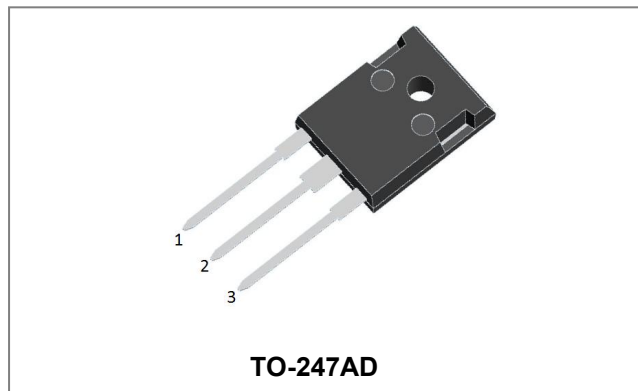


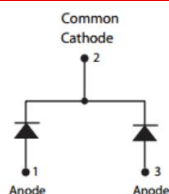
STW80300C SCHOTTKY RECTIFIER



Features

- 150 °C T_J operation
- Ultralow forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- Trench MOS Schottky technology
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Circuit Diagram



Applications

- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

Maximum Ratings(limiting values, at 25 °C unless otherwise specified)

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	-	300	V
Average Rectified Forward Current	I _{F(AV)}	50% duty cycle @T _c =82°C, rectangular wave form	40(Per Leg) 80(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	I _{FSM}	8.3ms, Half Sine pulse	360	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop(Per Leg)*	V _{F1}	@ 40A, Pulse, T _J = 25°C	0.95	1.00	V
	V _{F2}	@ 40A, Pulse, T _J = 125°C	0.83	0.87	V
Reverse Current(Per Leg)*	I _{R1}	@V _R = rated V _R , T _J = 25°C	0.20	250	uA
	I _{R2}	@V _R = rated V _R , T _J = 125°C	0.67	30	mA
Junction Capacitance(Per Leg)	C _T	@V _R = 5V, T _C = 25 °C f _{SIG} = 1MHz	690	-	pF

* Pulse width < 300 μs, duty cycle < 2%

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-	-55 to +150	$^{\circ}\text{C}$
Typical Thermal Resistance Junction to Case(Per Leg)	$R_{\theta JC}$	DC operation	0.5	$^{\circ}\text{C/W}$
Approximate Weight	wt	-	6.28	g
Case Style	TO-247AD			

Ratings and Characteristics Curves

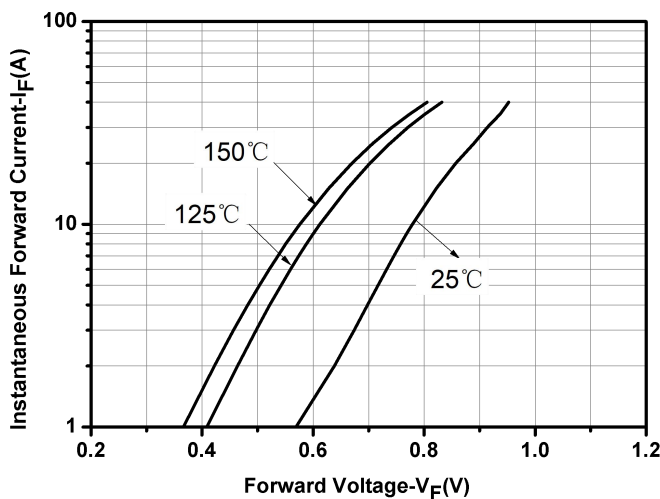


Fig.1-Typical Forward Voltage Characteristics

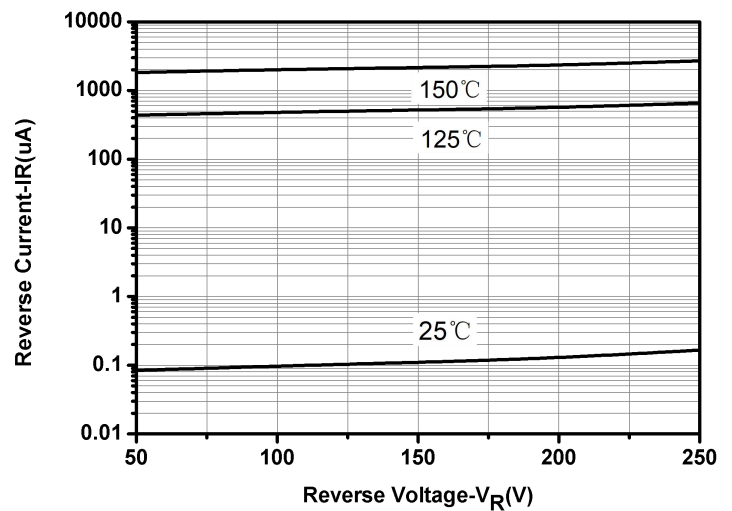


Fig.2-Typical Reverse Characteristics

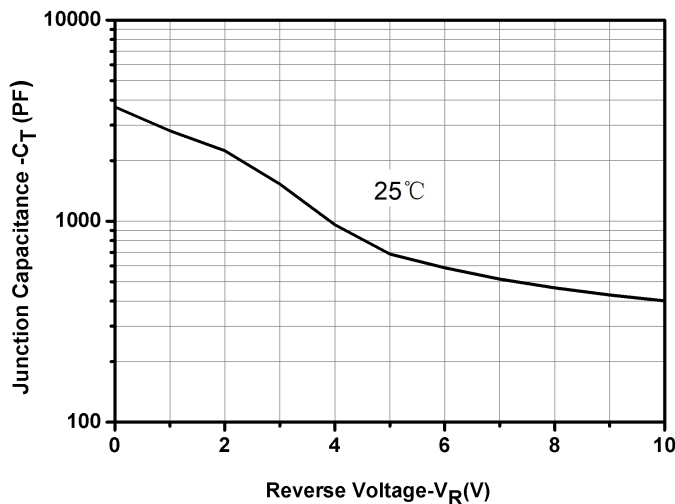
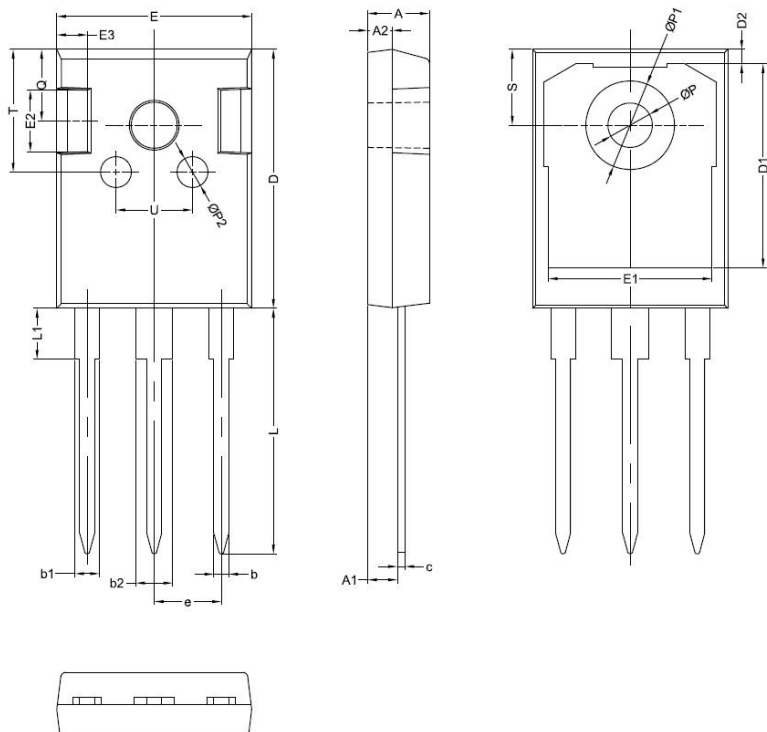


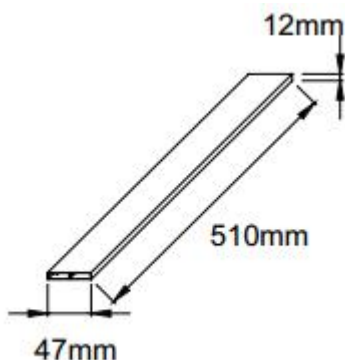
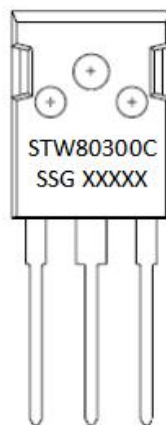
Fig.3-Capacitance vs. Reverse Voltage

Mechanical Dimensions TO-247AD


SYMBOL	Millimeters		
	MIN.	TYP.	MAX.
A	4.80	5.00	5.20
A1	2.20	2.41	2.61
A2	1.90	2.00	2.10
b	1.10	1.20	1.40
b1	1.80	2.00	2.20
b2	2.80	3.00	3.20
c	0.50	0.60	0.75
D	20.30	21.00	21.20
D1		16.55	
D2		1.20	
E	15.45	15.80	16.00
E1		13.30	
E2		5.00	
E3		2.50	
e		5.44	
L	19.42	19.92	20.70
L1		4.13	
P	3.50	3.60	3.70
P1	7.1		7.40
P2		2.50	
Q		5.80	
S	6.05	6.15	6.25
T		10.00	
U		6.20	

Ordering Information:

Device	Package	Shipping
STW80300C	TO-247AD(Pb-Free)	25pcs / tube

Tube Specification

Marking Diagram


Where XXXXX is YYWWL

- S = Device Type
- T = Ultralow VF
- W = Package type
- 80 = Forward Current (80A)
- 300 = Reverse Voltage (300V)
- C = Configuration
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

Cautions: Molding resin
 Epoxy resin UL:94V-0

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