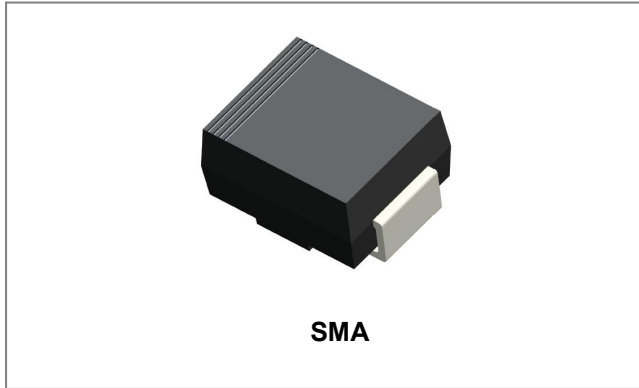


ST3300A SCHOTTKY RECTIFIER



Features

- Small foot print, surface mountable
- Low 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
- Terminals finish: 100% Pure Tin
- 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, $T_C = 25^\circ\text{C}$ 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	$I_{F(AV)}$	$T_L = 100^\circ\text{C}$, In DC	3	A
Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3ms, Half Sine pulse	50	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V_{F1}	@ 3A, Pulse, $T_J = 25^\circ\text{C}$	0.86	0.92	V
	V_{F1}	@ 3A, Pulse, $T_J = 125^\circ\text{C}$	0.68	0.83	V
Reverse Current*	I_{R1}	@ $V_R = \text{rated } V_R$, $T_J = 25^\circ\text{C}$	0.02	100	μA
	I_{R2}	@ $V_R = \text{rated } V_R$, $T_J = 125^\circ\text{C}$	0.06	20	mA
Junction Capacitance	C_T	@ $V_R = 5\text{V}$, $T_C = 25^\circ\text{C}$, $f_{SIG} = 1\text{MHz}$	100	-	pF
Voltage Rate of Change	dv/dt	-	-	10,000	V/ μs

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

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-65 to +150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-	-65 to +150	$^{\circ}\text{C}$
Typical Thermal Resistance Junction to Lead	$R_{\theta\text{JL}}$	DC operation	20	$^{\circ}\text{C}/\text{W}$

Ratings and Characteristics Curves

Figure 1 Typical Forward Characteristics

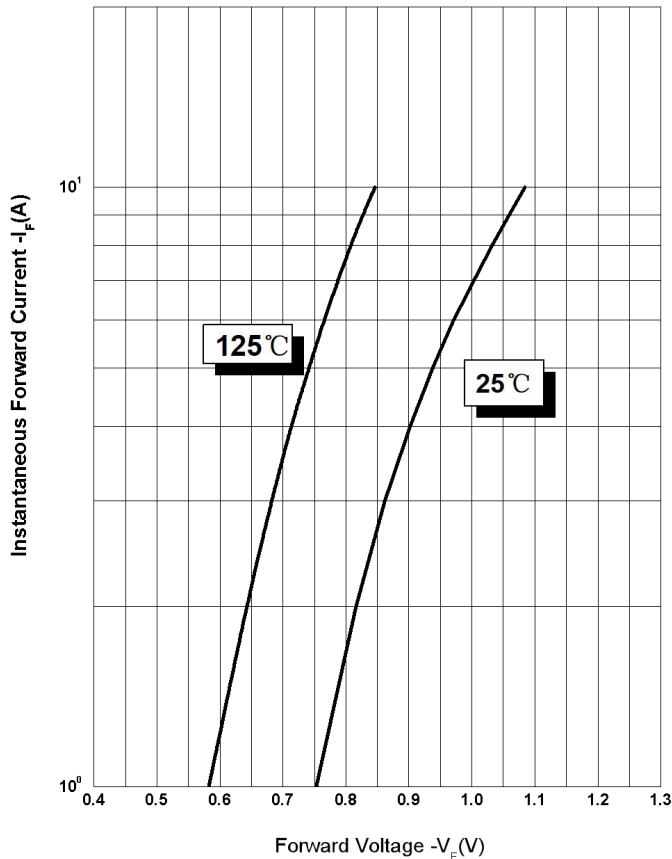


Figure 2 Typical Reverse Characteristics

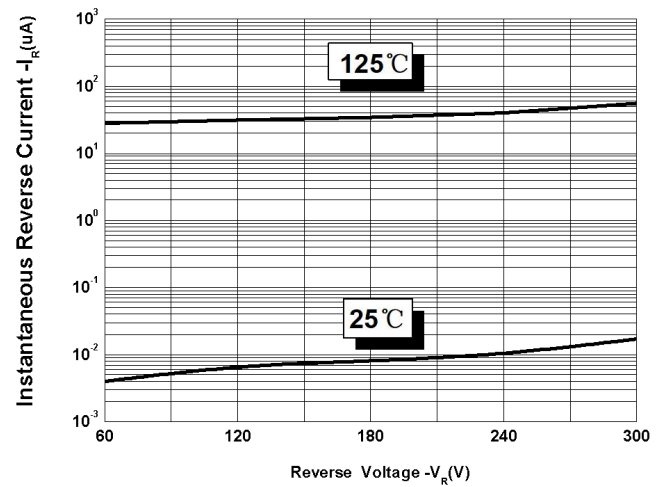
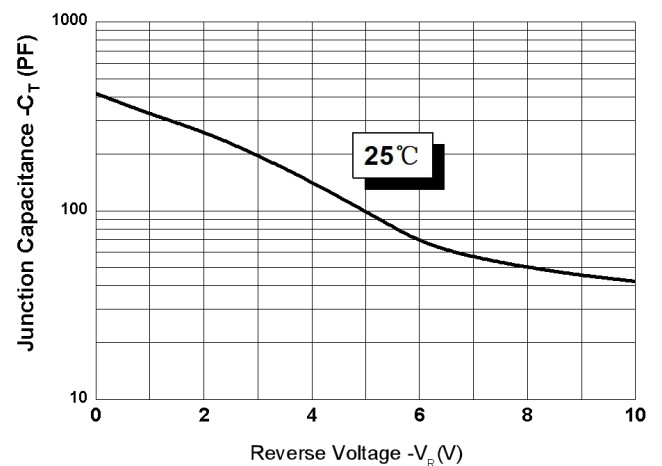
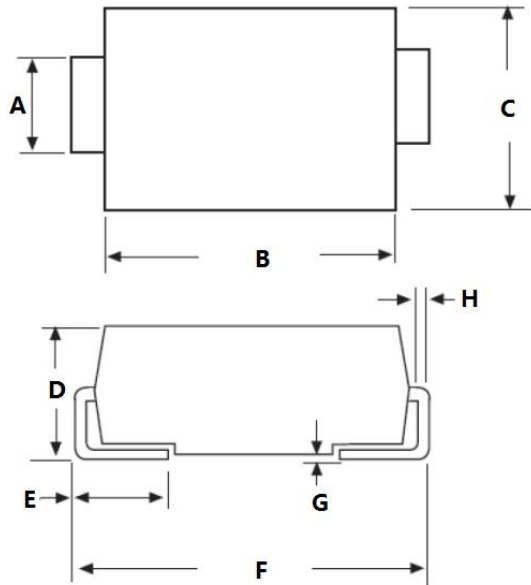


Figure 3 Typical Junction Capacitance



Mechanical Dimensions SMA


SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.25	1.65	0.049	0.065
B	3.95	4.60	0.156	0.181
C	2.25	2.95	0.089	0.116
D	1.95	2.90	0.077	0.114
E	0.75	1.60	0.030	0.063
F	4.80	5.60	0.189	0.220
G	0.05	0.20	0.002	0.008
H	0.15	0.41	0.006	0.016

Ordering Information

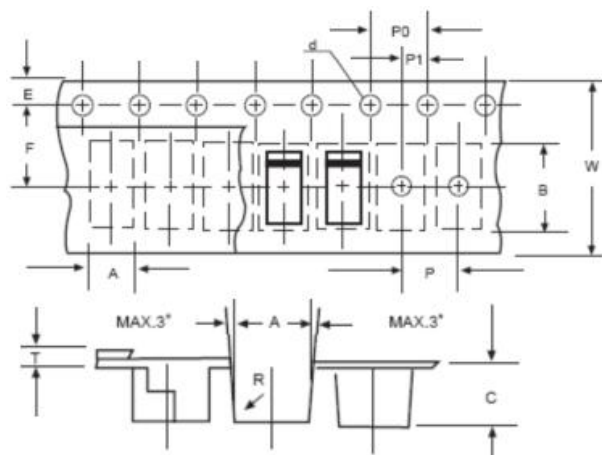
Device	Package	Shipping
ST3300A	SMA	5000pcs / reel
ST3300ATR	SMA	5000pcs / reel

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
- 3 = Forward Current (3A)
- 300 = Reverse Voltage (300V)
- A = Package type
- YY = Year
- WW = Week
- L = Lot Number

Carrier Tape & Reel 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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