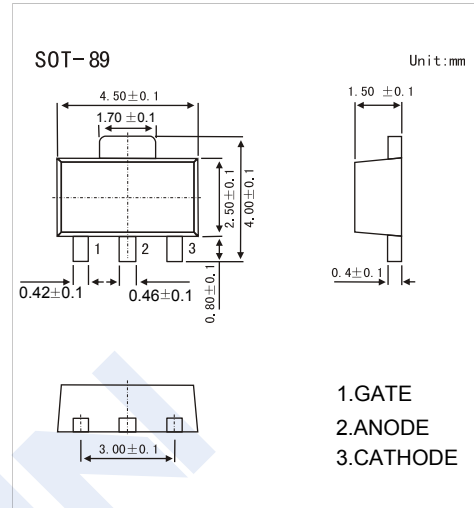


Low Power Use Non-Insulated Type, Glass Passivation Type CR08AS

■ Features

- $I_{T(AV)}$:0.8A
- V_{DRM} :400V/600V
- I_{GT} :100 μ 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		$^\circ\text{C}$

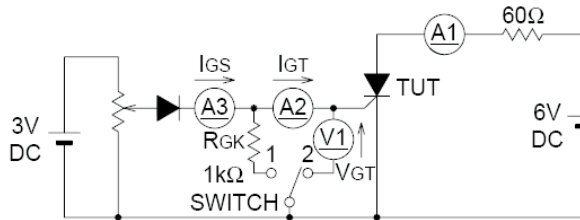
*1 With Gate-to-cathode resistance $R_{GK}=1k\ \Omega$

CR08AS

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

Parameter	Symbol	Test conditions	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}	μA
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.



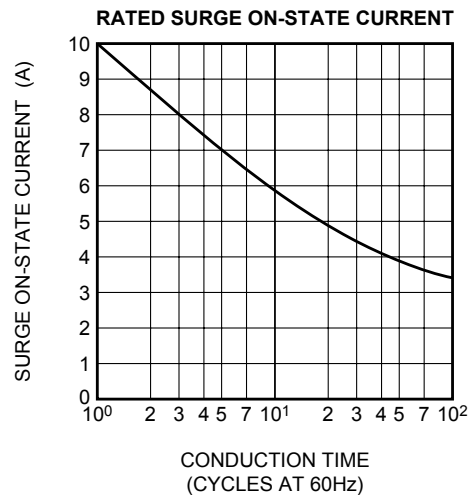
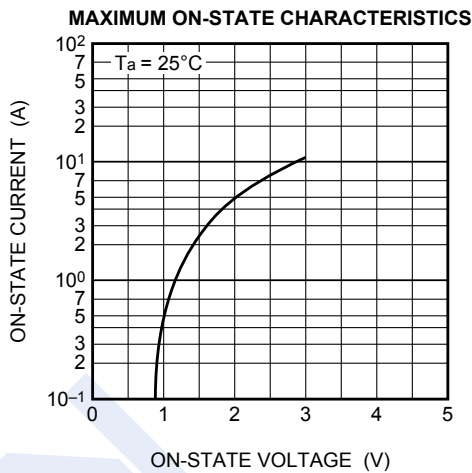
SWITCH 1 : I_{GT} measurement
 SWITCH 2 : V_{GT} measurement
 (Inner resistance of voltage meter is about $1\text{k}\Omega$)

*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

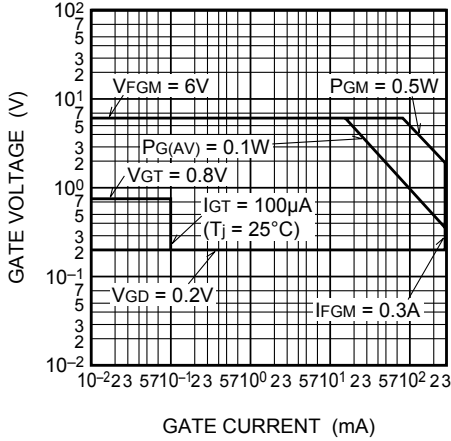
■ Marking

NO.	CR08AS-8	CR08AS-12
Marking	AD	AF

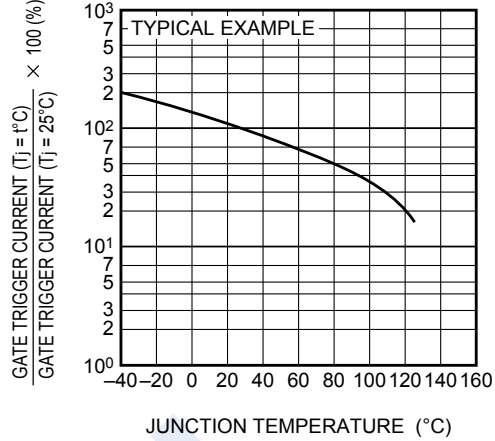


CR08AS

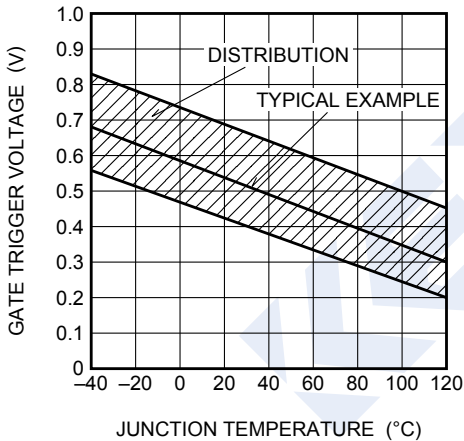
GATE CHARACTERISTICS



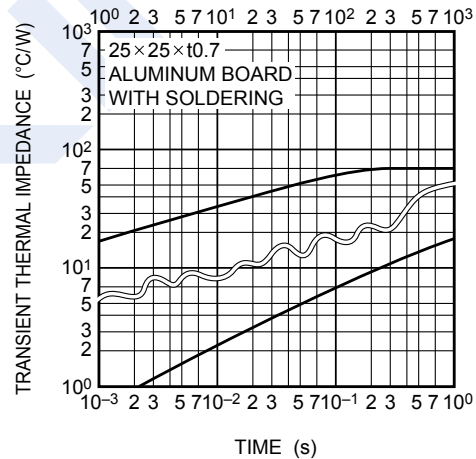
GATE TRIGGER CURRENT VS. JUNCTION TEMPERATURE



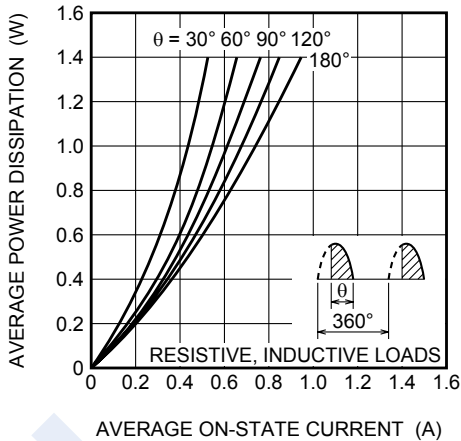
GATE TRIGGER VOLTAGE VS. JUNCTION TEMPERATURE



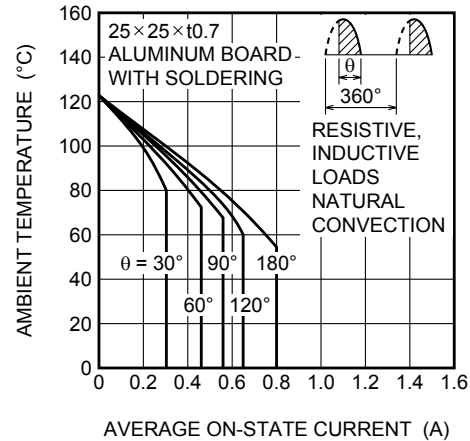
MAXIMUM TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS (JUNCTION TO AMBIENT)



MAXIMUM AVERAGE POWER DISSIPATION (SINGLE-PHASE HALF WAVE)

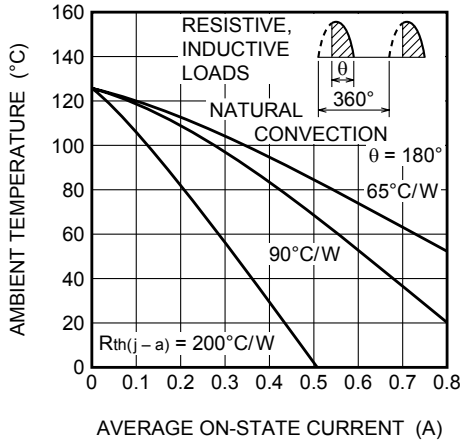


ALLOWABLE AMBIENT TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE HALF WAVE)

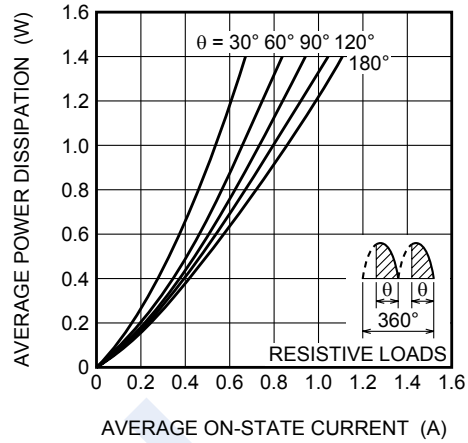


CR08AS

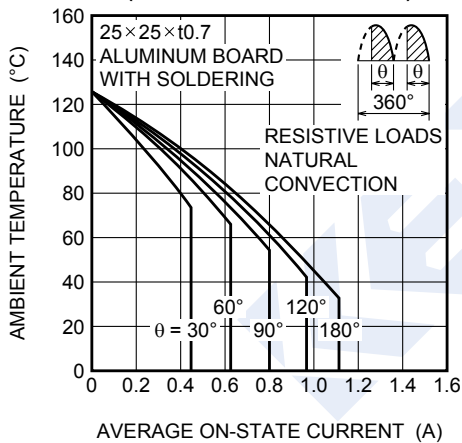
ALLOWABLE AMBIENT TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE HALF WAVE)



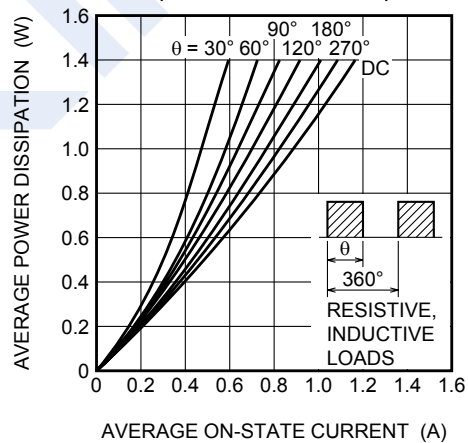
MAXIMUM AVERAGE POWER DISSIPATION (SINGLE-PHASE FULL WAVE)



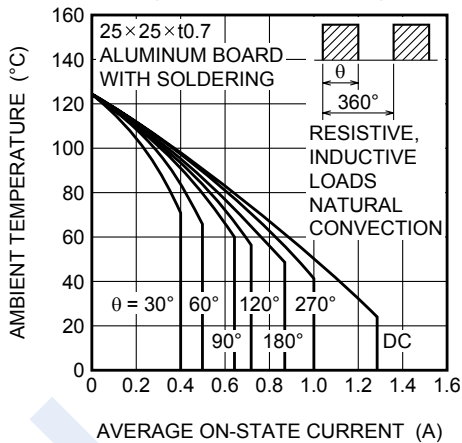
ALLOWABLE AMBIENT TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE FULL WAVE)



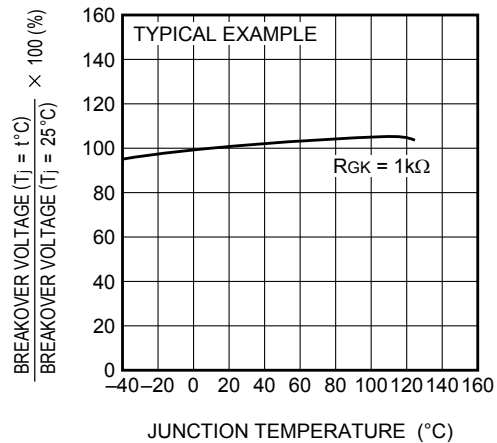
MAXIMUM AVERAGE POWER DISSIPATION (RECTANGULAR WAVE)



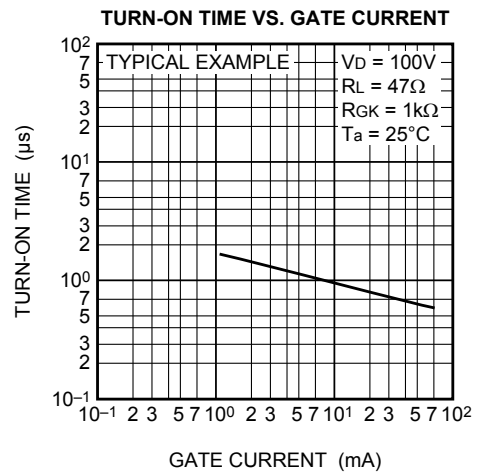
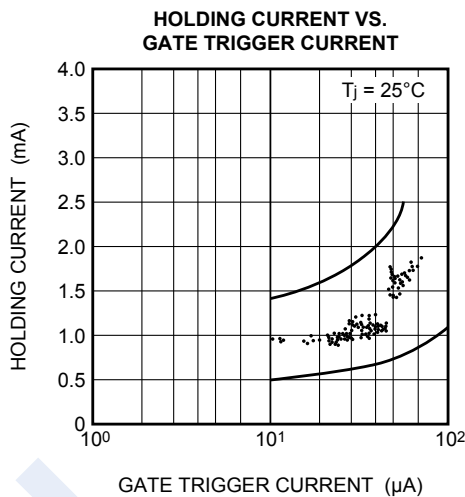
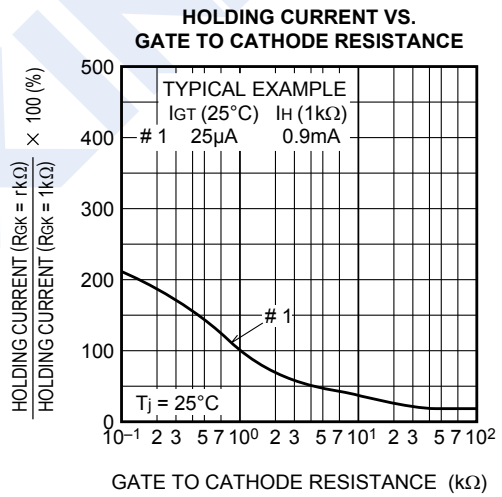
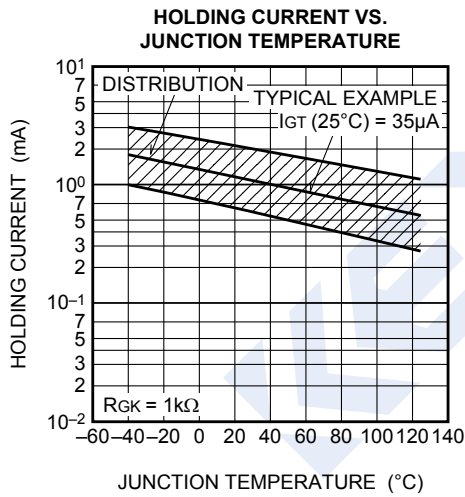
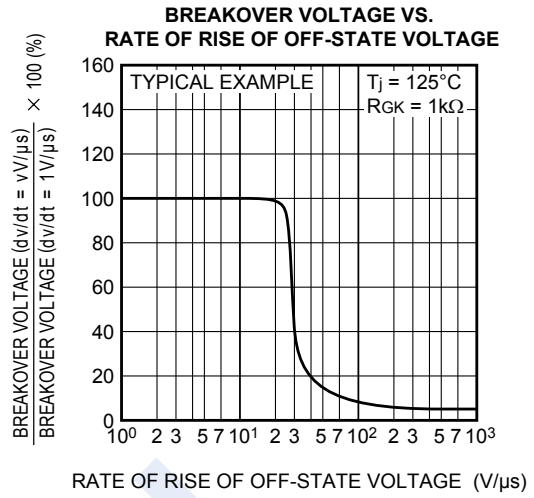
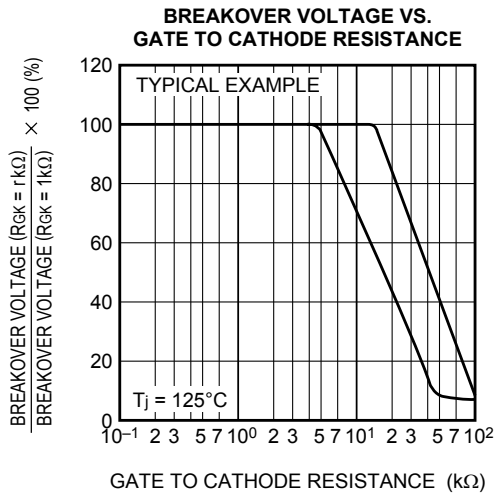
ALLOWABLE AMBIENT TEMPERATURE VS. AVERAGE ON-STATE CURRENT (RECTANGULAR WAVE)



BREAKEOVER VOLTAGE VS. JUNCTION TEMPERATURE



CR08AS



CR08AS

