

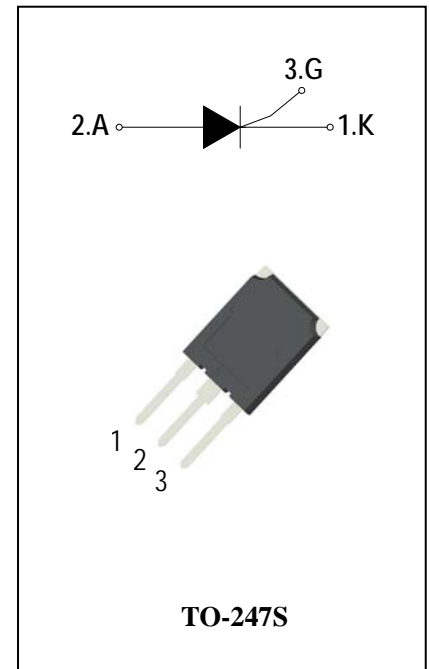
SCRs

General Description

The 85A 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 : 1600V
- ◆ R.M.S On-State Current ($I_{T(RMS)}$) = 85 A)
- ◆ These are Pb-Free Devices



Absolute Maximum Ratings

Symbol	Items	Conditions		Ratings	Unit
V_{DRM}	Repetitive Peak Off-State Voltage	$T_j = 25^\circ\text{C}$	ADS85A160S	1600	V
V_{RRM}	Repetitive peak reverse voltage				V
$I_{T(AV)}$	Average On-State Current	Half Sine Wave , $T_c = 80^\circ\text{C}$		55	A
$I_{T(RMS)}$	R.M.S On-State Current	Half Sine Wave , $T_c = 80^\circ\text{C}$		85	A
I_{TSM}	Surge On-State Current	1/2 Cycle, Sine Wave Non-Repetitive, $t_p = 10\text{ms}(50\text{Hz}) T_j = 25^\circ\text{C}$		1250	A
I^2t	I^2t for Fusing	$T_j = 25^\circ\text{C}, t_p = 10\text{ms}$		2800	A^2S
P_{GM}	Forward Peak Gate Power Dissipation	$T_j = 125^\circ\text{C}, \text{Pulse Width} \leq 20\mu\text{s}$		5	W
$P_{G(AV)}$	Forward Average Gate Power Dissipation	$T_j = 25^\circ\text{C}, t_p = 10\text{ms}$		1	W
I_{GM}	Peak Gate Current	$T_j = 125^\circ\text{C}, \text{Pulse Width} \leq 20\mu\text{s}$		5	A
T_j	Operating Junction Temperature			- 40 ~ 125	$^\circ\text{C}$
T_{STG}	Storage Temperature			- 40 ~ 150	$^\circ\text{C}$

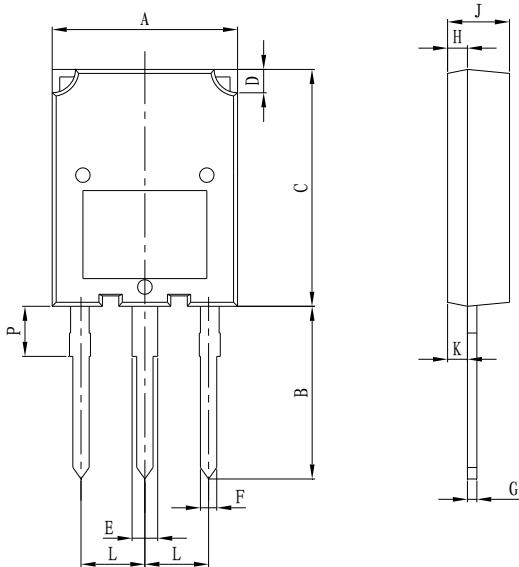


Electrical Characteristics ($T_j = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Items	Conditions		ADS85A160S			Unit
				S	Blank	W	
I_{DRM} I_{RRM}	Peak Forward Reverse Blocking Current	$V_{DRM} = V_{RRM}$ $T_j = 25^\circ\text{C}$	Max.	50			uA
		$V_{DRM} = V_{RRM}$ $T_j = 125^\circ\text{C}$		10			mA
V_{TM}	Peak On-State Voltage	$I_{TM} = 100\text{A}$, $t_p = 380 \mu\text{s}$	Max.	1.8			V
V_{GD}	Non-Trigger Gate Voltage	$V_D = V_{DRM}$ $R_L = 3.3 \text{ k}\Omega$ $T_j = 125^\circ\text{C}$	Min.	0.25			V
V_{GT}	Gate Trigger Voltage	$V_D = 12\text{V}$, $R_L = 33\Omega$	Max.	1.5			V
I_{GT}	Gate Trigger Current		Max.	15	30	80	mA
I_H	Holding Current	$I_T = 1\text{A}$	Max.	30	40	150	mA
I_L	Latching Current	$I_G = 1.2 I_{GT}$	Max.	50	60	200	mA
dV/dt	Critical Rate of Rise of Off-State Voltage	$V_D = 2/3 V_{DRM}$ gate open $T_j = 125^\circ\text{C}$	Min.	1000	1200	1500	V/ μs
$R_{th(j-c)}$	Junction to case (AC)		Max.	0.68			$^\circ\text{C/W}$
$R_{th(j-a)}$	Junction to ambient		Max.	50			$^\circ\text{C/W}$

PACKAGE MECHANICAL DATA

TO-247S Package Dimension



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	15.10	16.10	0.595	0.632
B	13.80	14.80	0.544	0.582
C	19.80	20.80	0.780	0.818
D	2.00	2.40	0.079	0.095
E	2.75	3.35	0.108	0.132
F	1.30	1.50	0.051	0.059
G	0.55	0.80	0.022	0.032
H	1.45	2.15	0.058	0.084
J	4.50	5.50	0.178	0.216
K	1.90	2.80	0.075	0.110
L	5.10	5.80	0.201	0.228
P	3.00	4.00	0.108	0.157

Making Diagram

ADV XXXX
 ADS85A160S
 XXXX XX

ADV: Logo
 ADS85A160S: Part number
 X: Internal control code
 H: Halogen Free

AD S 85 A 160 S T(S)(W)

ADVANCED	Internal control code	Current: 85=85A	Voltage: 160=1600V
SCR Series	Sensitivity and type: T=0.2mA S=15mA Blank=30mA W=80mA	Package explain: S=TO-247S	

Ordering information

Part number	Package	Marking	Packing	Quantity
ADS85A160S#	TO-247S	ADS85A160S#	Tube	25pcs
Note: # = Gate Trigger Current Sensitivity and type				

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