


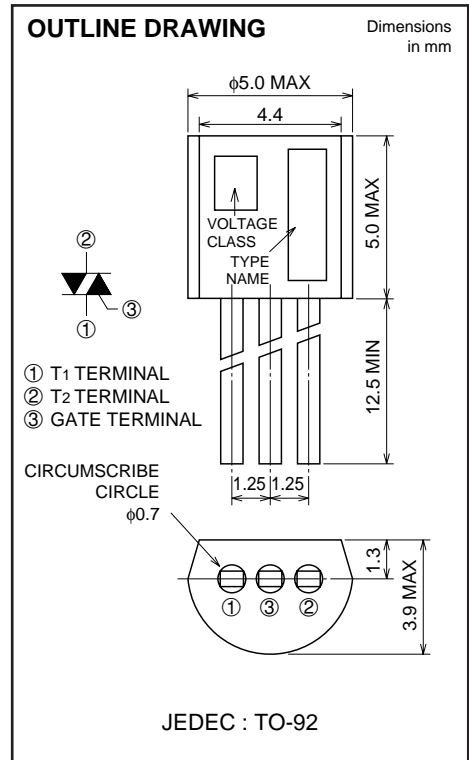
# BCR1AM-8

LOW POWER USE  
PLANAR PASSIVATION TYPE

**BCR1AM-8**



- $I_T$  (RMS) ..... 1.0A
- $V_{DRM}$  ..... 400V
- $I_{FGT}$  I ..... 5mA
- $I_{RGT}$  I ,  $I_{RGT}$  III ..... 5mA (3mA) \*5
- $I_{FGT}$  III ..... 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
		8		
$V_{DRM}$	Repetitive peak off-state voltage *1	400		V
$V_{DSM}$	Non-repetitive peak off-state voltage *1	500		V

Symbol	Parameter	Conditions	Ratings	Unit
$I_T$ (RMS)	RMS on-state current	Commercial frequency, sine full wave 360° conduction, $T_c=56^\circ\text{C}$ *4	1.0	A
$I_{TSM}$	Surge on-state current	60Hz sinewave 1 full cycle, peak value, non-repetitive	10	A
$I_t^2$	$I_t^2$ for fusing	Value corresponding to 1 cycle of half wave 60Hz, surge on-state current	0.41	A <sup>2</sup> 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	°C
$T_{stg}$	Storage temperature		-40 ~ +125	°C
—	Weight	Typical value	0.23	g

\*1. Gate open.

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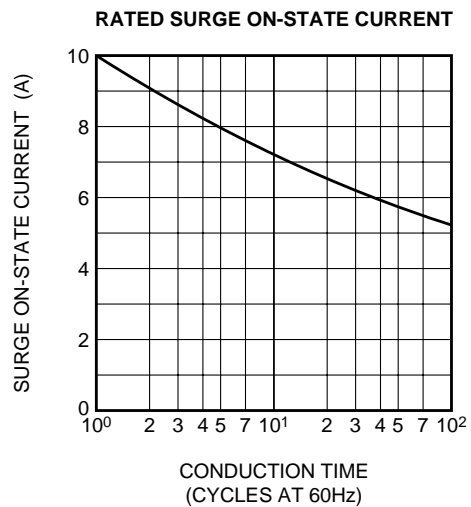
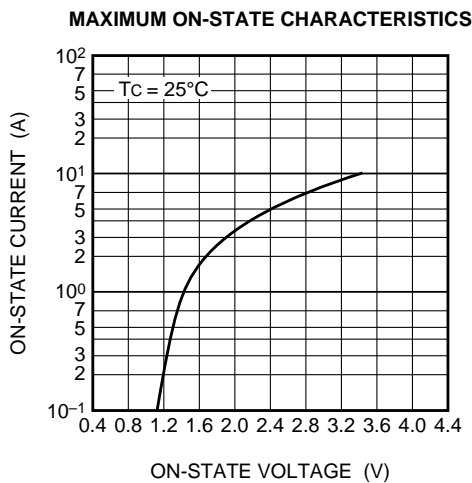
**ELECTRICAL CHARACTERISTICS**

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	
VTM	On-state voltage	T <sub>c</sub> =25°C, I <sub>TM</sub> =1.5A, Instantaneous measurement	—	—	1.6	V	
VFGT I	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
VRGT I			II	—	—	2.0	V
VRGT III			III	—	—	2.0	V
VFGT III			IV	—	—	2.0	V
IFGT I	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
IRGT I			II	—	—	5*5	mA
IRGT III			III	—	—	5*5	mA
IFGT III			IV	—	—	10	mA
VGD	Gate non-trigger voltage	T <sub>j</sub> =125°C, V <sub>D</sub> =1/2V <sub>DRM</sub>	0.1	—	—	V	
Rth (j-c)	Thermal resistance	Junction to case *4	—	—	50	°C/W	
(dv/dt) <sub>c</sub>	Critical-rate of rise of off-state commutating voltage		*3	—	—	V/μs	

\*2. Measurement using the gate trigger characteristics measurement circuit.  
 \*3. The critical-rate of rise of the off-state commutating voltage is shown in the table below.  
 \*4. Case temperature is measured at the T<sub>2</sub> terminal 1.5mm away from the molded case.  
 \*5. High sensitivity (IGT≤3mA) is also available. (IGT item ①)

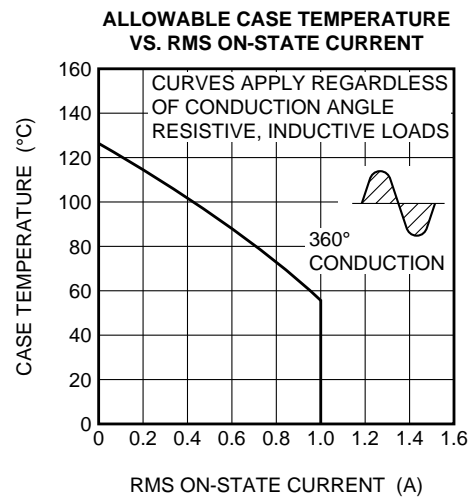
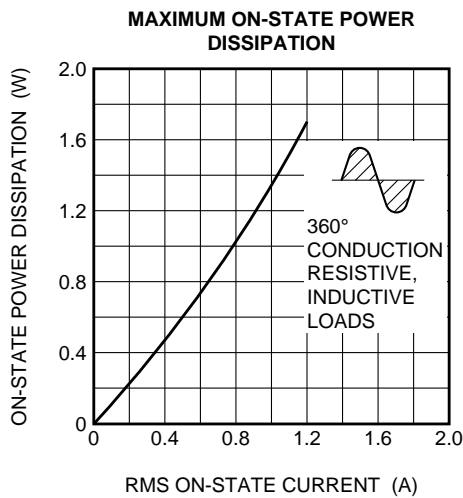
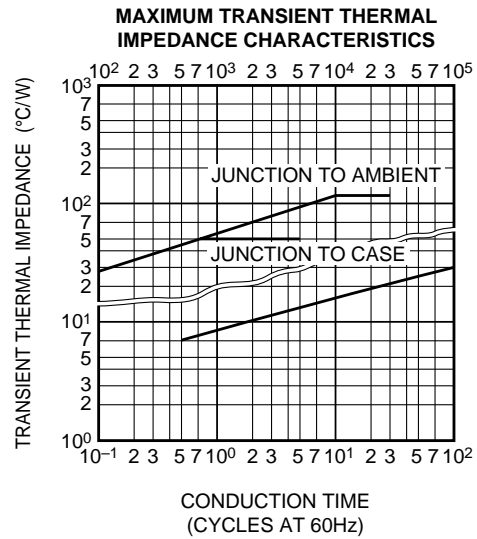
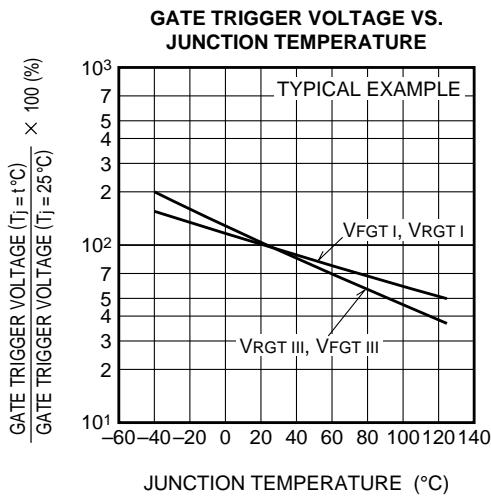
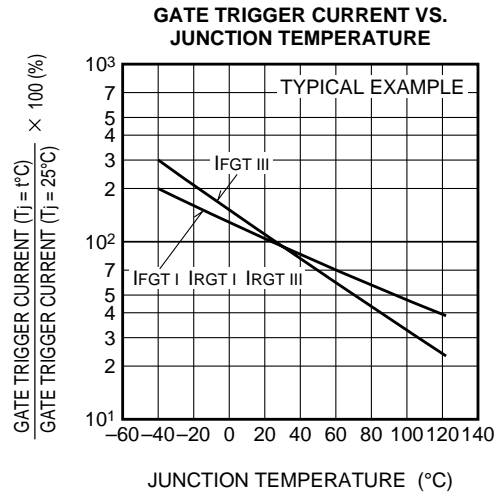
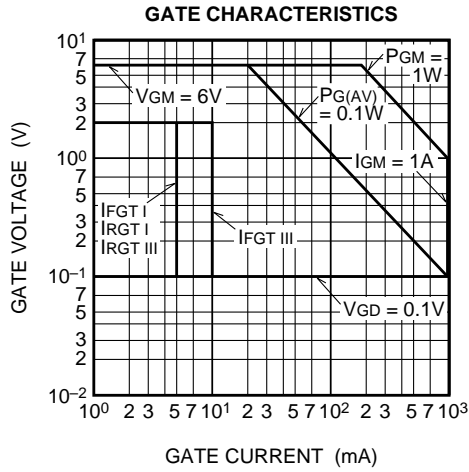
Voltage class	V <sub>DRM</sub> (V)	(dv/dt) <sub>c</sub>		Test conditions	Commutating voltage and current waveforms (inductive load)
		Min.	Unit		
8	400	2	V/μs	1. Junction temperature T <sub>j</sub> =125°C 2. Rate of decay of on-state commutating current (di/dt) <sub>c</sub> =-0.5A/ms 3. Peak off-state voltage V <sub>D</sub> =400V	

**PERFORMANCE CURVES**



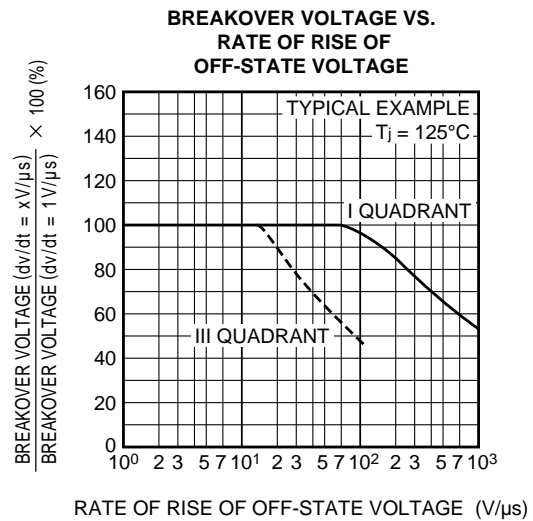
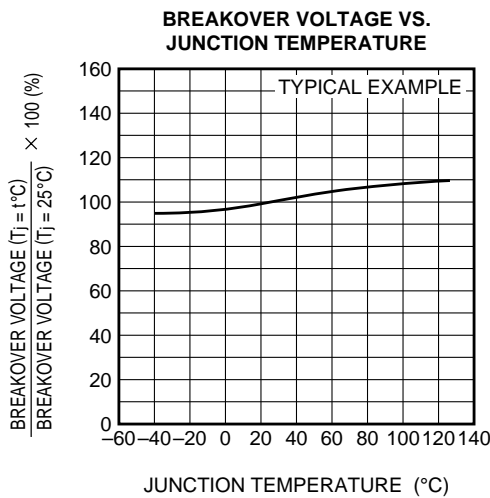
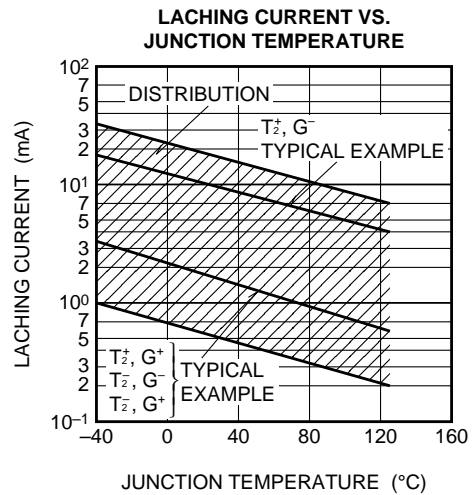
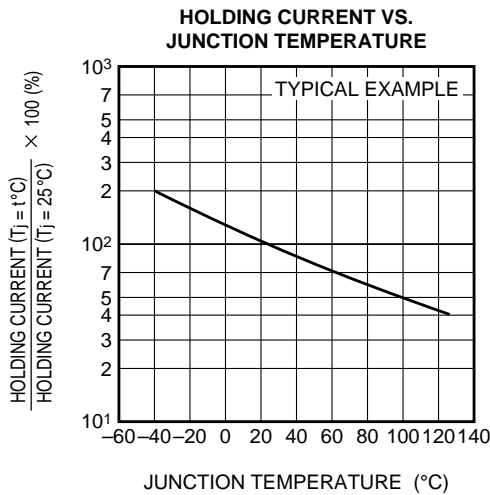
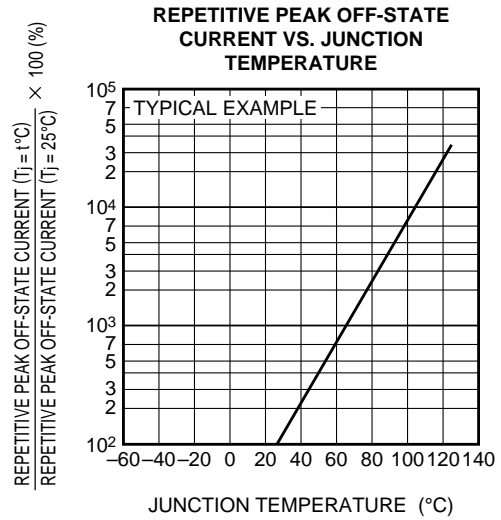
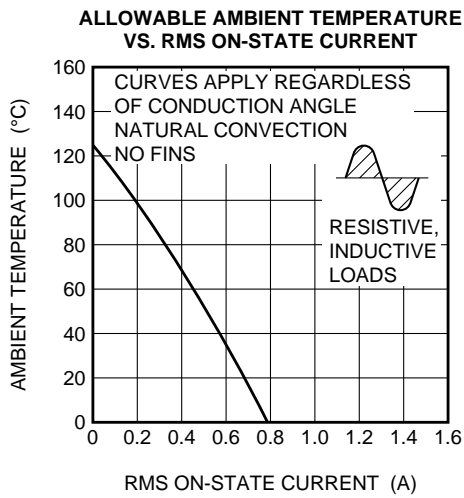
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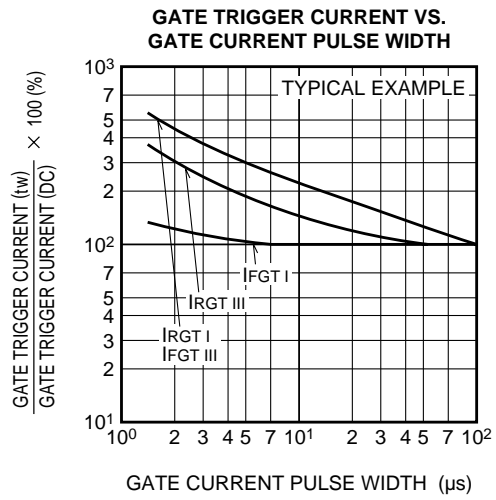
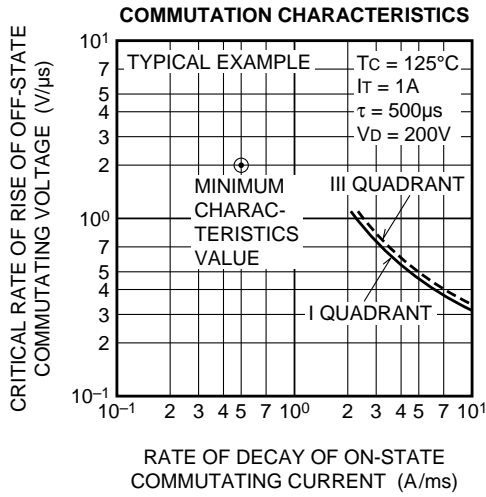
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**GATE TRIGGER CHARACTERISTICS TEST CIRCUITS**

