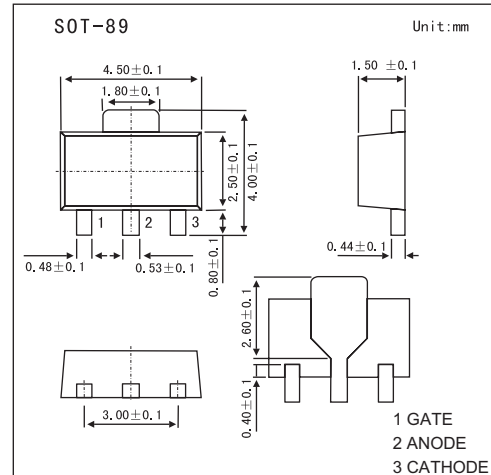
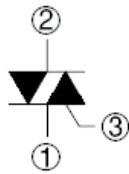


## Low Power Use Non-Insulated Type, Glass Passivation Type CR08AS

### ■ Features

- $I_{T(AV)}$  :0.8A
- $V_{DRM}$  :400V/600V
- $I_{GT}$  :100  $\mu$  A



### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	CR08AS-8	CR08AS-12	Unit
Repetitive peak reverse voltage	$V_{RRM}$	400	600	V
Non-repetitive peak reverse voltage	$V_{RSM}$	500	720	V
DC reverse voltage	$V_{R(DC)}$	320	480	V
Repetitive peak off-state voltage *1	$V_{DRM}$	400	600	V
DC off-state voltage *1	$V_{D(DC)}$	320	480	V
RMS on-state current	$I_{T(RMS)}$	1.26		A
Average on-state current	$I_{T(AV)}$	0.8		A
Surge on-state current	$I_{TSM}$	10		A
$I^2t$ for fusing	$I^2t$	0.42		$A^2s$
Peak gate power dissipation	$P_{GM}$	0.5		W
Average gate power dissipation	$P_{G(AV)}$	0.1		W
Peak gate forward voltage	$V_{FGM}$	6		V
Peak gate reverse voltage	$V_{RGM}$	6		V
Peak gate forward current	$I_{FGM}$	0.3		A
Junction temperature	$T_j$	-40 to +125		$^\circ\text{C}$
Storage temperature	$T_{stg}$	-40 to +125		$^\circ\text{C}$

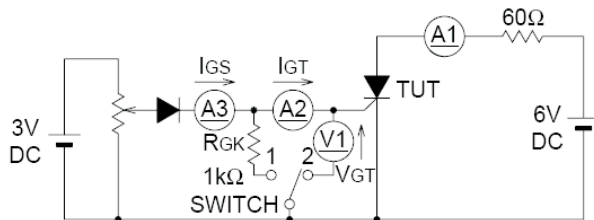
\*1 With Gate-to-cathode resistance  $R_{GK}=1k\ \Omega$

## CR08AS

■ Electrical Characteristics  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Testconditions	Min	Typ.	Max	Unit
Repetitive peak reverse current	$I_{RRM}$	$T_j=125^\circ\text{C}$ , $V_{RRM}$ applied, $R_{GK}=1\text{k}\Omega$			0.5	mA
Repetitive peak off-state current	$I_{DRM}$	$T_j=125^\circ\text{C}$ , $V_{DRM}$ applied, $R_{GK}=1\text{k}\Omega$			0.5	mA
On-state voltage	$V_{TM}$	$T_a=25^\circ\text{C}$ , $I_{TM}=2.5\text{A}$ , instantaneous value			1.5	V
Gate trigger voltage	$V_{GT}$	$T_a=25^\circ\text{C}$ , $V_D=6\text{V}$ , $I_T=0.1\text{A}^*1$			0.8	V
Gate non-trigger voltage	$V_{GD}$	$T_j=125^\circ\text{C}$ , $V_D=1/2V_{DRM}$ , $R_{GK}=1\text{k}\Omega$	0.2			V
Gate trigger current	$I_{GT}$	$T_j=25^\circ\text{C}$ , $V_D=6\text{V}$ , $I_T=0.1\text{A}^*1$	1		$100^{*2}$	$\mu\text{A}$
Holding current	$I_H$	$T_j=25^\circ\text{C}$ , $V_D=12\text{V}$ , $R_{GK}=1\text{k}\Omega$		1.5	3	mA
Thermal resistance	$R_{th(j-a)}$	Junction to ambient			65	$^\circ\text{C/W}$

\*1  $I_{GT}$ ,  $V_{GT}$  measurement circuit.



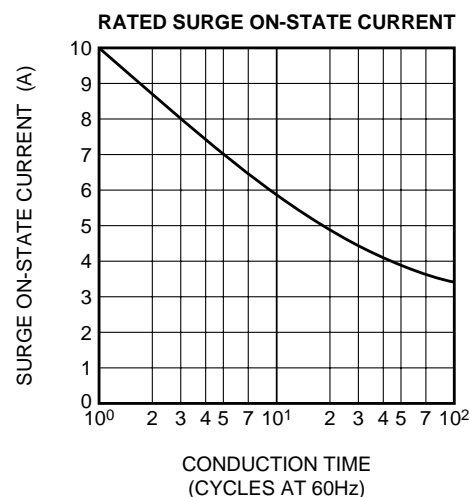
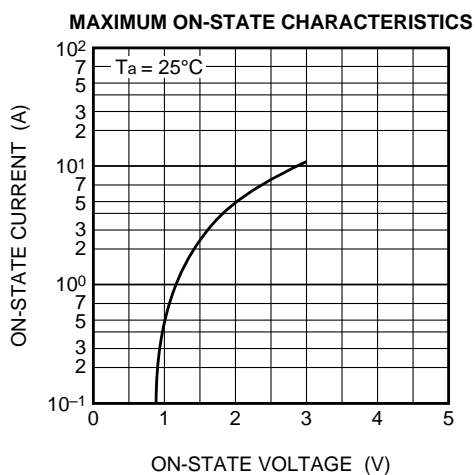
SWITCH 1 :  $I_{GT}$  measurement  
 SWITCH 2 :  $V_{GT}$  measurement  
 (Inner resistance of voltage meter is about  $1\text{k}\Omega$ )

\*2 If special values of  $I_{GT}$  are required, choose at least two items from those listed in the table below.

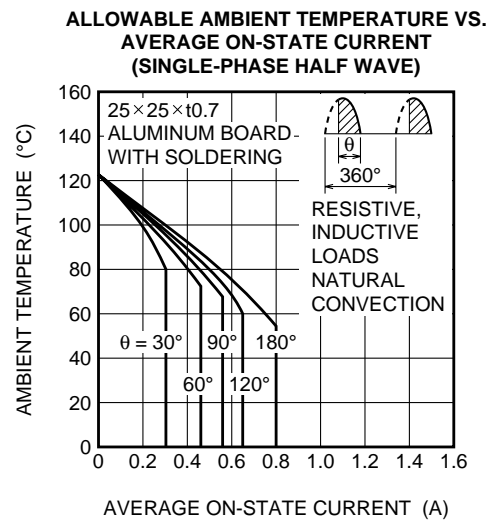
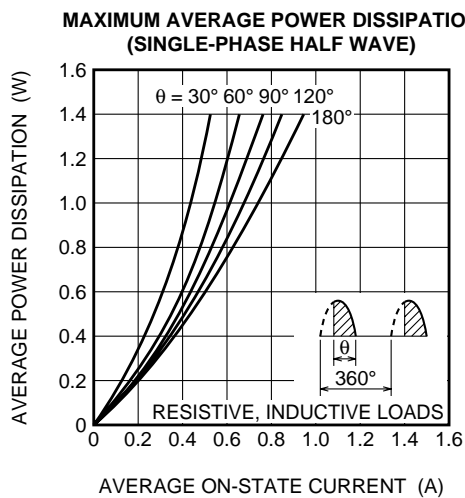
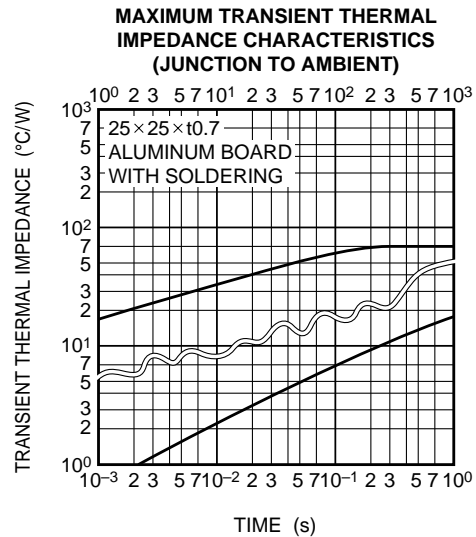
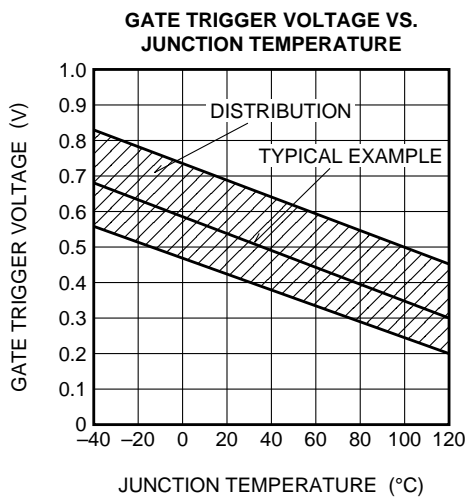
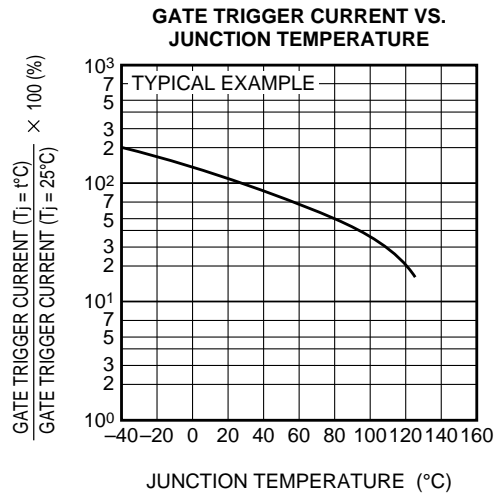
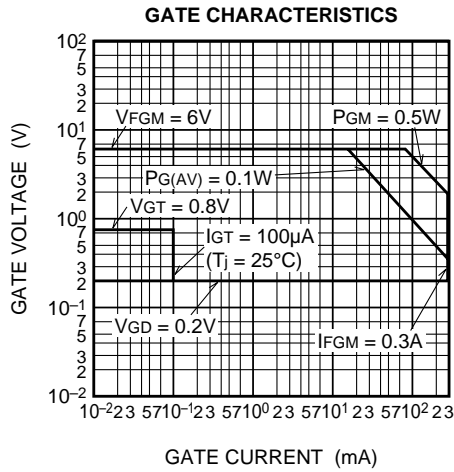
Item	A	B	C
$I_{GT}$ ( $\mu\text{A}$ )	1 to 30	20 to 50	40 to 100

## ■ Marking

NO.	CR08AS-8	CR08AS-12
Marking	AD	AF

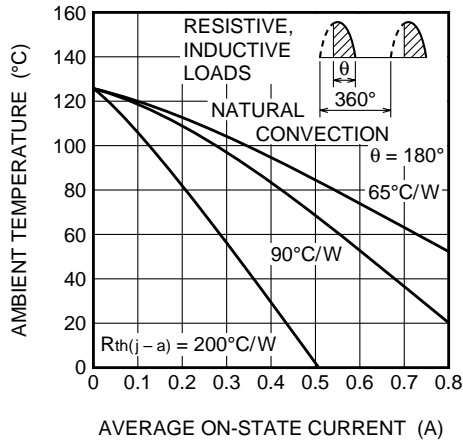


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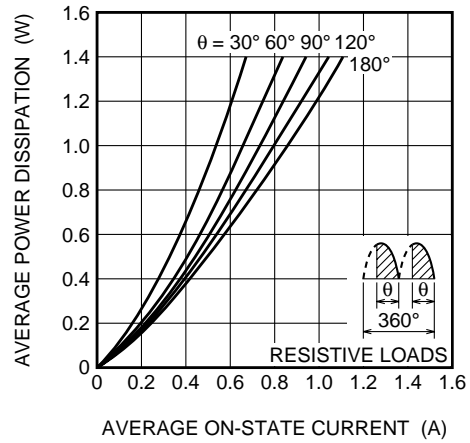


### CR08AS

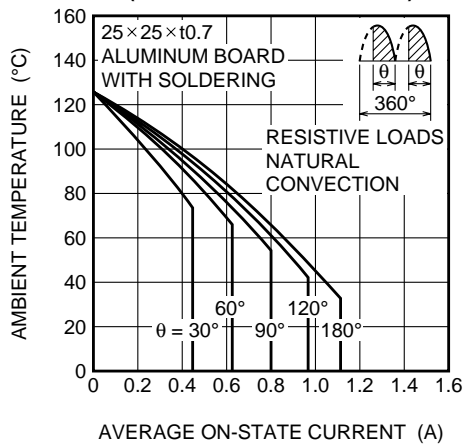
**ALLOWABLE AMBIENT TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE HALF WAVE)**



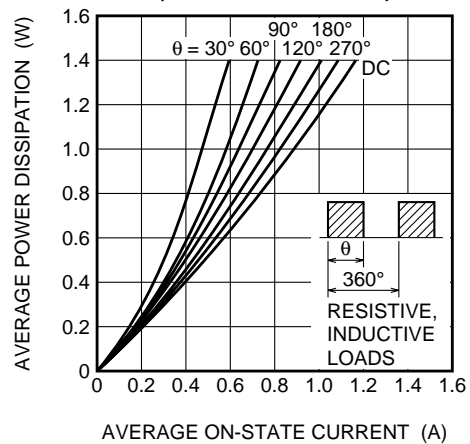
**MAXIMUM AVERAGE POWER DISSIPATION (SINGLE-PHASE FULL WAVE)**



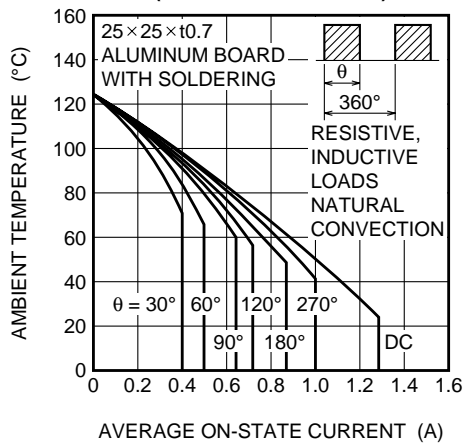
**ALLOWABLE AMBIENT TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE FULL WAVE)**



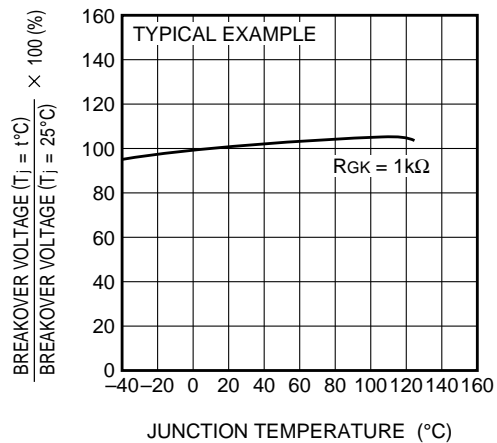
**MAXIMUM AVERAGE POWER DISSIPATION (RECTANGULAR WAVE)**



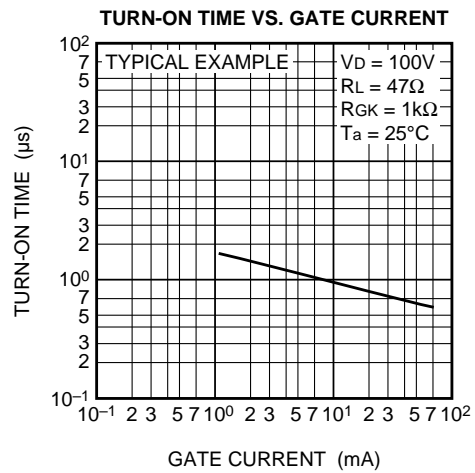
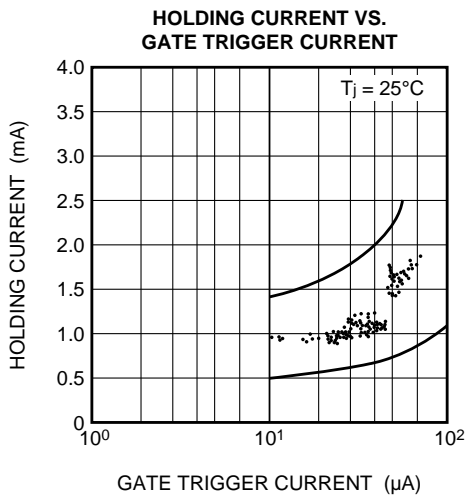
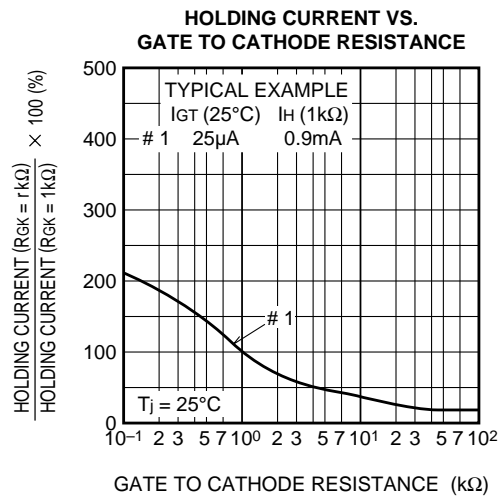
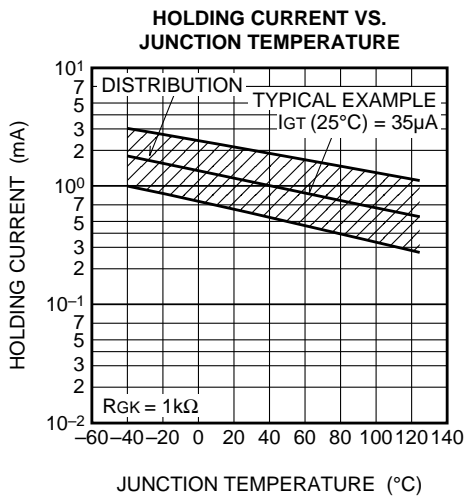
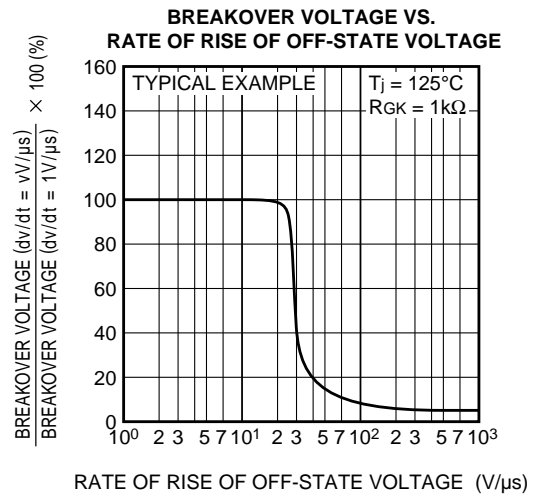
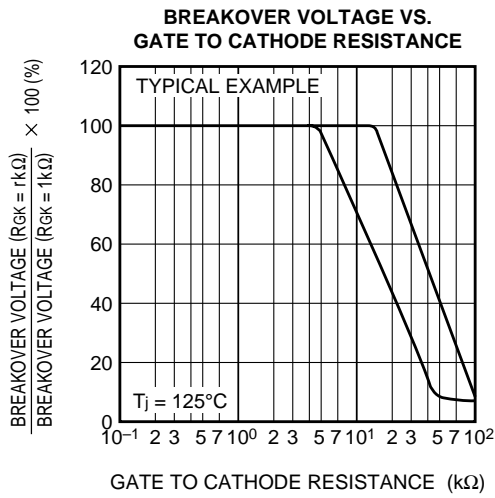
**ALLOWABLE AMBIENT TEMPERATURE VS. AVERAGE ON-STATE CURRENT (RECTANGULAR WAVE)**



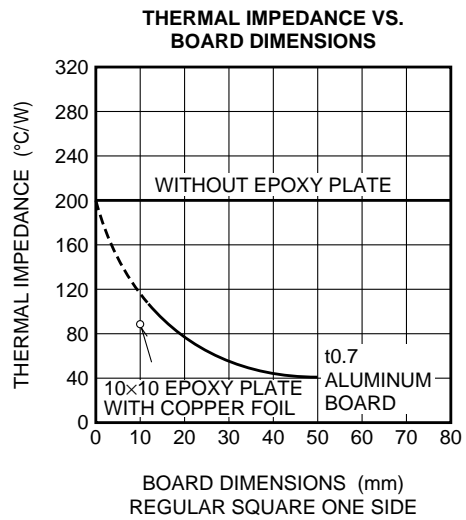
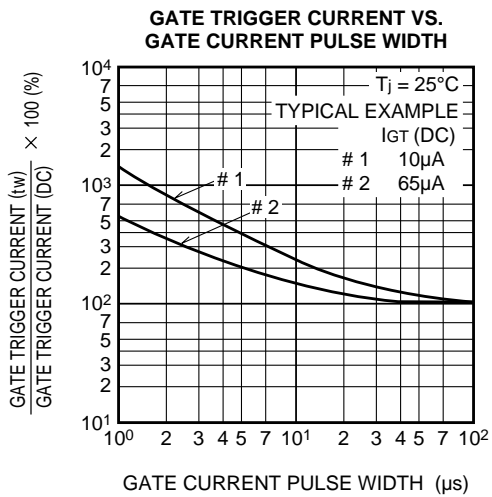
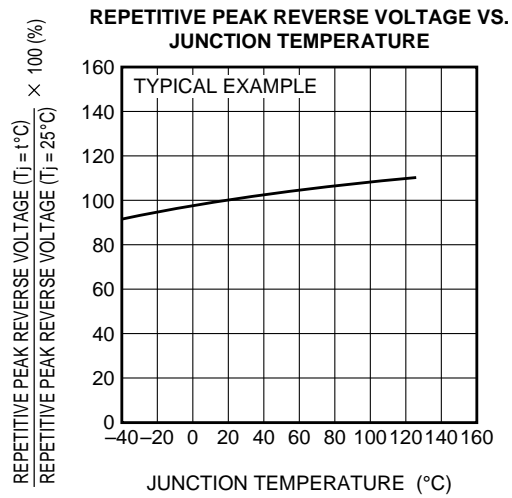
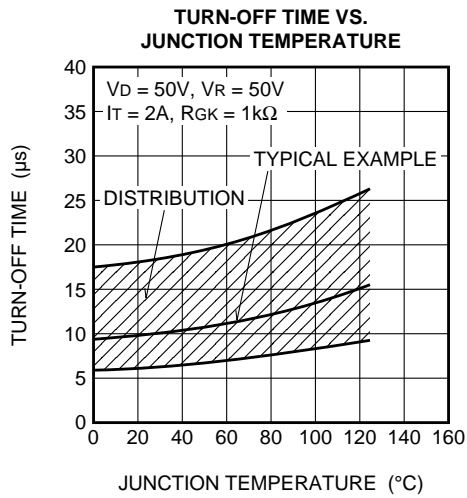
**BREAKOVER VOLTAGE VS. JUNCTION TEMPERATURE**



### CR08AS



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