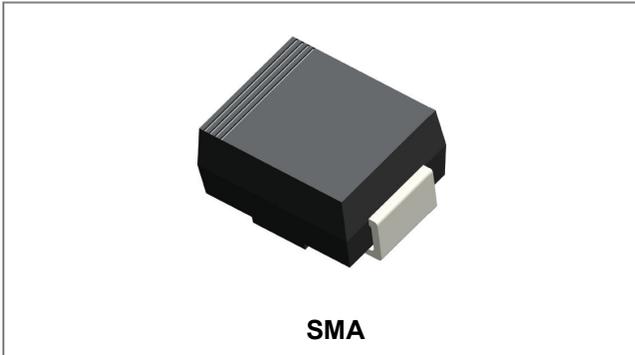


## ST1300A SCHOTTKY RECTIFIER



### Features

- 175 °C T<sub>J</sub> operation
- Center tap configuration
- 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
- These Devices are Pb-Free and are RoHS Compliant
- 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 <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	-	300	V
Average Rectified Forward Current	I <sub>F(AV)</sub>	50% duty cycle @T <sub>A</sub> =75°C, rectangular wave form	1	A
Peak One Cycle Non-Repetitive Surge Current	I <sub>FSM</sub>	8.3ms, Half Sine pulse, T <sub>c</sub> = 25 °C	40	A

### Electrical Characteristics:

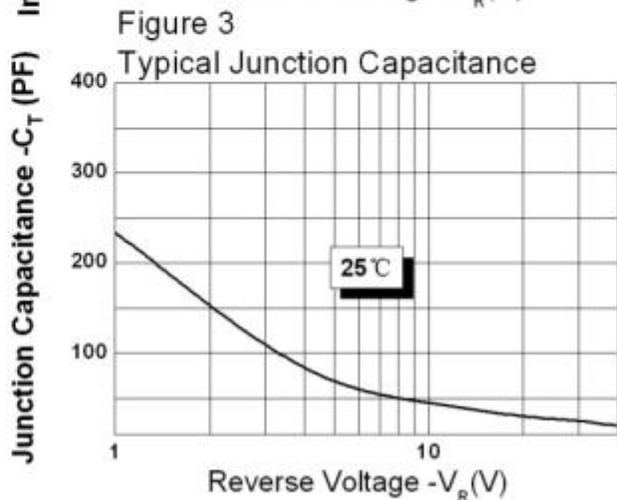
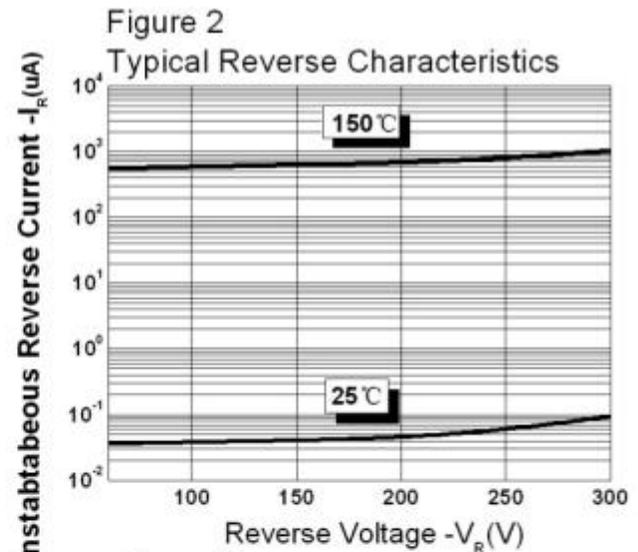
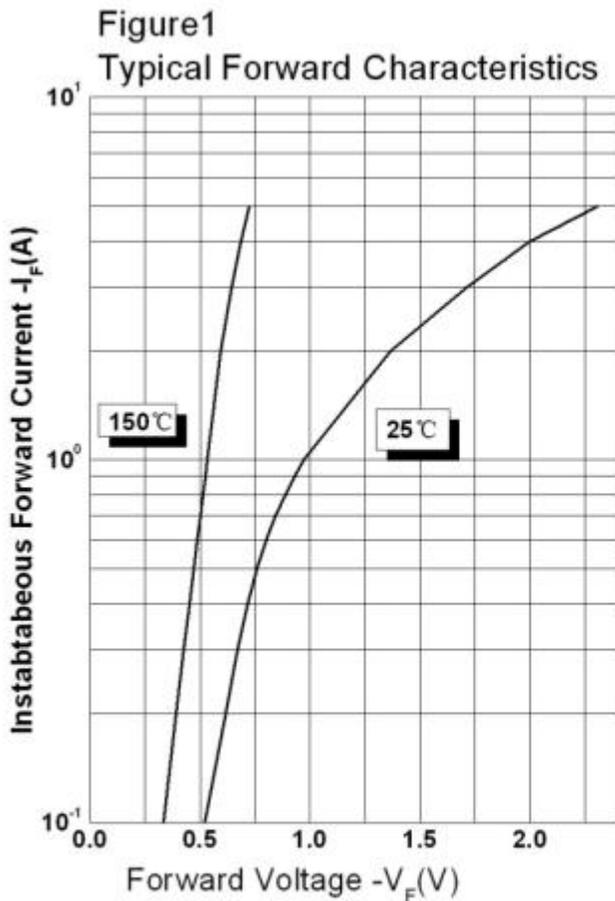
Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V <sub>F1</sub>	@ 1A, Pulse, T <sub>J</sub> = 25 °C	1.0	1.1	V
	V <sub>F1</sub>	@ 1A, Pulse, T <sub>J</sub> = 150 °C	0.51	0.8	V
Reverse Current*	I <sub>R1</sub>	@V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 25 °C	0.1	5	uA
	I <sub>R2</sub>	@V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 150 °C	1	5	mA
Reverse Recovery Time	t <sub>rr1</sub>	I <sub>F</sub> =500mA, I <sub>R</sub> =1A, and I <sub>m</sub> =250mA	-	35	nS

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

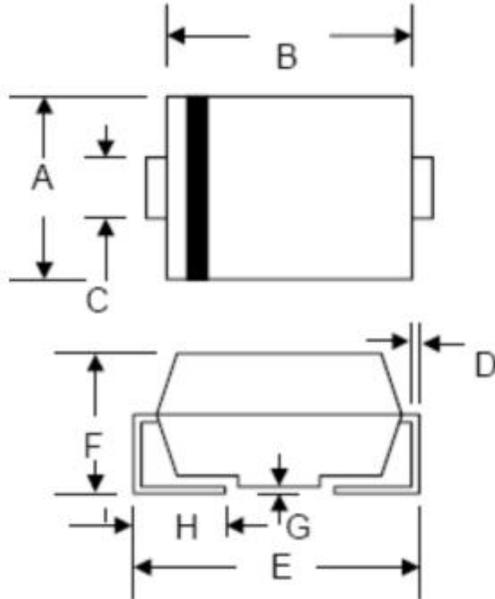
**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	$T_J$	-	-55 to +175	°C
Storage Temperature	$T_{stg}$	-	-55 to +175	°C
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	DC operation	216	°C/W
Approximate Weight	wt	-	0.06	g

**Ratings and Characteristics Curves**



**Mechanical Dimensions SMA**



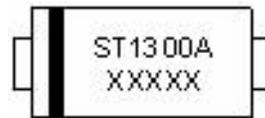
SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.40	2.84	0.094	0.112
B	3.99	4.75	0.157	0.187
C	1.05	1.70	0.041	0.067
D	0.15	0.51	0.006	0.020
E	4.80	5.66	0.189	0.223
F	1.90	2.95	0.075	0.116
G	0.05	0.203	0.002	0.008
H	0.76	1.52	0.030	0.600

**Ordering Information**

Device	Package	Shipping
ST1300A	SMA	5000pcs / reel

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

**Marking Diagram**

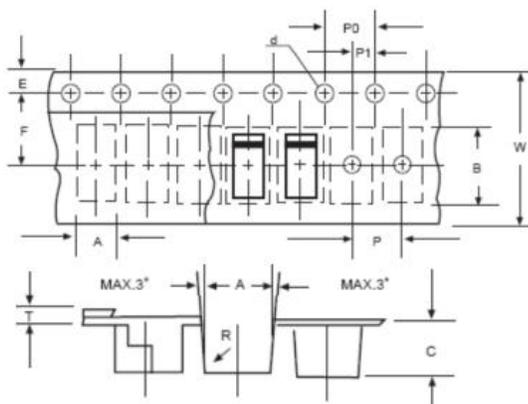


Where XXXXX is YYWWL

- ST = Device Type
- 1 = Forward Current (1A)
- 300 = Reverse Voltage (300V)
- A = Package type
- YY = Year
- WW = Week
- L = Lot Number

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

**Carrier Tape Specification SMA**



SYMBOL	Millimeters	
	Min.	Max.
A	2.97	3.17
B	5.70	5.90
C	2.32	2.52
d	1.40	1.60
E	1.40	1.60
F	5.60	5.70
P	3.90	4.10
P0	3.90	4.10
P1	1.90	2.10
T	0.25	0.35
W	11.80	12.20

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