

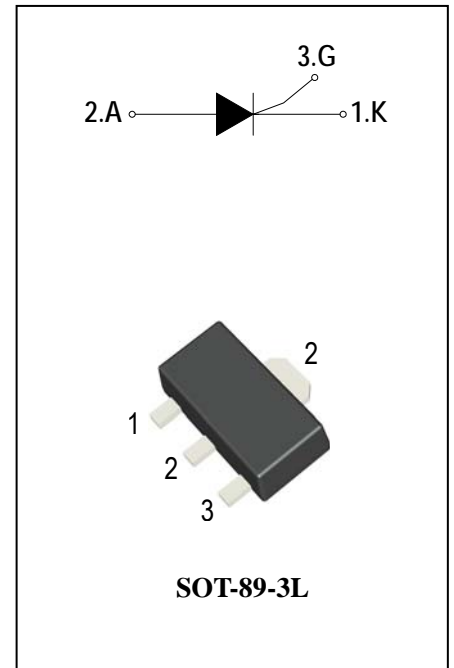
SCRs

General Description

Sensitive triggering SCR is suitable for the application where gate current limited such as small motor control, Earth leakage circuit breakers or Ground Fault Circuit Interrupters (GFCI), Solid state relays, General purpose switching, Small engine ignition.

Features

- ◆ Repetitive Peak Off-State Voltage : 600V
- ◆ R.M.S On-State Current ($I_{T(RMS)}$) = 2A)
- ◆ These are Pb-Free Devices



Absolute Maximum Ratings

Symbol	Items	Conditions		Ratings	Unit
V_{DRM} V_{RRM}	Repetitive Peak Off-State Voltage Repetitive peak reverse voltage	$T_j = 25^\circ\text{C}$	ADS2A60A	600	V
$I_{T(AV)}$	Average On-State Current	Half Sine Wave , $T_c = 75^\circ\text{C}$		1.6	A
$I_{T(RMS)}$	R.M.S On-State Current	Half Sine Wave , $T_c = 75^\circ\text{C}$		2	A
I_{TSM}	Surge On-State Current	1/2 Cycle, Sine Wave Non-Repetitive, $t_p = 10\text{ms}(50\text{Hz})$		20	A
di/dt	Critical rate of rise of on-state current	$T_j = 110^\circ\text{C}$, $t_r \leq 100\text{ns}$		50	A/ μs
I^2t	I^2t for Fusing	$T_j = 25^\circ\text{C}$, $t_p = 10\text{ms}$		2	A ² S
P_{GM}	Forward Peak Gate Power Dissipation	$T_j = 110^\circ\text{C}$, Pulse Width $\leq 1.0\mu\text{s}$		0.5	W
$P_{G(AV)}$	Forward Average Gate Power Dissipation	$T_j = 25^\circ\text{C}$, $t_p = 10\text{ms}$		0.1	W
I_{GM}	Peak Gate Current	$T_j = 110^\circ\text{C}$, Pulse Width $\leq 1.0\mu\text{s}$		0.3	A
T_j	Operating Junction Temperature			- 40 ~ 110	$^\circ\text{C}$
T_{STG}	Storage Temperature			- 40 ~ 150	$^\circ\text{C}$



Electrical Characteristics ($T_j = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Items	Conditions		ADS2A60A	Unit
I_{DRM} I_{RRM}	Peak Forward Reverse Blocking Current	$V_{DRM} = V_{RRM}, R_{GK} = 1K\Omega$ $T_j = 25^\circ\text{C}$	Max.	5	μA
		$V_{DRM} = V_{RRM}, R_{GK} = 1K\Omega$ $T_j = 110^\circ\text{C}$		0.1	mA
V_{TM}	Peak On-State Voltage	$I_{TM} = 4\text{A}, t_p = 380 \mu\text{s}$	Max.	1.5	V
V_{GD}	Non-Trigger Gate Voltage	$V_D = V_{DRM} \quad R_L = 3.3 k\Omega$ $R_{GK} = 1K\Omega \quad T_j = 110^\circ\text{C}$	Min.	0.2	V
V_{GT}	Gate Trigger Voltage	$V_D = 6\text{V}, R_L = 100\Omega$	Max.	0.8	V
I_{GT}	Gate Trigger Current		Max.	200	μA
I_H	Holding Current	$I_T = 0.05\text{A} \quad R_{GK} = 1K\Omega$	Max.	5	mA
I_L	Latching Current	$I_G = 1\text{mA} \quad R_{GK} = 1K\Omega$	Max.	6	mA
dV/dt	Critical Rate of Rise of Off-State Voltage	$V_D = 2/3V_{DRM}$ gate open $R_{GK} = 1K\Omega \quad T_j = 110^\circ\text{C}$	Min.	10	V/ μs
$R_{th(j-c)}$	Junction to case		Max.	60	$^\circ\text{C/W}$
$R_{th(j-a)}$	Junction to ambient(Copper surface under tab:S=5cm ²)		Max.	100	$^\circ\text{C/W}$

FIG.1: Maximum average power dissipation (Single phase half wave)

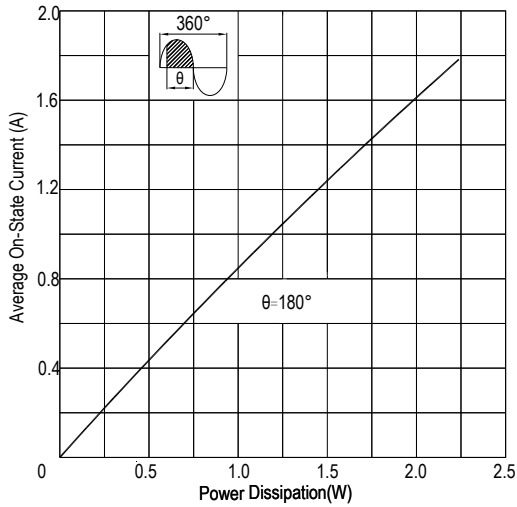


FIG.2: Average on-state current VS Allowable case Temperature (Single phase half wave)

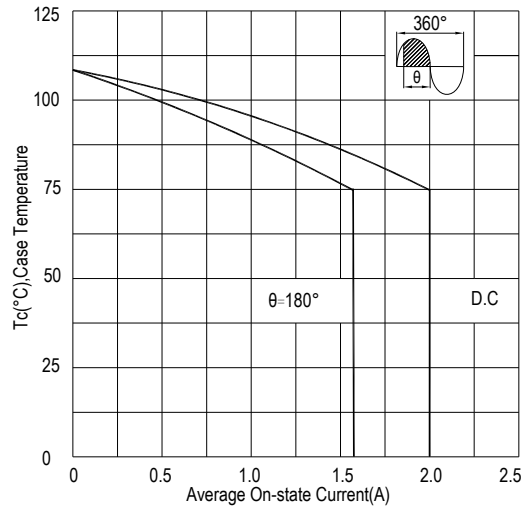


FIG.3: Gate trigger current VS Junction temperature

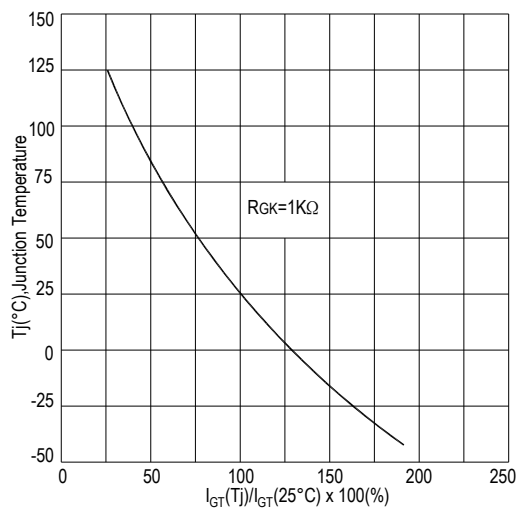


FIG.4: Rated surge on-state current (Non-Repetitive)

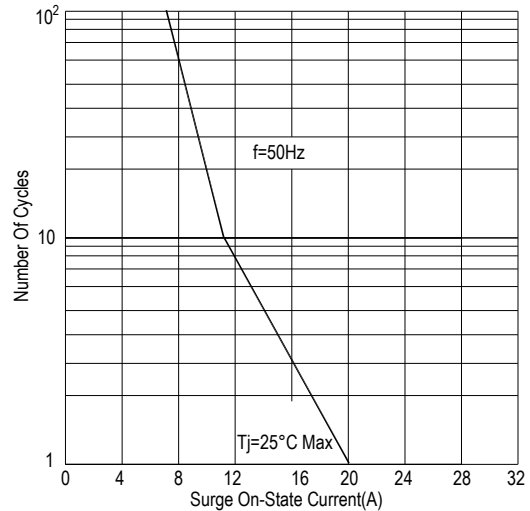


FIG.5: On-state characteristics(Max)

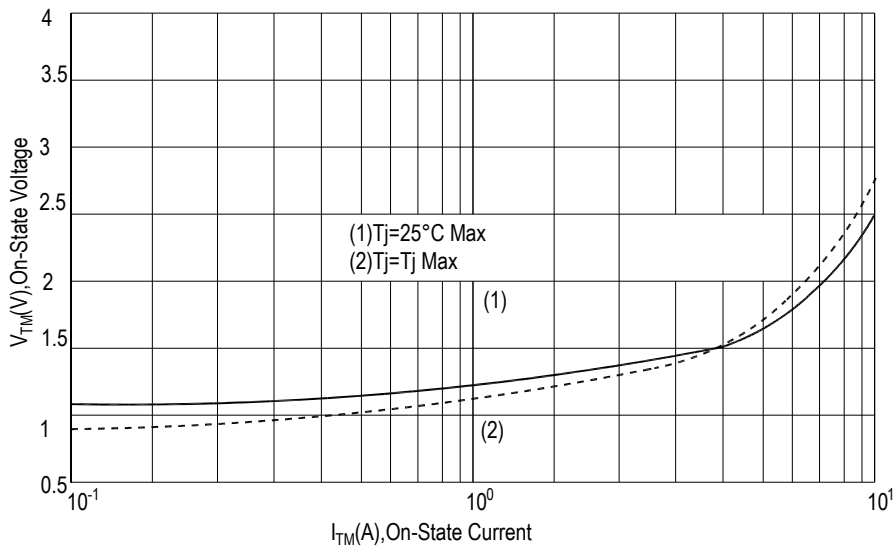


FIG.6: Holding current and Latching current VS Junction temperature

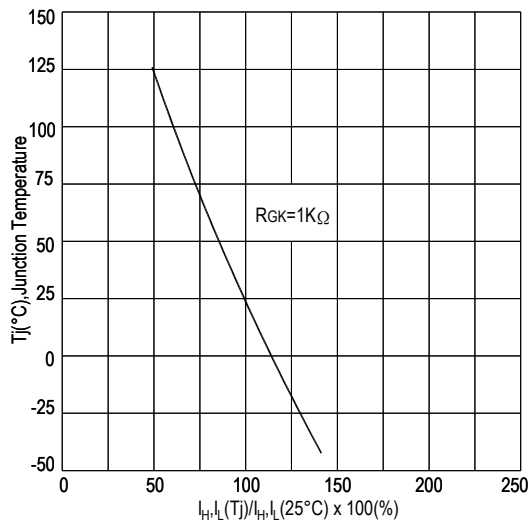
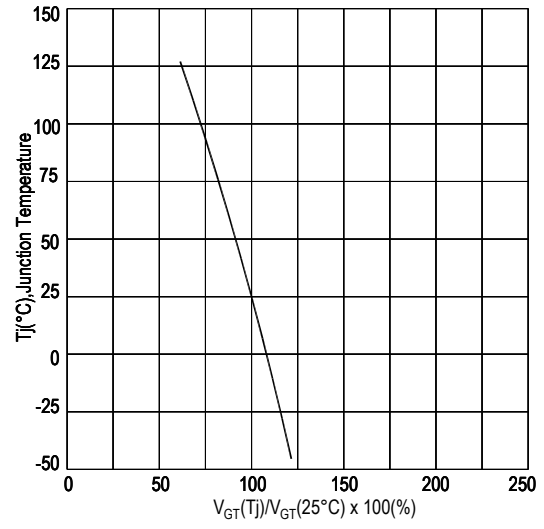
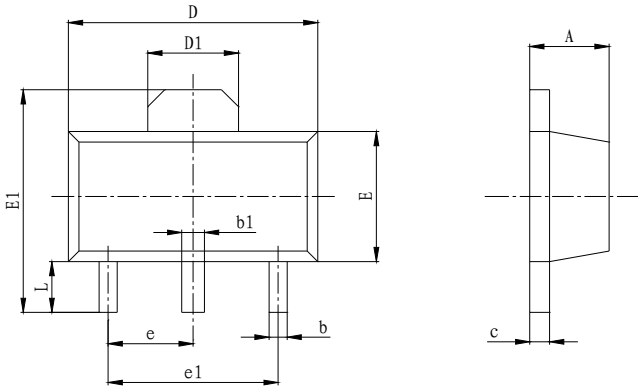


FIG.7: Gate trigger voltage VS Junction temperature

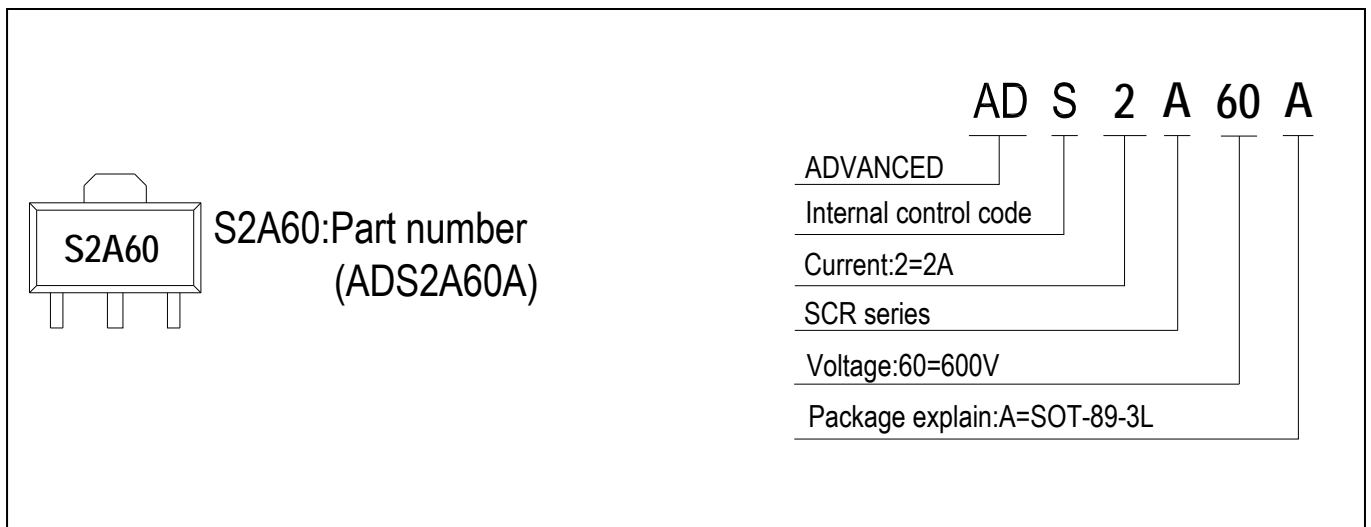


PACKAGE MECHANICAL DATA
SOT-89-3L Package Dimension



Sym bol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.197
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF		0.061 REF	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP		0.060TYP	
e1	3.000 TYP		0.118TYP	
L	0.900	1.200	0.035	0.047

Making Diagram



Ordering information

Part number	Package	Marking	Packing	Quantity
ADS2A60A	SOT-89-3L	S2A60	Embossed tape	2000pcs

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