


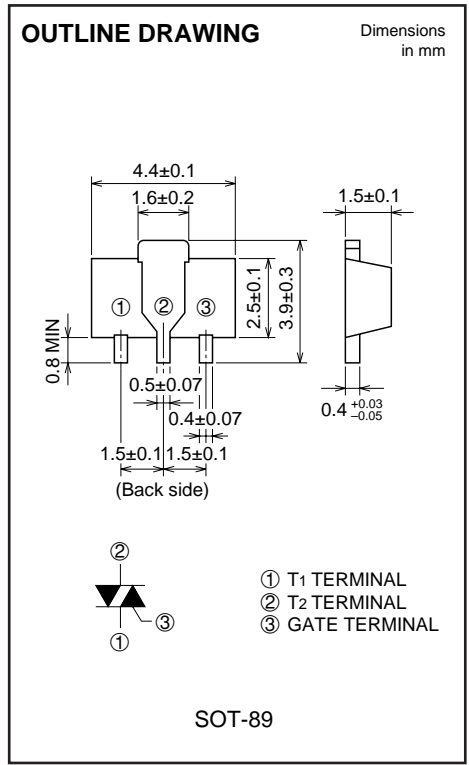
# CR08AS

LOW POWER USE  
NON-INSULATED TYPE, GLASS PASSIVATION TYPE

**CR08AS**



- **IT (AV)** ..... **0.8A**
- **VDRM** ..... **400V/600V**
- **IGT** ..... **100μA**



## APPLICATION

Solid state relay, strobe flasher, ignitor, hybrid IC

## MAXIMUM RATINGS

Symbol	Parameter	Voltage class		Unit
		8 (marked "AD")	12 (marked "AF")	
VRRM	Repetitive peak reverse voltage	400	600	V
VRSM	Non-repetitive peak reverse voltage	500	720	V
VR (DC)	DC reverse voltage	320	480	V
VDRM	Repetitive peak off-state voltage *1	400	600	V
VD (DC)	DC off-state voltage *1	320	480	V

Symbol	Parameter	Conditions	Ratings	Unit
IT (RMS)	RMS on-state current		1.26	A
IT (AV)	Average on-state current	Commercial frequency, sine half wave, 180° conduction, Ta=51°C*2	0.8	A
ITSM	Surge on-state current	60Hz sine half wave 1 full cycle, peak value, non-repetitive	10	A
I <sup>2</sup> <sub>t</sub>	I <sup>2</sup> <sub>t</sub> for fusing	Value corresponding to 1 cycle of half wave 60Hz, surge on-state current	0.42	A <sup>2</sup> s
PGM	Peak gate power dissipation		0.5	W
PG (AV)	Average gate power dissipation		0.1	W
VFGM	Peak gate forward voltage		6	V
VRGM	Peak gate reverse voltage		6	V
IFGM	Peak gate forward current		0.3	A
T <sub>j</sub>	Junction temperature		-40 ~ +125	°C
T <sub>stg</sub>	Storage temperature		-40 ~ +125	°C
—	Weight	Typical value	48	mg

\*1. With Gate-to-cathode resistance R<sub>GK</sub>=1kΩ

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## ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
IRRM	Repetitive peak reverse current	T <sub>j</sub> =125°C, V <sub>RRM</sub> applied, R <sub>GK</sub> =1kΩ	—	—	0.5	mA
IDRM	Repetitive peak off-state current	T <sub>j</sub> =125°C, V <sub>DRM</sub> applied, R <sub>GK</sub> =1kΩ	—	—	0.5	mA
V <sub>TM</sub>	On-state voltage	T <sub>a</sub> =25°C, I <sub>TM</sub> =2.5A, instantaneous value	—	—	1.5	V
V <sub>GT</sub>	Gate trigger voltage	T <sub>a</sub> =25°C, V <sub>D</sub> =6V, I <sub>T</sub> =0.1A *4	—	—	0.8	V
V <sub>GD</sub>	Gate non-trigger voltage	T <sub>j</sub> =125°C, V <sub>D</sub> =1/2V <sub>DRM</sub> , R <sub>GK</sub> =1kΩ	0.2	—	—	V
I <sub>GT</sub>	Gate trigger current	T <sub>j</sub> =25°C, V <sub>D</sub> =6V, I <sub>T</sub> =0.1A *4	1	—	100*3	μA
I <sub>H</sub>	Holding current	T <sub>j</sub> =25°C, V <sub>D</sub> =12V, R <sub>GK</sub> =1kΩ	—	1.5	3	mA
R <sub>th(j-a)</sub>	Thermal resistance	Junction to ambient *2	—	—	65	°C/W

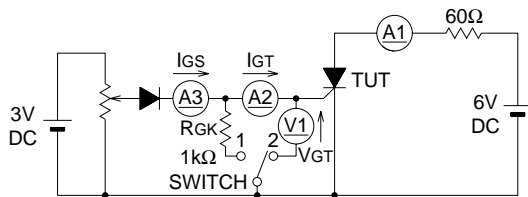
\*2. Soldering with ceramic plate (25mm × 25mm × t0.7).

\*3. If special values of I<sub>GT</sub> are required, choose at least two items from those listed in the table below. (Example: AB, BC)

Item	A	B	C
I <sub>GT</sub> (μA)	1 ~ 30	20 ~ 50	40 ~ 100

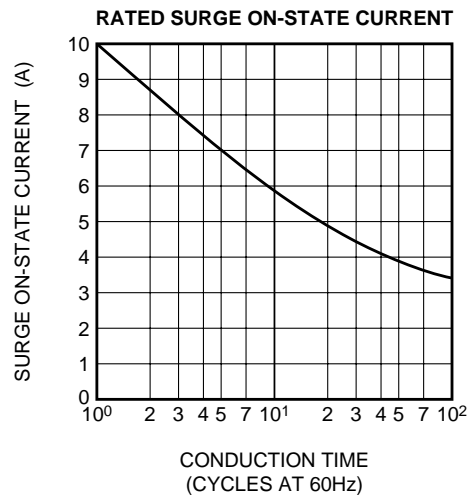
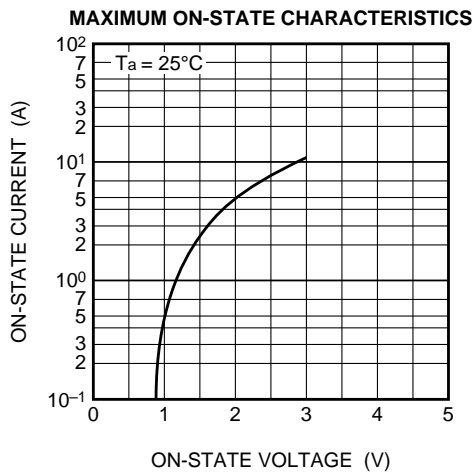
The above values do not include the current flowing through the 1kΩ resistance between the gate and cathode.

\*4. I<sub>GT</sub>, V<sub>GT</sub> measurement circuit.



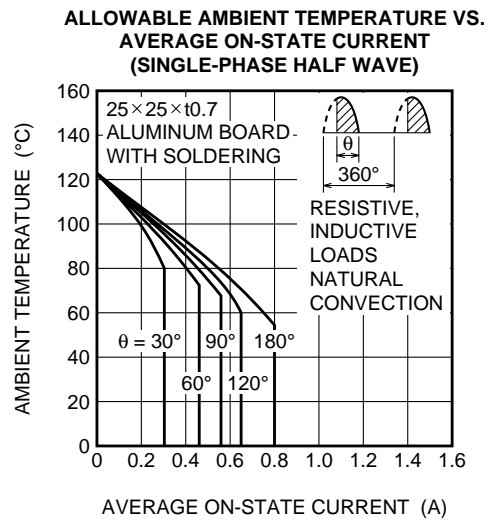
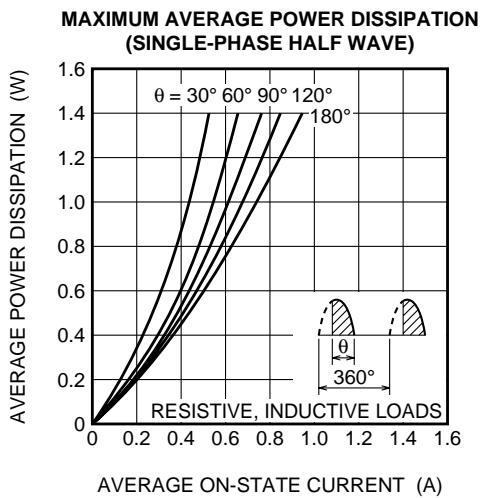
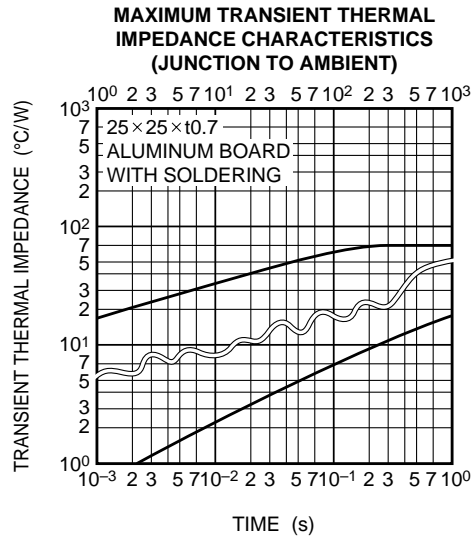
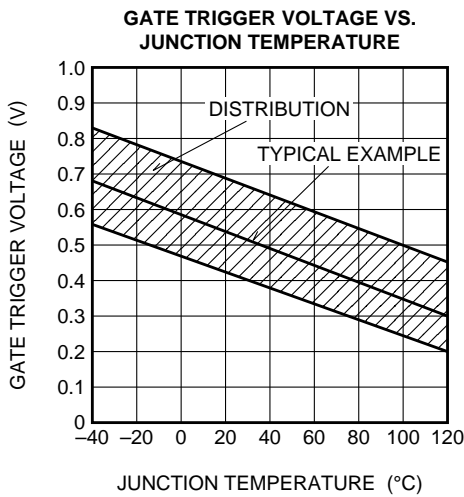
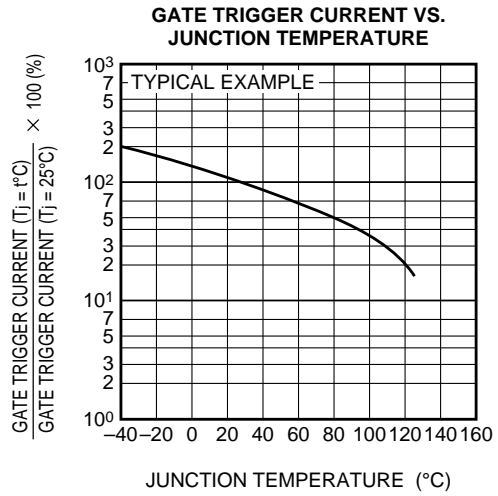
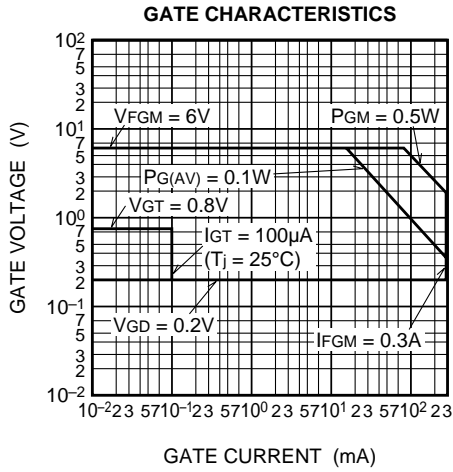
SWITCH 1 : I<sub>GT</sub> measurement  
 SWITCH 2 : V<sub>GT</sub> measurement  
 (Inner resistance of voltage meter is about 1kΩ)

## PERFORMANCE CURVES



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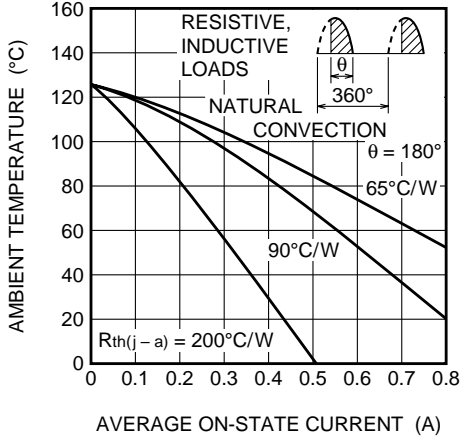


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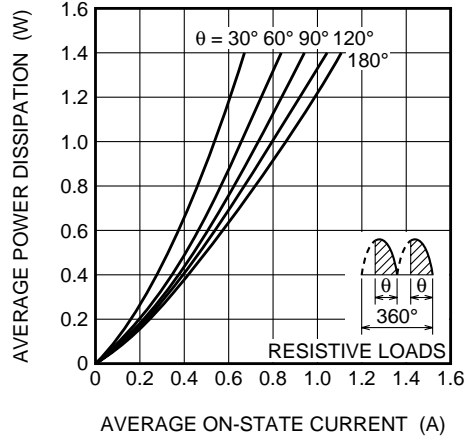
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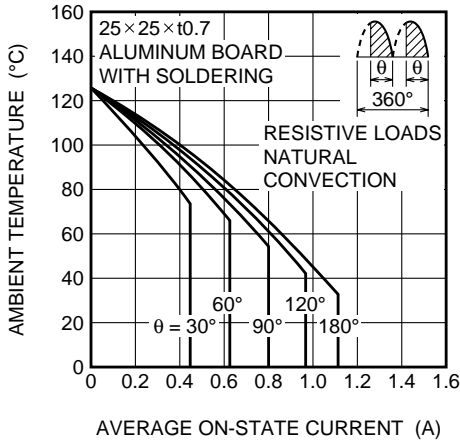
**ALLOWABLE AMBIENT TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE HALF WAVE)**



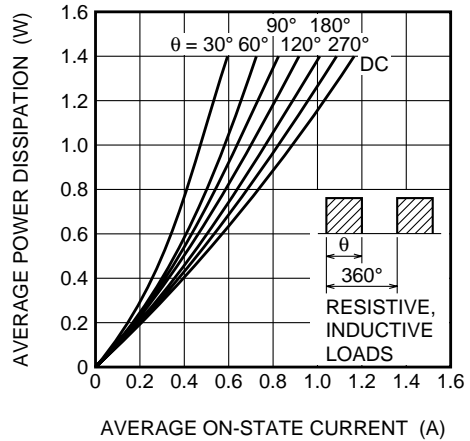
**MAXIMUM AVERAGE POWER DISSIPATION (SINGLE-PHASE FULL WAVE)**



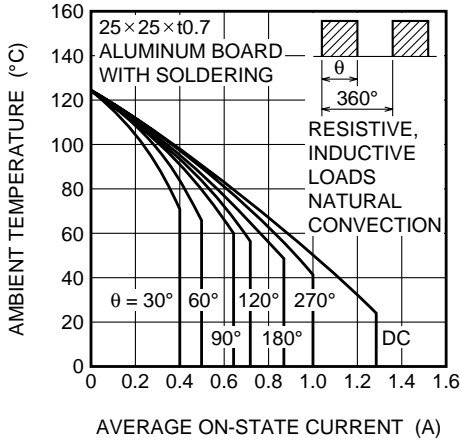
**ALLOWABLE AMBIENT TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE FULL WAVE)**



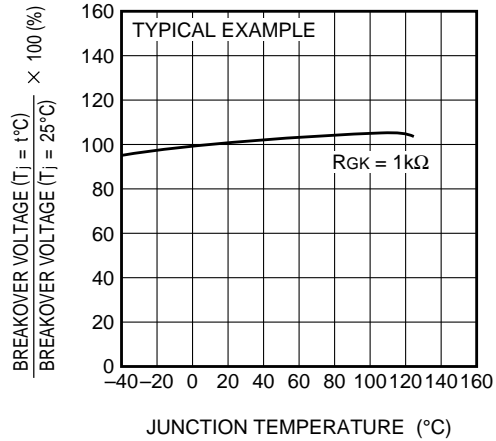
**MAXIMUM AVERAGE POWER DISSIPATION (RECTANGULAR WAVE)**



**ALLOWABLE AMBIENT TEMPERATURE VS. AVERAGE ON-STATE CURRENT (RECTANGULAR WAVE)**



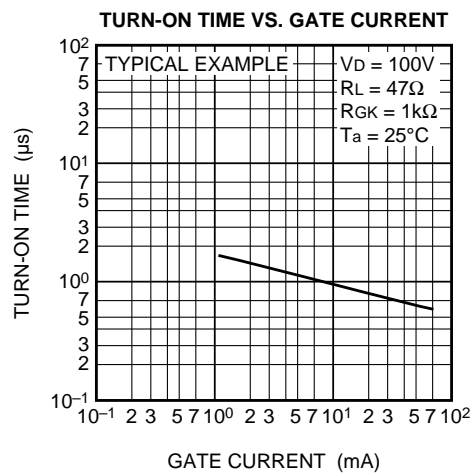
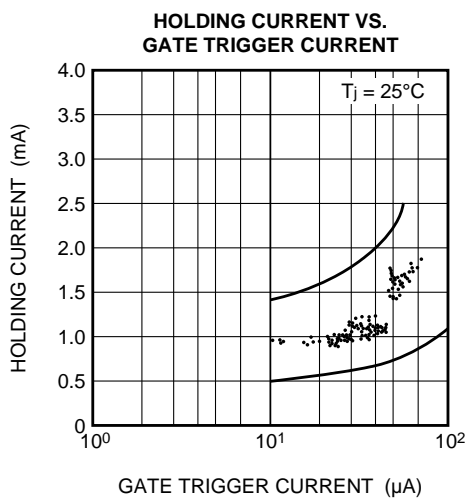
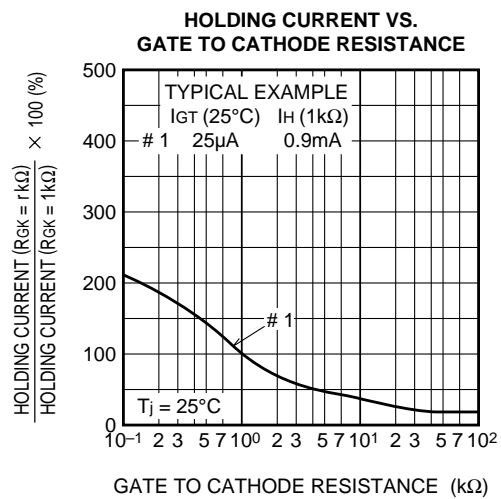
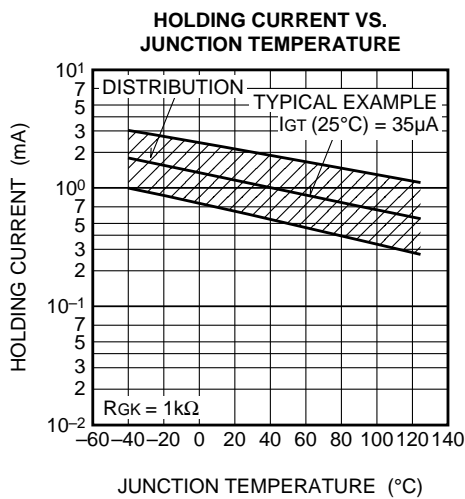
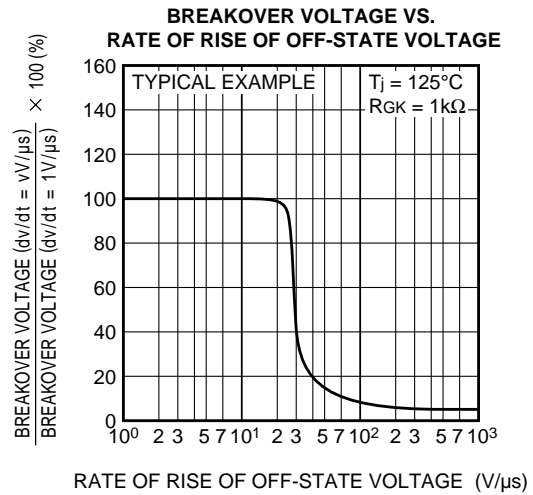
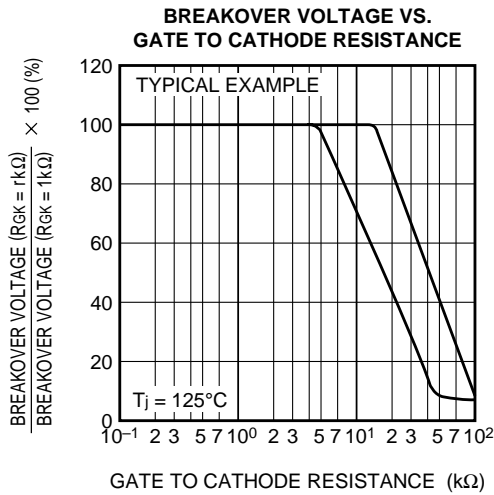
**BREAKOVER VOLTAGE VS. JUNCTION TEMPERATURE**



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