOW POWER USE  
GLASS PASSIVATION TYPE



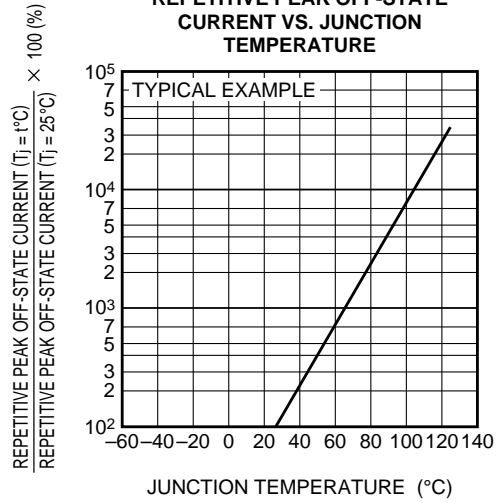
# BCR1AM

LOW POWER USE  
GLASS PASSIVATION TYPE

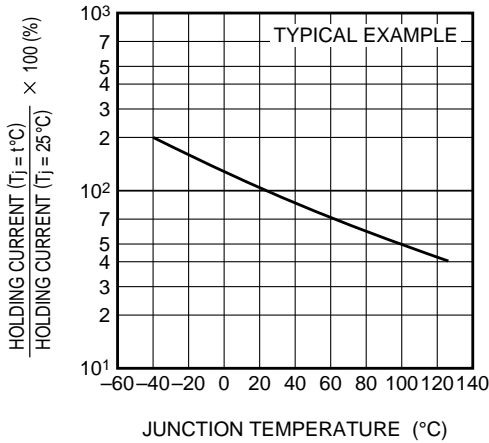
**ALLOWABLE AMBIENT TEMPERATURE VS. RMS ON-STATE CURRENT**



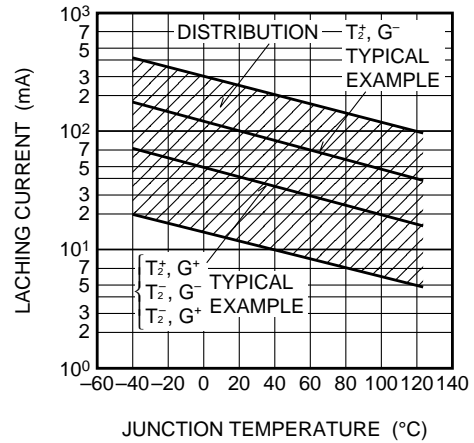
**REPETITIVE PEAK OFF-STATE CURRENT VS. JUNCTION TEMPERATURE**



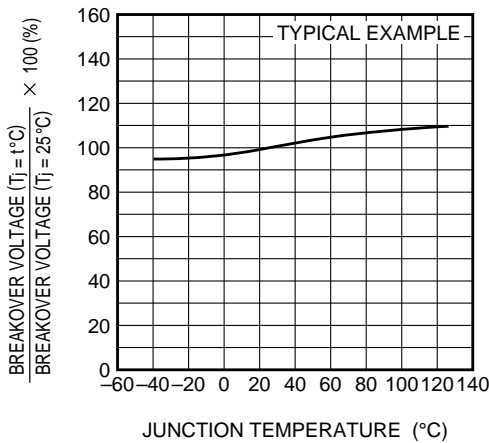
**HOLDING CURRENT VS. JUNCTION TEMPERATURE**



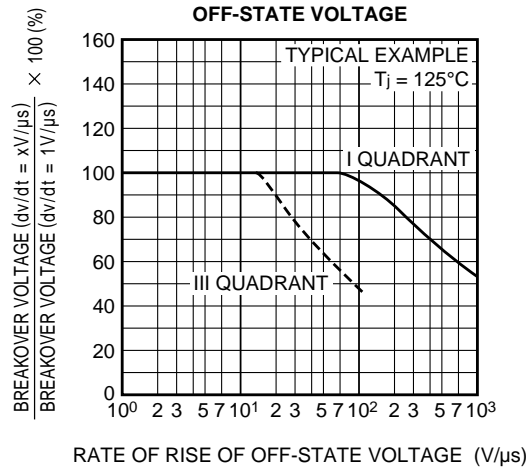
**LATCHING CURRENT VS. JUNCTION TEMPERATURE**



**BREAKOVER VOLTAGE VS. JUNCTION TEMPERATURE**

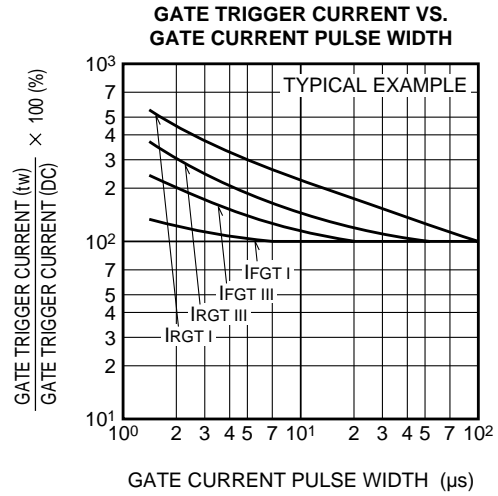
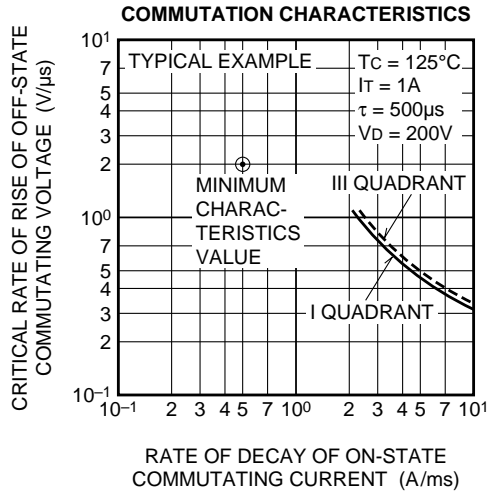


**BREAKOVER VOLTAGE VS. RATE OF RISE OF OFF-STATE VOLTAGE**



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LOW POWER USE  
GLASS PASSIVATION TYPE



**GATE TRIGGER CHARACTERISTICS  
TEST CIRCUITS**

