

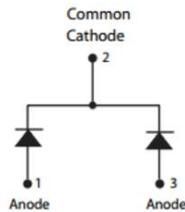
STW40300C SCHOTTKY RECTIFIER



Features

- 175 °CT_J operation
- Ultralow forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Terminals finish: 100% Pure Tin
- 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	V_{RRM}	-	300	V
Working Peak Reverse Voltage	V_{RWM}			
DC Blocking Voltage	V_R			
Average Rectified Forward Current	$I_{F(AV)}$	$T_c=166^{\circ}C$, In DC	20(Per Leg) 40(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	I_{FSM}	8.3ms, Half Sine pulse	235	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop(Per Leg)*	V_{F1}	@ 20A, Pulse, $T_J = 25^{\circ}C$	0.89	0.95	V
	V_{F2}	@ 20A, Pulse, $T_J = 125^{\circ}C$	0.76	0.85	V
Reverse Current(Per Leg)*	I_{R1}	@ $V_R = \text{rated } V_R, T_J = 25^{\circ}C$	0.4	100	μA
	I_{R2}	@ $V_R = \text{rated } V_R, T_J = 125^{\circ}C$	0.09	10	mA

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

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +175	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-	-55 to +175	$^{\circ}\text{C}$
Typical Thermal Resistance Junction to Case	$R_{\theta\text{JC}}$	DC operation	0.5	$^{\circ}\text{C/W}$

Ratings and Characteristics Curves

Figure 1
Typical Forward Characteristics

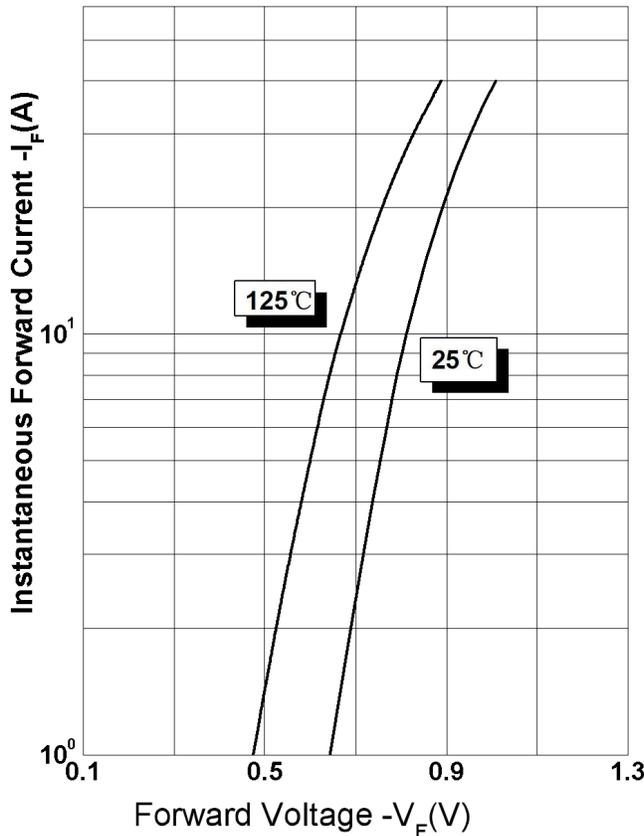


Figure 2
Typical Reverse Characteristics

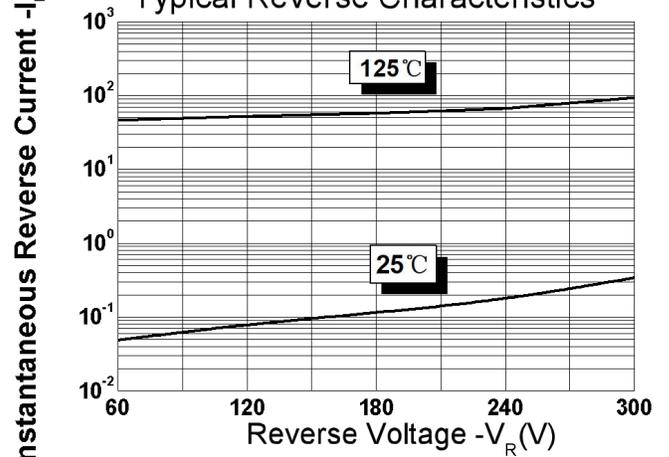
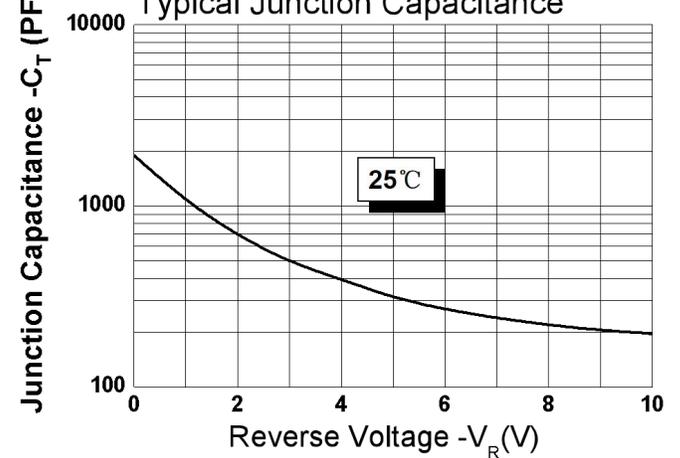
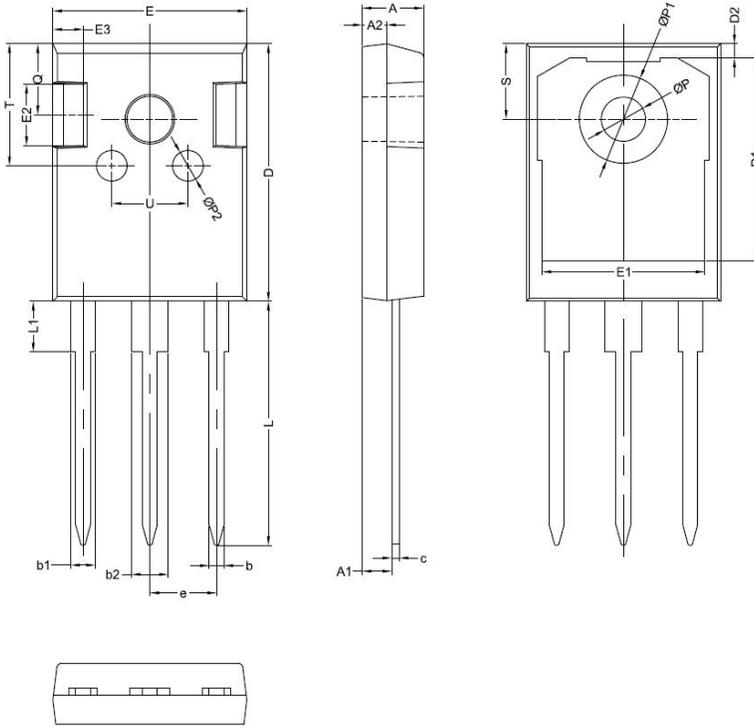


Figure 3
Typical Junction Capacitance



Mechanical Dimensions TO-247AD

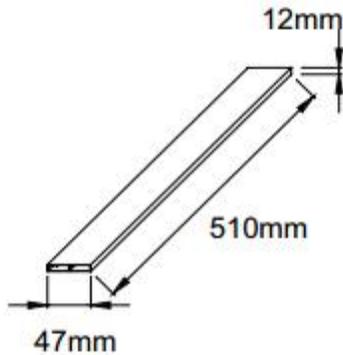


SYMBOL	Millimeters		
	MIN.	TYP.	MAX.
A	4.80	5.00	5.20
A1	2.20	2.41	2.61
A2	1.90	2.00	2.10
b	1.10	1.20	1.40
b1	1.80	2.00	2.20
b2	2.80	3.00	3.20
c	0.50	0.60	0.75
D	20.30	21.00	21.20
D1		16.55	
D2		1.20	
E	15.45	15.80	16.00
E1		13.30	
E2		5.00	
E3		2.50	
e		5.44	
L	19.42	19.92	20.70
L1		4.13	
P	3.50	3.60	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	

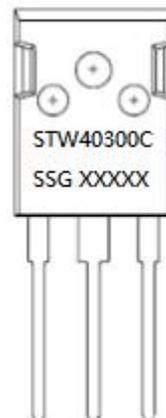
Ordering Information:

Device	Package	Shipping
STW40300C	TO-247AD(Pb-Free)	25pcs / tube

Tube Specification



Marking Diagram



Where XXXXX is YYWWL

- S = Device Type
- T = Ultralow VF
- W = Package type
- 40 = Forward Current (40A)
- 300 = Reverse Voltage (300V)
- C = Configuration
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

Cautions: Molding resin
Epoxy resin UL94V-0

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