

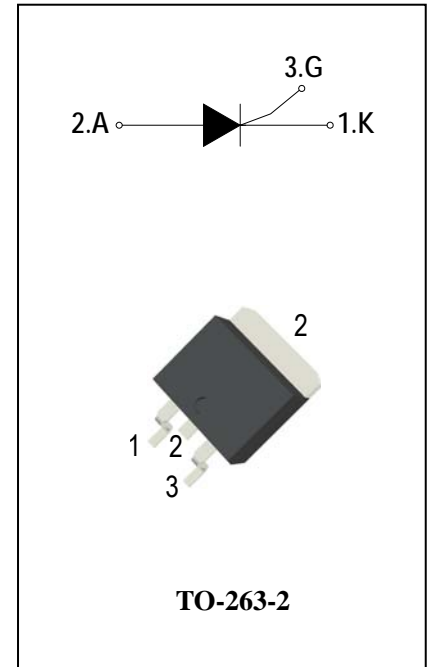
## SCRs

### General Description

The 25A SCR series of silicon controlled rectifiers, with high ability to withstand the shock loading of large current, provide high dv/dt rate with strong resistance to electromagnetic interference. They are especially recommended for use on solid state relay, motorcycle, power charger, T-tools etc.

### Features

- ◆ Repetitive Peak Off-State Voltage : 600V and 800V
- ◆ R.M.S On-State Current (  $I_{T(RMS)} = 25A$  )
- ◆ These are Pb-Free Devices



### Absolute Maximum Ratings

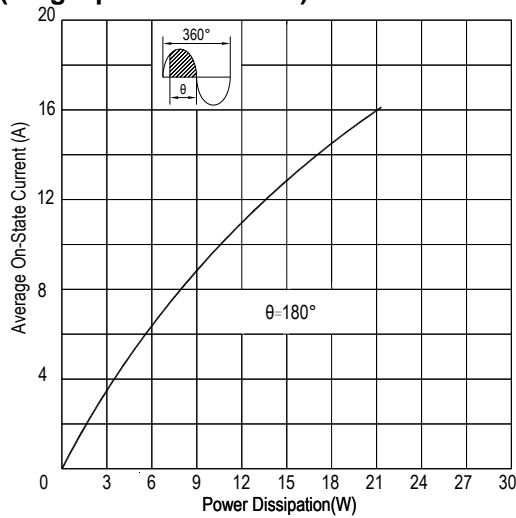
Symbol	Items	Conditions	Ratings	Unit	
$V_{DRM}$	Repetitive Peak Off-State Voltage	$T_j = 25^\circ C$	ADS25A60G	600	V
$V_{RRM}$	Repetitive peak reverse voltage		ADS25A80G	800	V
$I_{T(AV)}$	Average On-State Current	Half Sine Wave , $T_c = 100^\circ C$		16	A
$I_{T(RMS)}$	R.M.S On-State Current	Half Sine Wave , $T_c = 100^\circ C$		20	A
$I_{TSM}$	Surge On-State Current	1/2 Cycle, Sine Wave Non-Repetitive, $t_p = 10ms(50Hz) T_j = 25^\circ C$		300	A
$I^2t$	$I^2t$ for Fusing	$T_j = 25^\circ C, t_p = 10ms$		450	$A^2S$
$P_{GM}$	Forward Peak Gate Power Dissipation	$T_j = 125^\circ C, \text{Pulse Width} \leq 20\mu s$		5	W
$P_{G(AV)}$	Forward Average Gate Power Dissipation	$T_j = 25^\circ C, t_p = 10ms$		1	W
$I_{GM}$	Peak Gate Current	$T_j = 125^\circ C, \text{Pulse Width} \leq 20\mu s$		4	A
$T_j$	Operating Junction Temperature			- 40 ~ 125	$^\circ C$
$T_{STG}$	Storage Temperature			- 40 ~ 150	$^\circ C$



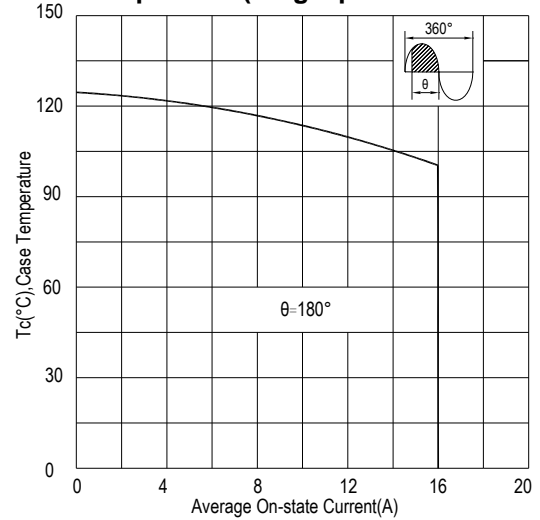
## Electrical Characteristics ( $T_j = 25^\circ\text{C}$ unless otherwise specified )

Symbol	Items	Conditions		ADS25A60G/80G		Unit
				S	Blank	
$I_{\text{DRM}}$ $I_{\text{RRM}}$	Peak Forward Reverse Blocking Current	$V_{\text{DRM}} = V_{\text{RRM}}$ $T_j = 25^\circ\text{C}$	Max.	10		uA
		$V_{\text{DRM}} = V_{\text{RRM}}$ $T_j = 125^\circ\text{C}$		4		mA
$V_{\text{TM}}$	Peak On-State Voltage	$I_{\text{TM}} = 50\text{A}$ , $t_p = 380 \mu\text{s}$	Max.	1.6		V
$V_{\text{GD}}$	Non-Trigger Gate Voltage	$V_D = V_{\text{DRM}}$ $R_L = 3.3 \text{ k}\Omega$ $T_j = 125^\circ\text{C}$	Min.	0.2		V
$V_{\text{GT}}$	Gate Trigger Voltage	$V_D = 12\text{V}$ , $R_L = 33\Omega$	Max.	1.3		V
$I_{\text{GT}}$	Gate Trigger Current		Max.	15	30	mA
$I_{\text{H}}$	Holding Current	$I_T = 0.5\text{A}$	Max.	30	40	mA
$I_{\text{L}}$	Latching Current	$I_G = 1.2 I_{\text{GT}}$	Max.	50	50	mA
dV/dt	Critical Rate of Rise of Off-State Voltage	$V_D = 2/3 V_{\text{DRM}}$ gate open $T_j = 125^\circ\text{C}$	Min.	1000	1500	V/ $\mu\text{s}$
$R_{\text{th(j-c)}}$	Junction to case (AC)		Max.	1.0		$^\circ\text{C/W}$
$R_{\text{th(j-a)}}$	Junction to ambient(Copper surface under tab:S=1cm <sup>2</sup> )		Max.	45		$^\circ\text{C/W}$

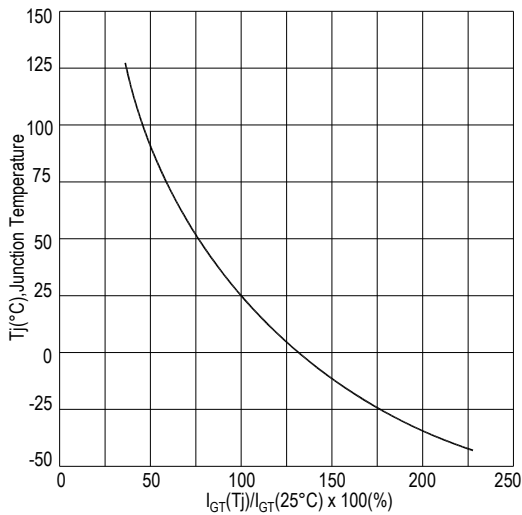
**FIG.1: Maximum average power dissipation (Single phase half wave)**



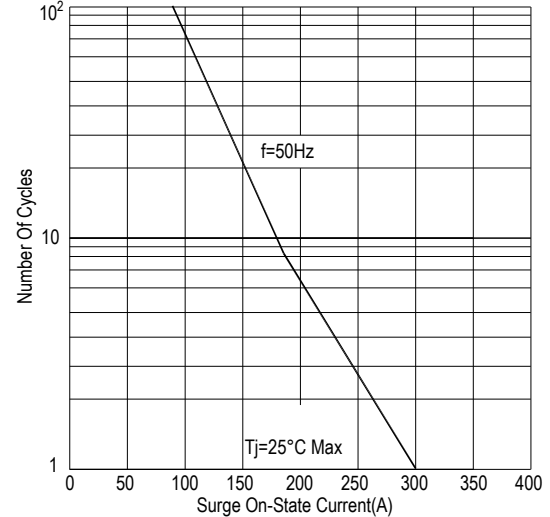
**FIG.2: Average on-state current VS Allowable case Temperature (Single phase half wave)**



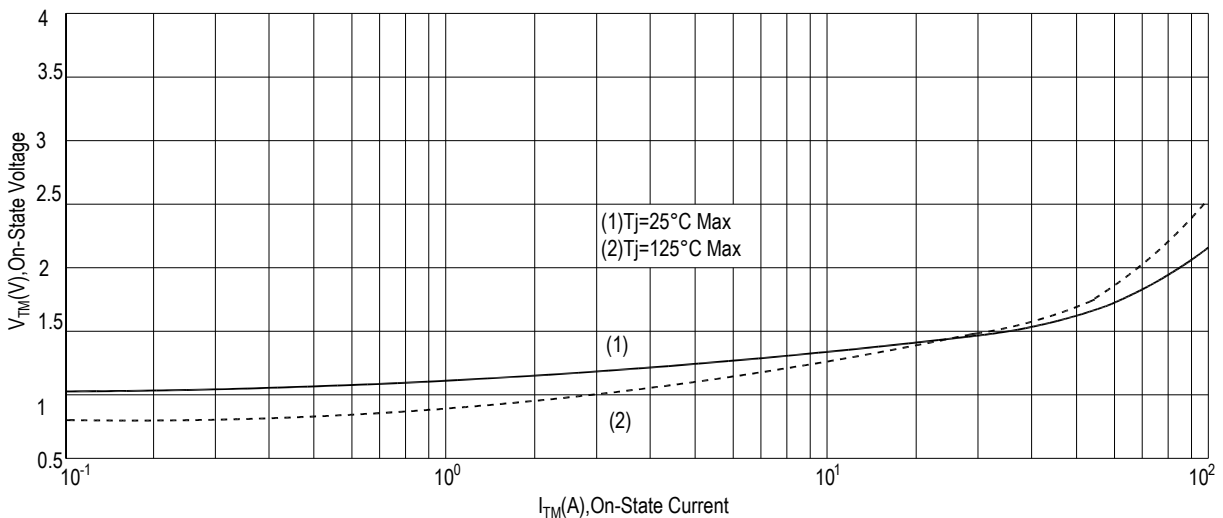
**FIG.3: Gate trigger current VS Junction temperature**



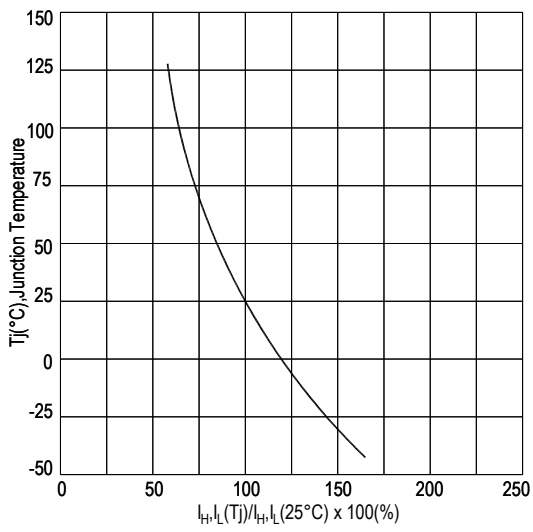
**FIG.4: Rated surge on-state current (Non-Repetitive)**



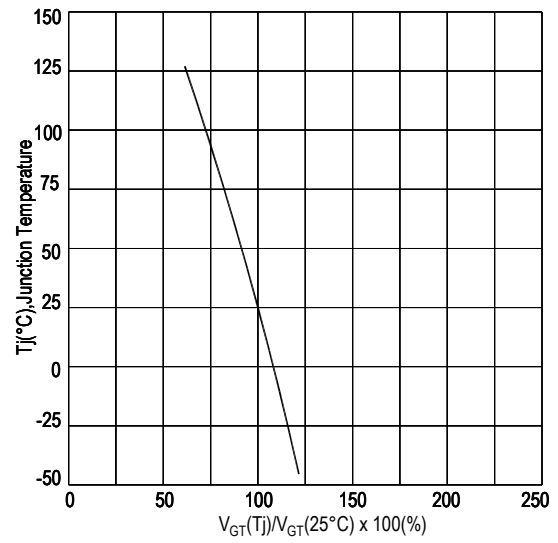
**FIG.5: On-state characteristics(Max)**



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

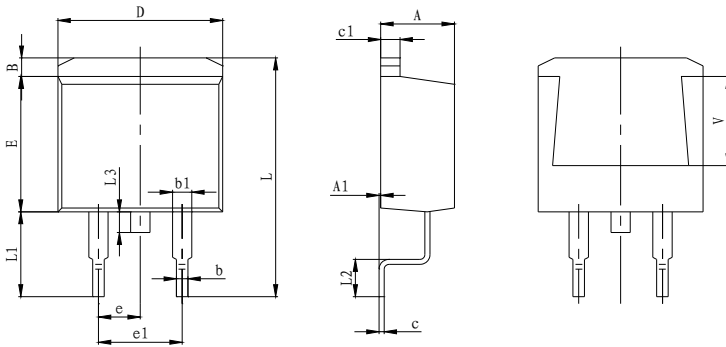


**FIG.7: Gate trigger voltage VS Junction temperature**



## PACKAGE MECHANICAL DATA

### TO-263-2 Package Dimension



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	4.470	4.670	0.176	0.184
A1	0.000	0.150	0.000	0.006
B	1.170	1.370	0.046	0.054
b	0.710	0.910	0.028	0.036
b1	1.170	1.370	0.046	0.054
c	0.310	0.530	0.012	0.021
c1	1.170	1.370	0.046	0.054
D	10.010	10.310	0.394	0.406
E	8.500	8.900	0.335	0.350
e	2.540 TYP		0.100 TYP	
e1	4.980	5.180	0.196	0.204
L	15.050	15.450	0.593	0.608
L1	5.080	5.480	0.200	0.216
L2	2.340	2.740	0.092	0.108
L3	1.300	1.700	0.051	0.067
V	5.600 REF		0.220 REF	

### Making Diagram

**ADV** XXXX  
 ADS25A80GS  
 XXXH XX

**ADV**: Logo  
 ADS25A80GS: Part number  
 X: Internal control code  
 H: Halogen Free

A D S 25 A 80 G T(S)(W)

ADVANCED	Internal control code	Current: 25=25A	SCR Series
Voltage: 60=600V 80=800V	Sensitivity and type: T=0.2mA S=15mA Blank=30mA W=80mA		
Package explain: G=TO263-2			

### Ordering information

Part number	Package	Marking	Packing	Quantity
ADS25A60G#	TO-263-2	ADS25A60G#	Tube	50pcs
			Embossed tape	800pcs
ADS25A80G#	TO-263-2	ADS25A80G#	Tube	50pcs
			Embossed tape	800pcs

Note: # = Gate Trigger Current Sensitivity and type

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