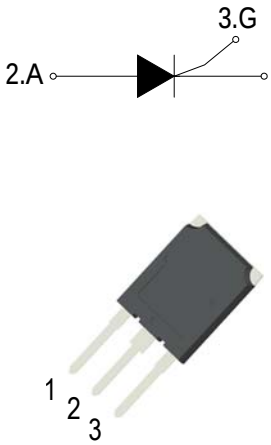
SCRs

General Description

The 55A 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.



TO-247S

Features

- Repetitive Peak Off-State Voltage : 1000V and 1200V
- R.M.S On-State Current ($I_{T(RMS)}$=55 A)
- These are Pb-Free Devices

Absolute Maximum Ratings

Symbol	Items	Conditions		Ratings	Unit
V_{DRM}	Repetitive Peak Off-State Voltage	Tj=25°C	ADS55A100S	1000	V
V_{RRM}	Repetitive peak reverse voltage		ADS55A120S	1200	V
$I_{T(AV)}$	Average On-State Current	Half Sine Wave , Tc = 83°C		40	A
$I_{T(RMS)}$	R.M.S On-State Current	Half Sine Wave , Tc = 83°C		55	A
I_{TSM}	Surge On-State Current	1/2 Cycle, Sine Wave Non-Repetitive, tp=10ms(50Hz)Tj =25°C		520	A
I^2t	I^2t for Fusing	Tj =25°C,tp =10ms		1350	A^2S
P_{GM}	Forward Peak Gate Power Dissipation	Tj =125°C, Pulse Width ≤ 20μs		10	W
$P_{G(AV)}$	Forward Average Gate Power Dissipation	Tj =25°C, tp =10ms		1	W
I_{GM}	Peak Gate Current	Tj =125°C, Pulse Width ≤ 20μs		5	A
Tj	Operating Junction Temperature			- 40 ~ 125	°C
T_{STG}	Storage Temperature			- 40 ~ 150	°C

ADV
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Electrical Characteristics (T_j = 25°C unless otherwise specified)

Symbol	Items	Conditions		ADS55A100S/120S			Unit
				S	Blank	W	
I_{DRM} I_{RRM}	Peak Forward Reverse Blocking Current	$V_{DRM} = V_{RRM}$ Tj = 25°C	Max.	10			uA
		$V_{DRM} = V_{RRM}$ Tj = 125°C		6			mA
V_{TM}	Peak On-State Voltage	I_{TM} = 80A, t_p = 380 μs	Max.	1.6			V
V_{GD}	Non-Trigger Gate Voltage	$V_D = V_{DRM}$ R_L = 3.3 kΩ Tj = 125°C	Min.	0.2			V
V_{GT}	Gate Trigger Voltage	V_D = 12V ， R_L = 33Ω	Max.	1.5			V
I_{GT}	Gate Trigger Current		Max.	15	30	80	mA
I_H	Holding Current	I_T = 0.5A	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	$V_D = 2/3V_{DRM}$ gate open Tj = 125°C	Min.	700	1000	1500	V/μs
$R_{th(j-c)}$	Junction to case (AC)		Max.	0.6			°C/W
$R_{th(j-a)}$	Junction to ambient		Max.	50			°C/W

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

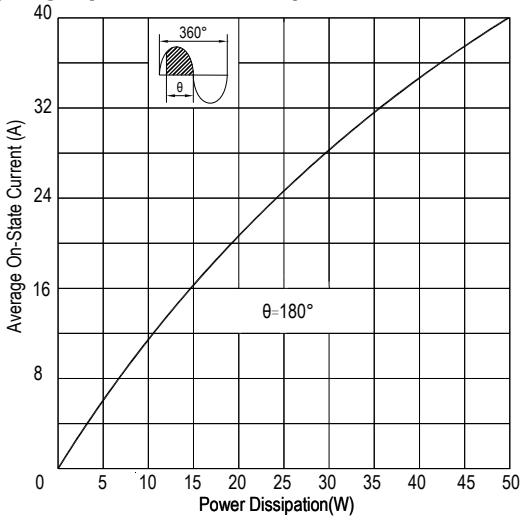


FIG.2: Average on-state current VS Allowable case Temperature(Single phase half wave)

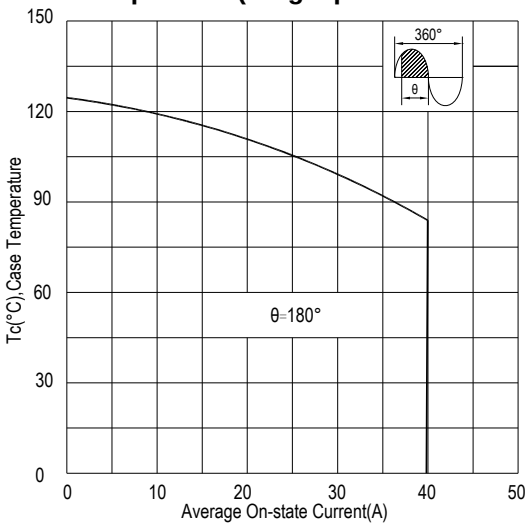


FIG.3: Gate trigger current VS Junction temperature

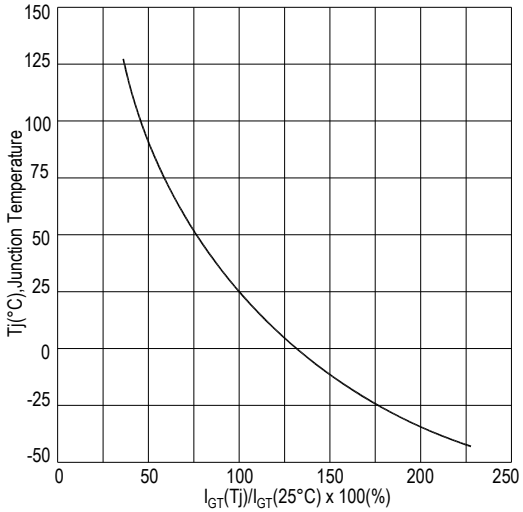


FIG.4: Rated surge on-state current (Non-Repetitive)

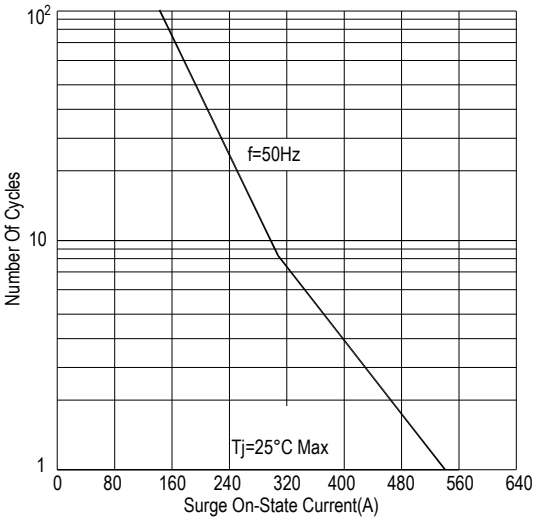


FIG.5: On-state characteristics(Max)

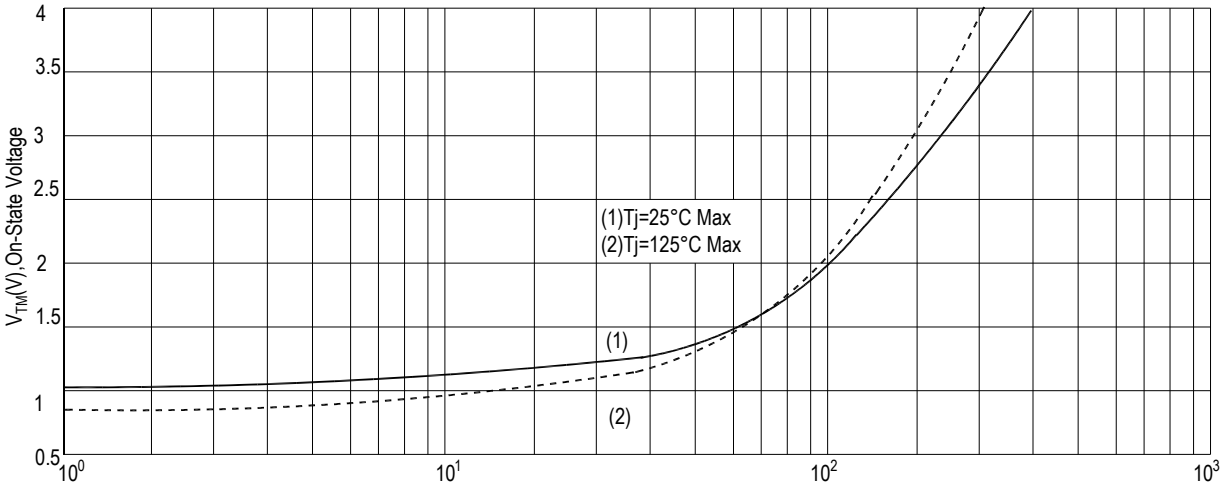


FIG.6:Holding current and Latching current VS Junction temperature

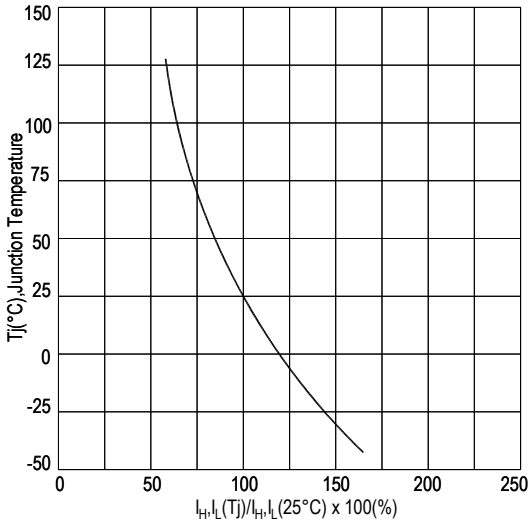
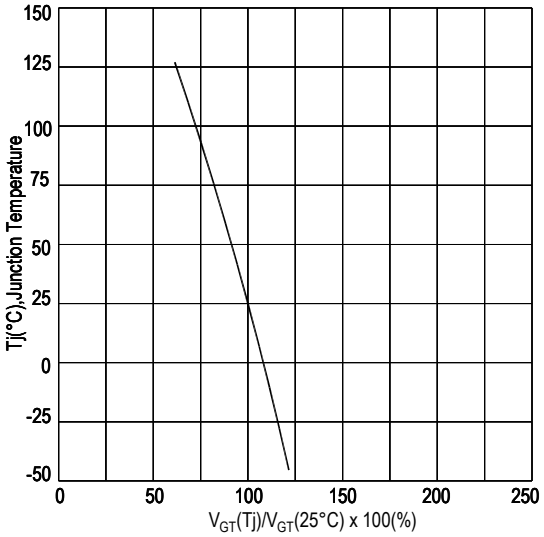
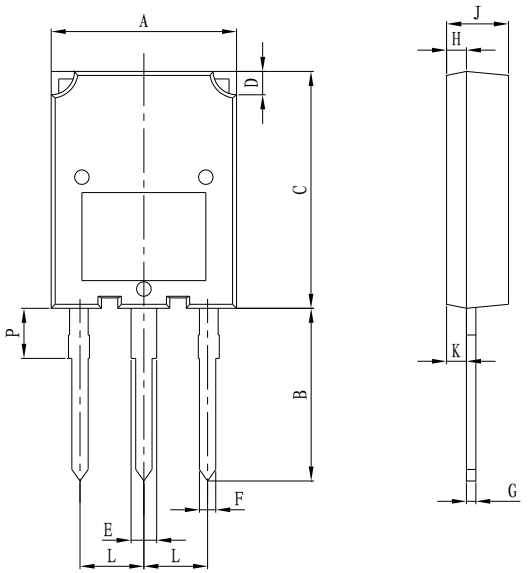


FIG.7: Gate trigger voltage VS Junction temperature



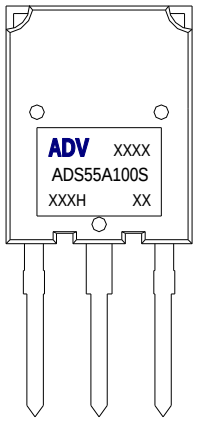
PACKAGE MECHANICAL DATA

TO-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:Logo
ADS55A100S:Part number
X:Internal control code
H:Halogen Free

AD S 55 A 120 S T(S)(W)

ADVANCED
Internal control code
Current:55=55A
SCR Series
Voltage:100=1000V 120=1200V
Package explain:S=TO-247S
Sensitivity and type:
T=0.2mA
S=15mA
Blank=30mA
W=80mA

Ordering information

Part number	Package	Marking	Packing	Quantity
ADS55A100S#	TO-247S	ADS55A100S#	Tube	25pcs
ADS55A120S#	TO-247S	ADS55A120S#	Tube	25pcs
Note:# = Gate Trigger Current Sensitivity and type				

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