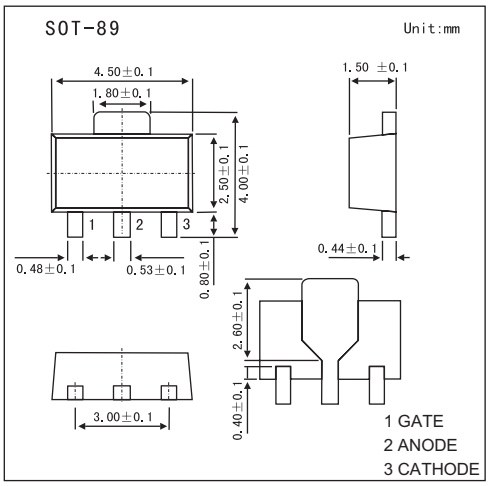
Low Power Use
Non-Insulated Type,Glass Passivation Type
CR08AS



■ Features

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

■ Absolute Maximum Ratings Ta = 25℃

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		℃
Storage temperature	T_{stg}	-40 to +125		℃

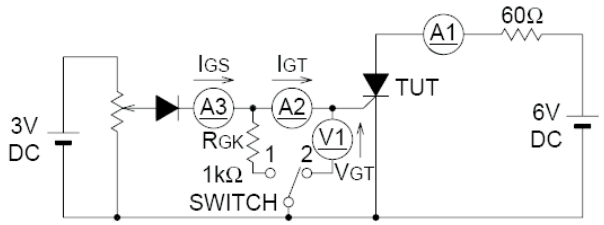
*1 With Gate-to-cathode resistance R_{GK}=1kΩ

CR08AS

■ Electrical Characteristics Ta = 25℃

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

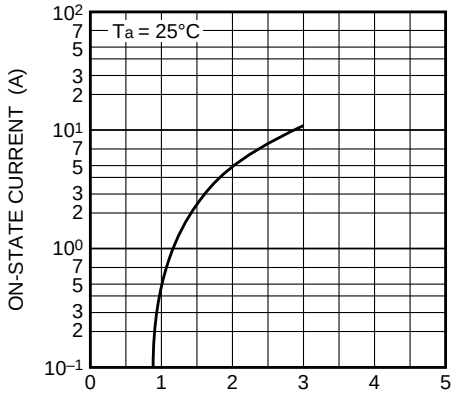
*2 If special values of I_{GT} are required, choose at least two items from those listed in the table below.

Item	A	B	C
I_{GT} (μA)	1 to 30	20 to 50	40 to 100

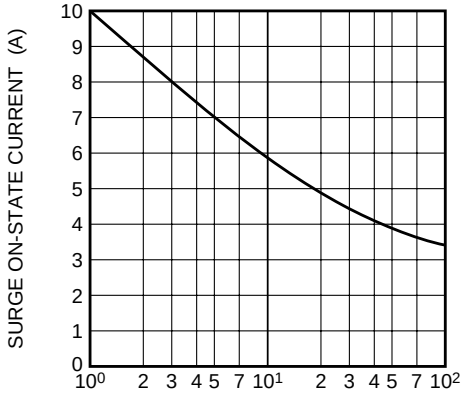
■ Marking

NO.	CRO8AS-8	CRO8AS-12
Marking	AD	AF

MAXIMUM ON-STATE CHARACTERISTICS



RATED SURGE ON-STATE CURRENT



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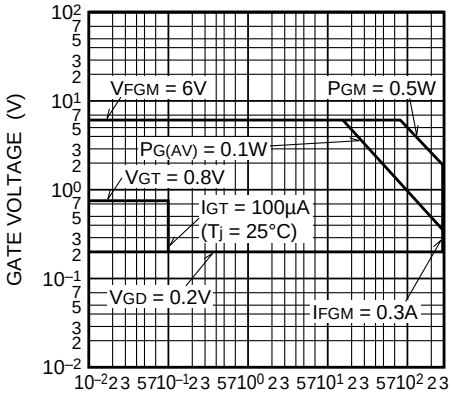
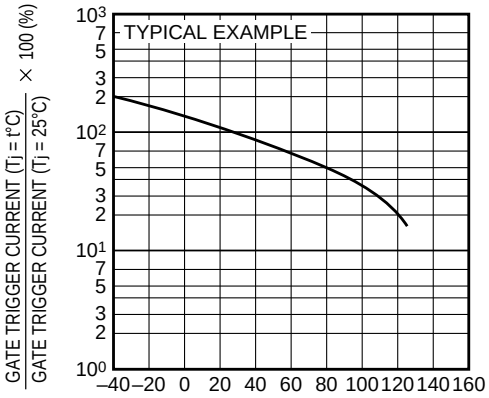
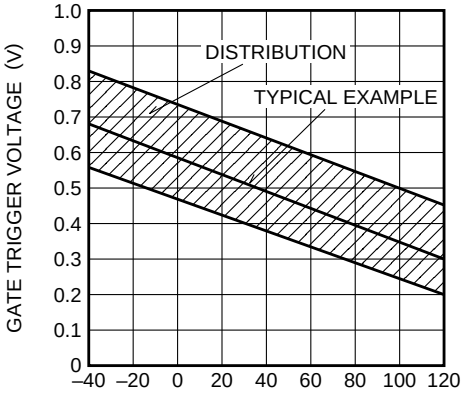
GATE CHARACTERISTICS



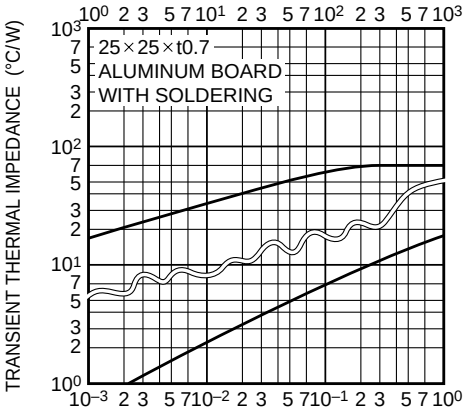
GATE TRIGGER CURRENT VS. JUNCTION TEMPERATURE



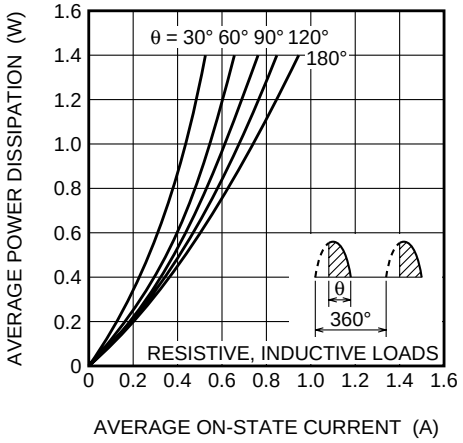
GATE TRIGGER VOLTAGE VS. JUNCTION TEMPERATURE



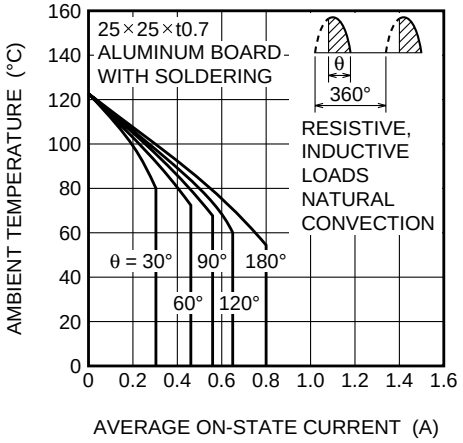
MAXIMUM TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS (JUNCTION TO AMBIENT)



MAXIMUM AVERAGE POWER DISSIPATION (SINGLE-PHASE HALF WAVE)



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



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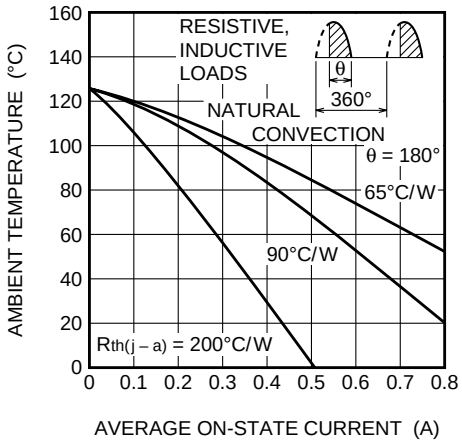
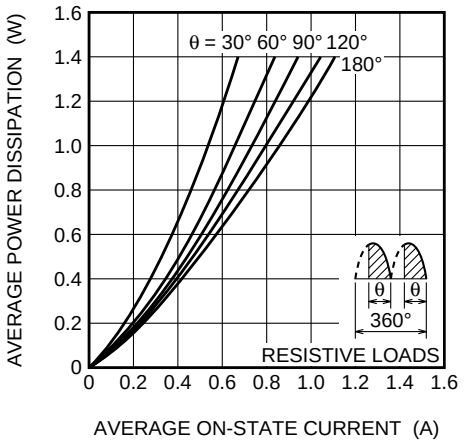
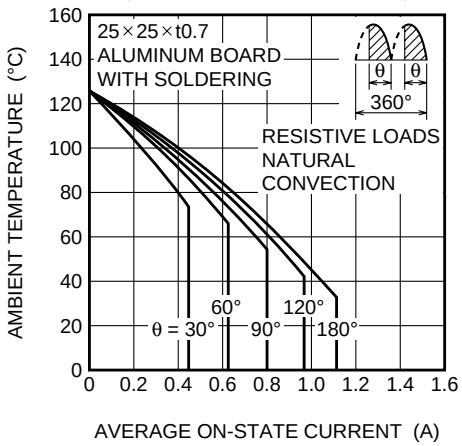
ALLOWABLE AMBIENT TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE HALF WAVE)



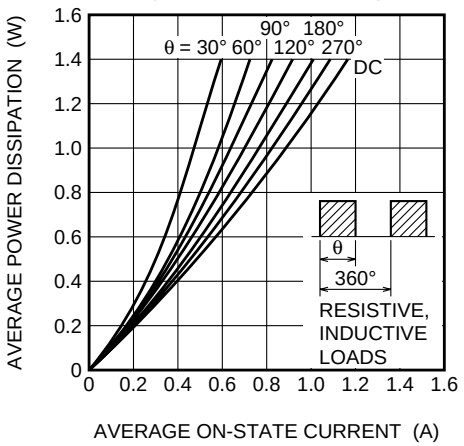
MAXIMUM AVERAGE POWER DISSIPATION (SINGLE-PHASE FULL WAVE)



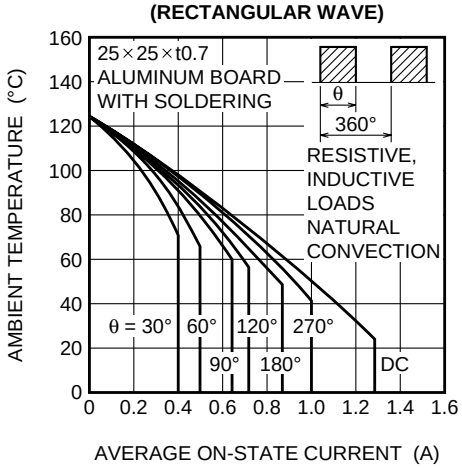
ALLOWABLE AMBIENT TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE FULL WAVE)



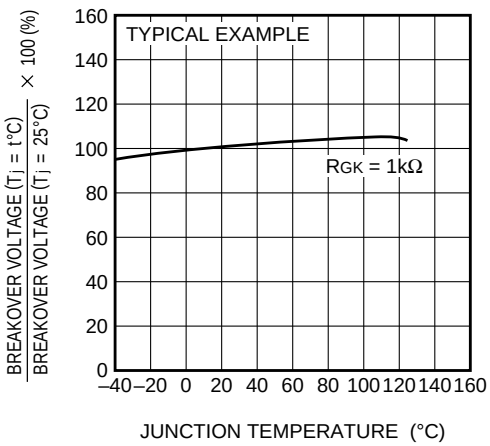
MAXIMUM AVERAGE POWER DISSIPATION (RECTANGULAR WAVE)



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



BREAKOVER VOLTAGE VS. JUNCTION TEMPERATURE



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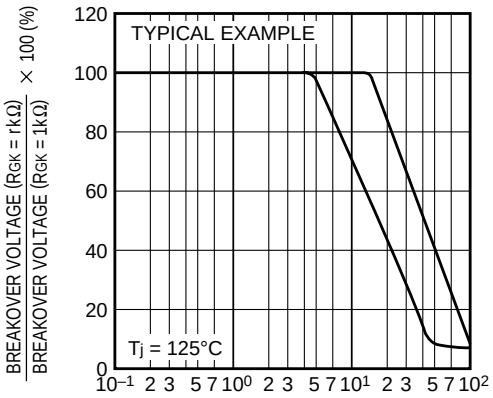
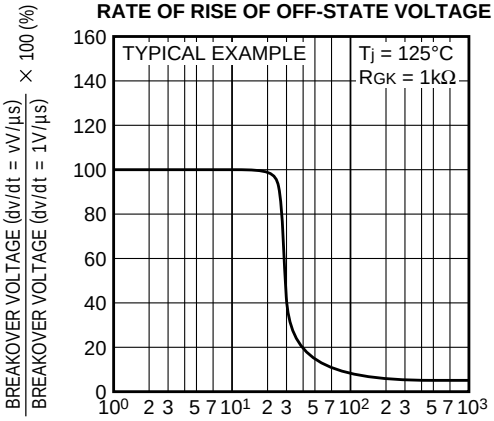
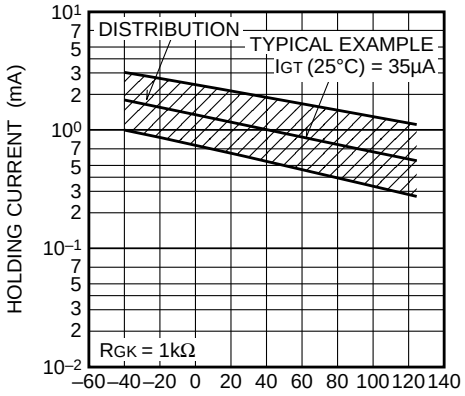
BREAKOVER VOLTAGE VS. GATE TO CATHODE RESISTANCE



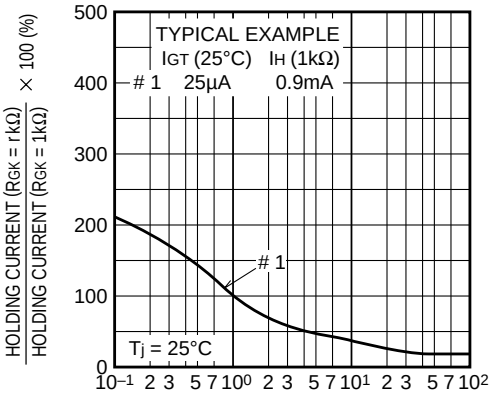
BREAKOVER VOLTAGE VS. RATE OF RISE OF OFF-STATE VOLTAGE



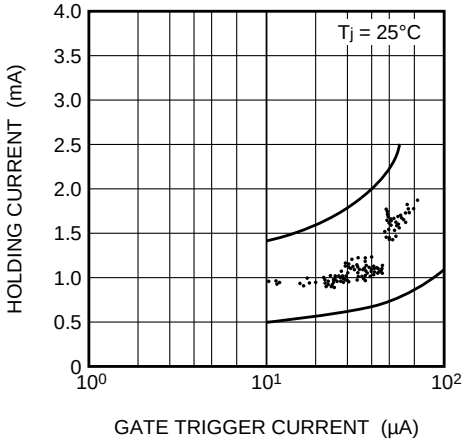
HOLDING CURRENT VS. JUNCTION TEMPERATURE



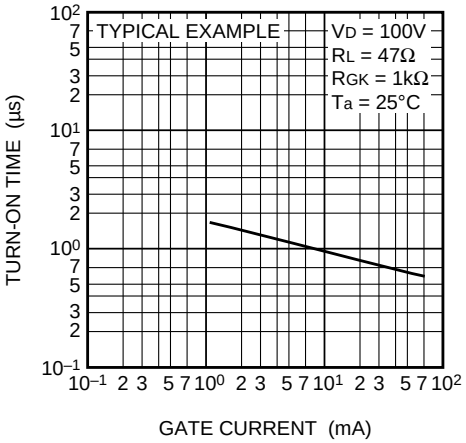
HOLDING CURRENT VS. GATE TO CATHODE RESISTANCE



HOLDING CURRENT VS. GATE TRIGGER CURRENT



TURN-ON TIME VS. GATE CURRENT



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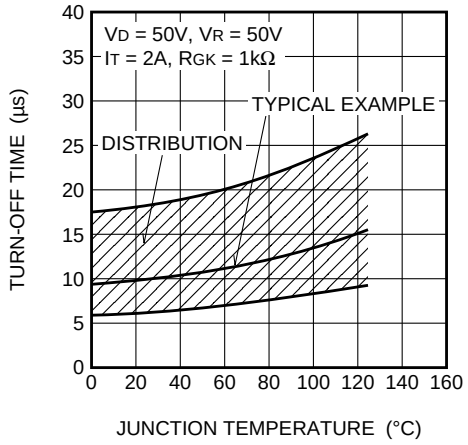
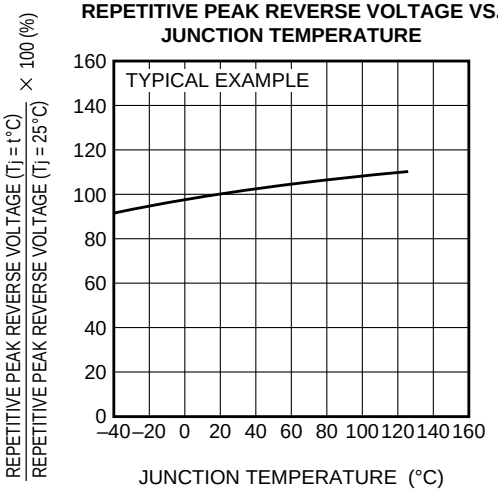
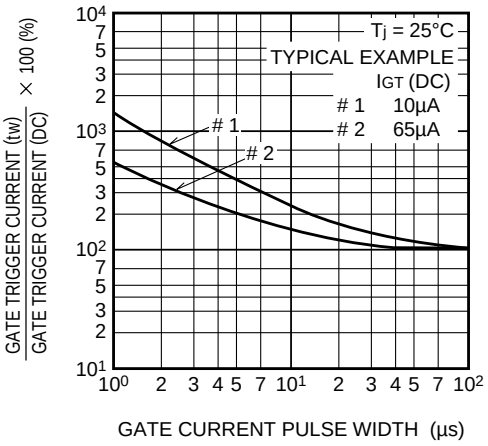
TURN-OFF TIME VS. JUNCTION TEMPERATURE



REPETITIVE PEAK REVERSE VOLTAGE VS. JUNCTION TEMPERATURE



GATE TRIGGER CURRENT VS. GATE CURRENT PULSE WIDTH



THERMAL IMPEDANCE VS. BOARD DIMENSIONS