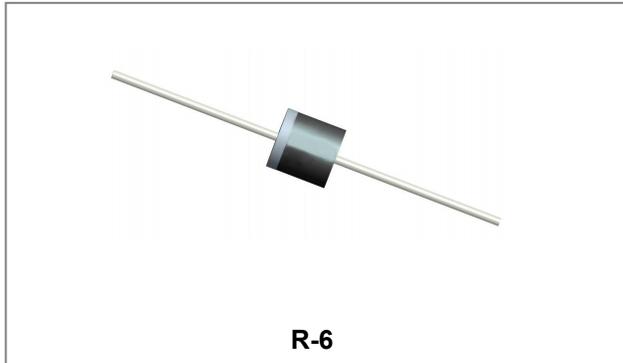


ST1045AX SCHOTTKY BARRIER RECTIFIER



Features

- 150°C T_J 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
- 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:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage	V _{RRM}	-	45	V
Working Peak Reverse Voltage	V _{RWM}			
DC Blocking Voltage	V _R			
Average Rectified Forward Current	I _{F(AV)}	50% duty cycle @T _C = 75°C, rectangular wave form	10	A
Peak One Cycle Non-Repetitive Surge Current	I _{FSM}	8.3 ms, half Sine pulse, T _C = 25°C	150	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V _{F1}	@ 5A, Pulse, T _J = 25 °C	0.43	-	V
	V _{F2}	@ 10A, Pulse, T _J = 25 °C	0.49	0.56	
Reverse Current*	I _{R1}	@V _R = rated V _R , T _J = 25 °C	0.017	1	mA
	I _{R2}	@V _R = rated V _R , T _J = 125 °C	15	30	
Junction Capacitance	C _T	@V _R = 5V, T _C = 25 °C f _{SIG} = 1MHz	656	-	pF

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

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +150	°C
Storage Temperature	T_{stg}	-	-55 to +150	°C
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	DC operation	75	°C/W
Approximate Weight	wt	-	0.08	g
Case Style	R-6			

Ratings and Characteristics Curves

Figure 1
Typical Forward Characteristics

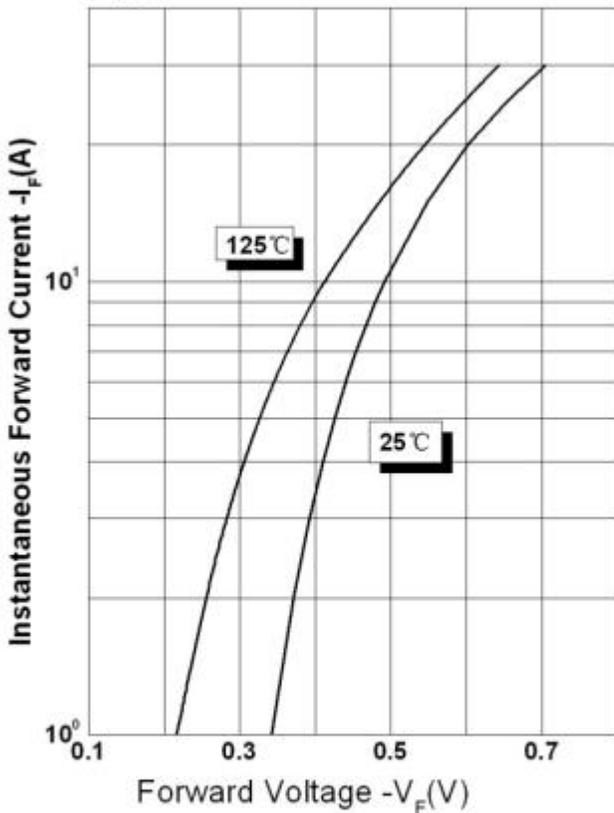


Figure 2
Typical Reverse Characteristics

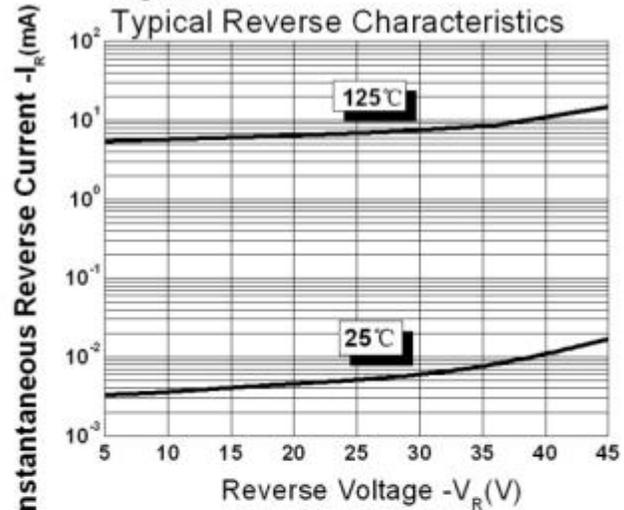
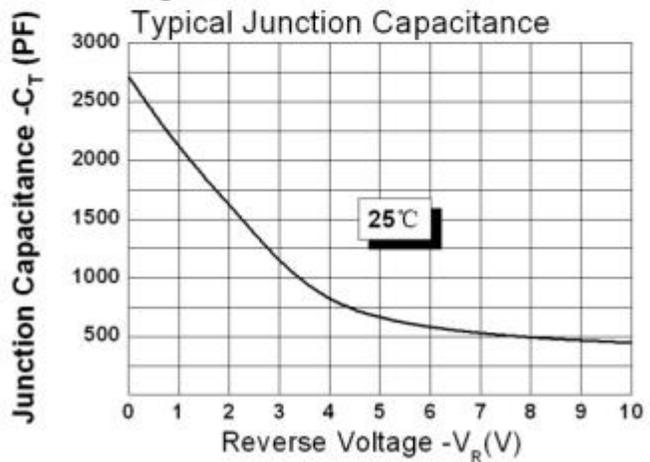
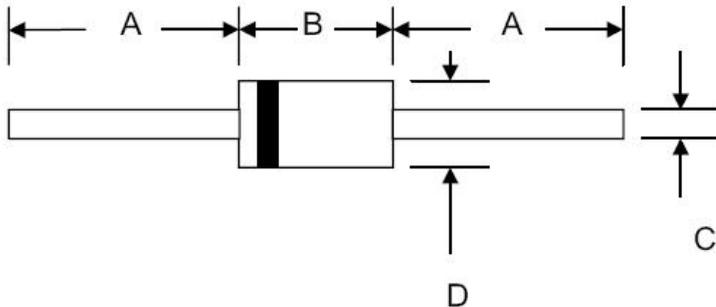


Figure 3
Typical Junction Capacitance



Mechanical Dimensions R-6


SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	25.4	-	1.000	-
B	8.60	9.10	0.340	0.360
C	1.2	1.3	0.048	0.052
D	8.60	9.10	0.340	0.360

Ordering Information

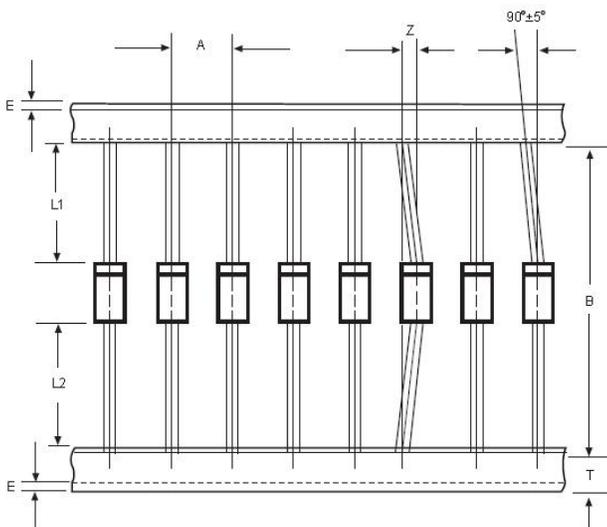
Device	Package	Shipping
ST1045AX	R-6(Pb-Free)	500pcs / reel

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

S = Device Type
 T = Ultralow VF
 10 = Forward Current (10A)
 45 = Reverse Voltage (45V)
 AX = Package type
 SSG = SSG
 YY = Year
 WW = Week
 L = Lot Number

Carrier Tape Specification R-6


SYMBOL	Millimeters	
	Min.	Max.
A	9.50	10.50
B	50.9	53.9
Z	-	1.20
T	5.60	6.40
E	-	0.80
IL1-L2I	-	1.0



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