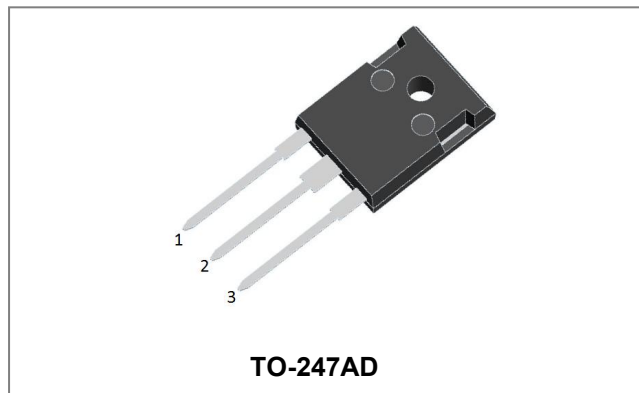


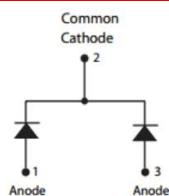
## STW80H150C SCHOTTKY RECTIFIER



### Features

- 175 °C T<sub>J</sub> 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:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	-	150	V
Average Rectified Forward Current	$I_{F(AV)}$	50% duty cycle @T <sub>c</sub> =150°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	280	A

### Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop(Per Leg)*	$V_{F1}$	@ 20A, Pulse, T <sub>J</sub> = 25°C @ 40A, Pulse, T <sub>J</sub> = 25°C	0.79 0.83	- 0.91	V
	$V_{F2}$	@ 20A, Pulse, T <sub>J</sub> = 125°C @ 40A, Pulse, T <sub>J</sub> = 125°C	0.68 0.71	- 0.76	V
Reverse Current(Per Leg)*	$I_{R1}$	@V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 25°C	0.0005	0.3	mA
	$I_{R2}$	@V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 125°C	0.3	48	mA
Junction Capacitance(Per Leg)	$C_T$	@V <sub>R</sub> = 5V, T <sub>C</sub> = 25 °C f <sub>SIG</sub> = 1MHZ	1291	-	pF

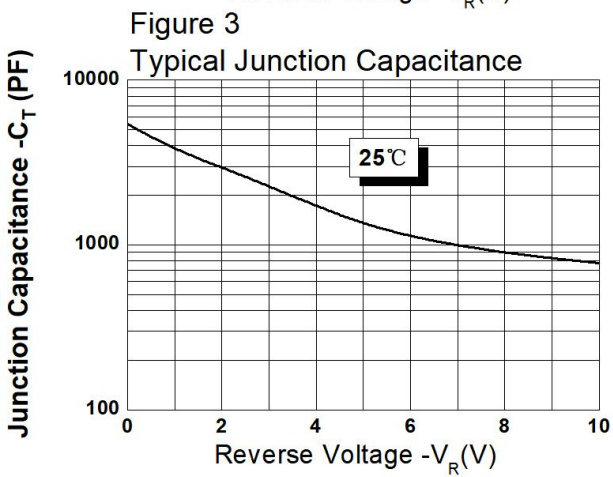
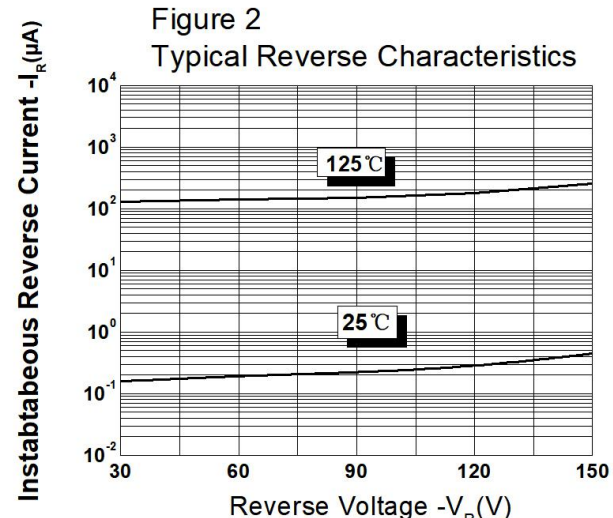
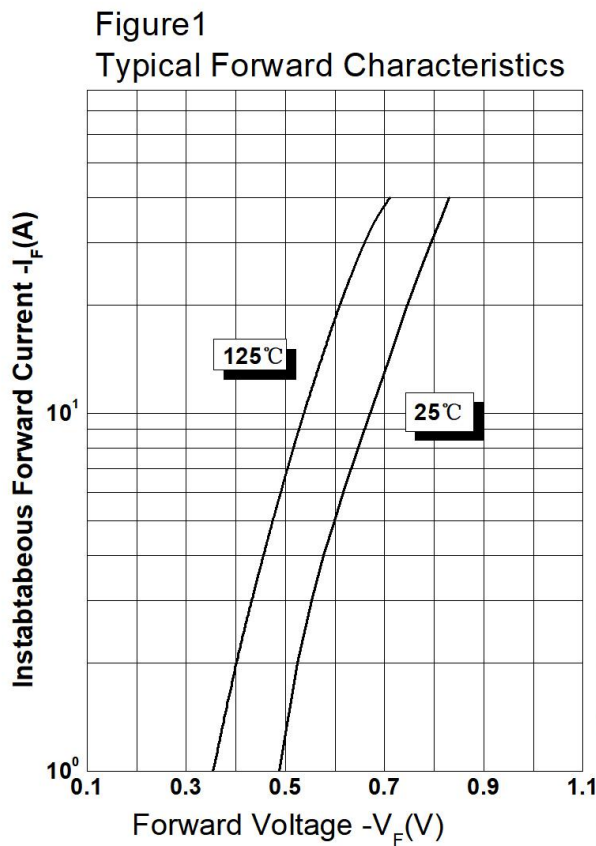
\* Pulse width < 300 μs, duty cycle < 2%

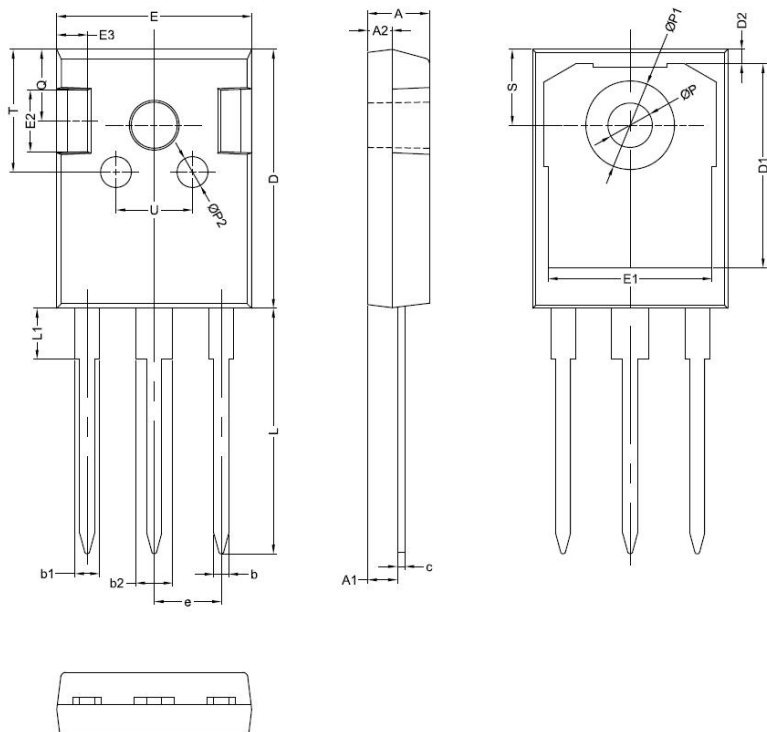
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- <http://www.smc-diodes.com> - [sales@smc-diodes.com](mailto:sales@smc-diodes.com) •

**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(Per Leg)	$R_{\theta JC}$	DC operation	0.7	$^{\circ}\text{C/W}$
Approximate Weight	wt	-	6.28	g
Case Style	TO-247AD			

**Ratings and Characteristics Curves**



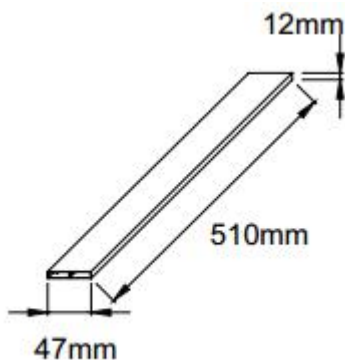
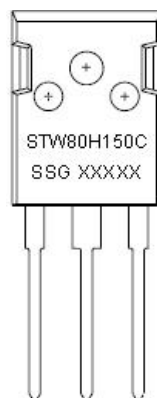
**Mechanical Dimensions TO-247AD**


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
STW80H150C	TO-247AD(Pb-Free)	25pcs / tube

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

**Tube Specification**

**Marking Diagram**


Where XXXXX is YYWWL

- S = Device Type
- T = Ultralow VF
- W = Package type
- 80 = Forward Current (80A)
- H = Tj 175°C
- 150 = Reverse Voltage (150V)
- C = Configuration
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

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

**DISCLAIMER:**

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