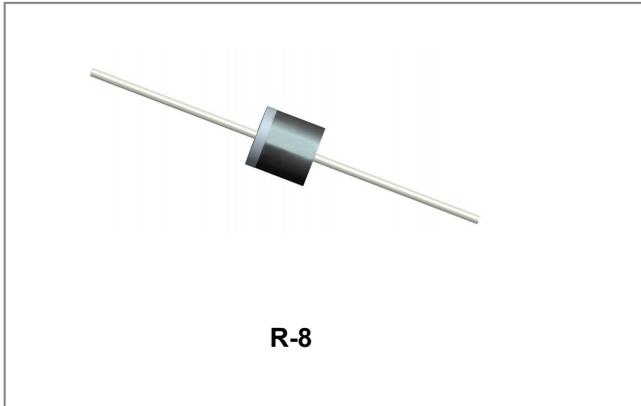


## ST5045AX-D/ST5045AX-C SCHOTTKY BARRIER RECTIFIER



### Features

- Ultralow forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Trench MOS Schottky technology
- Terminals finish: Tin Lead-free plated
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Circuit Diagram



### Mechanical Data

- Case: R-8 molded plastic body
- Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any

### Maximum Ratings (limiting values, at 25 °C unless otherwise specified)

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	$I_{F(AV)}$	$T_c = 100^\circ\text{C}$ , In DC	50	A
Peak One Cycle Non-Repetitive Surge Current	$I_{FSM}$	8.3 ms, half Sine pulse	350	A

### Electrical Characteristics:

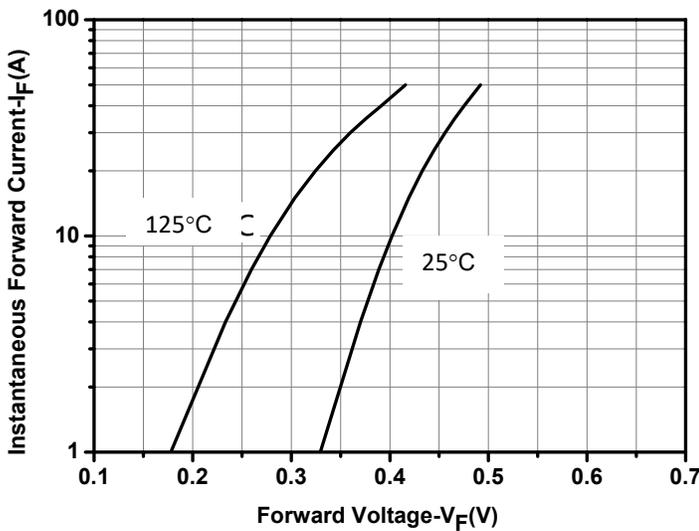
Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	$V_{F1}$	@ 50A, Pulse, $T_J = 25^\circ\text{C}$	0.49	0.55	V
Reverse Current*	$I_{R1}$	@ $V_R = \text{rated } V_R$ , $T_J = 25^\circ\text{C}$	0.03	0.2	mA
	$I_{R2}$	@ $V_R = \text{rated } V_R$ , $T_J = 100^\circ\text{C}$	-	20	mA
Junction Capacitance	$C_T$	@ $V_R = 5\text{V}$ , $T_c = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	5840	-	pF

\* Pulse width < 300  $\mu\text{s}$ , duty cycle < 2%

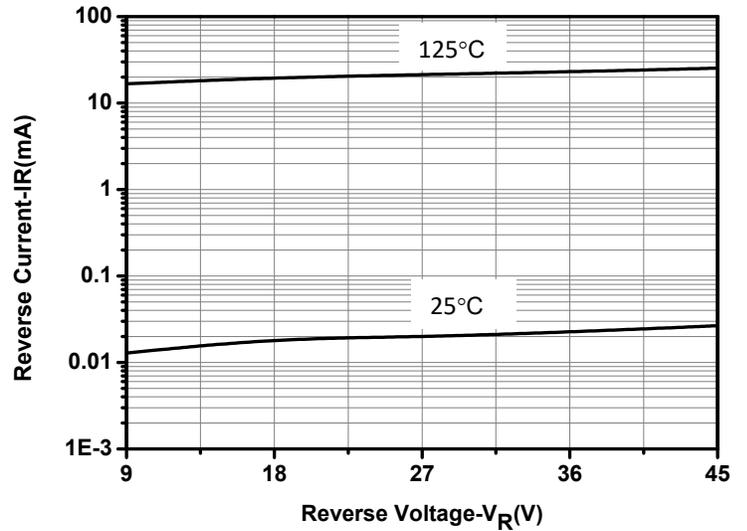
**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	$T_J$	In DC Forward Mode, without reverse bias, $t \leq 1$ hour	-55 to +200	$^{\circ}\text{C}$
Storage Temperature	$T_{\text{stg}}$	-	-55 to +150	$^{\circ}\text{C}$
Typical Thermal Resistance	$R_{\theta\text{JC}}$	DC operation	1.8	$^{\circ}\text{C}/\text{W}$
Approximate Weight	wt	ST5045AX-D ST5045AX-C	2.7 4.2	g
Case Style	R-8			

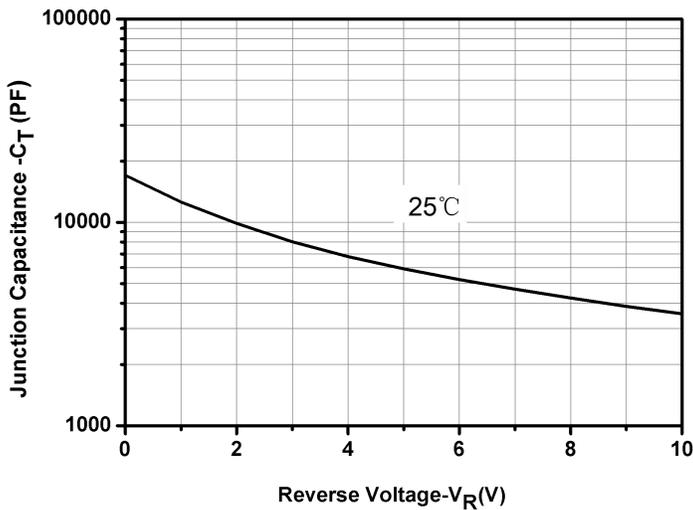
**Ratings and Characteristics Curves**



**Fig.1-Typical Forward Voltage Characteristics**

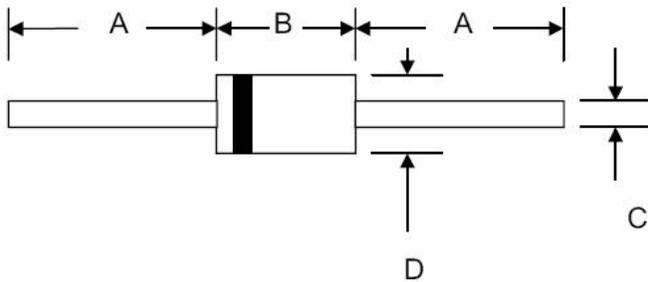


**Fig.2-Typical Reverse Characteristics**



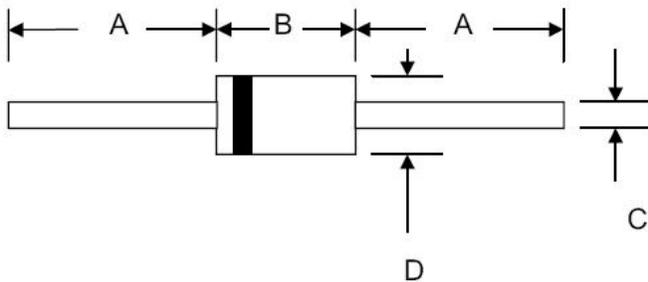
**Fig.3-Capacitance vs. Reverse Voltage**

**Mechanical Dimensions R-8(ST5045AX-D)**



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	15.00	-	0.590	-
B	8.60	9.10	0.340	0.360
C	2.50	2.70	0.075	0.083
D	8.60	9.10	0.340	0.360

**Mechanical Dimensions R-8(ST5045AX-C)**



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	24.5	-	0.965	-
B	8.60	9.10	0.340	0.360
C	2.50	2.70	0.075	0.083
D	8.60	9.10	0.340	0.360

**Ordering Information**

Device	Package	Shipping
ST5045AX-D	R-8(Pb-Free)	800pcs / reel
ST5045AX-C	R-8(Pb-Free)	800pcs / reel
ST5045AX-DTR	R-8(Pb-Free)	800pcs / reel

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

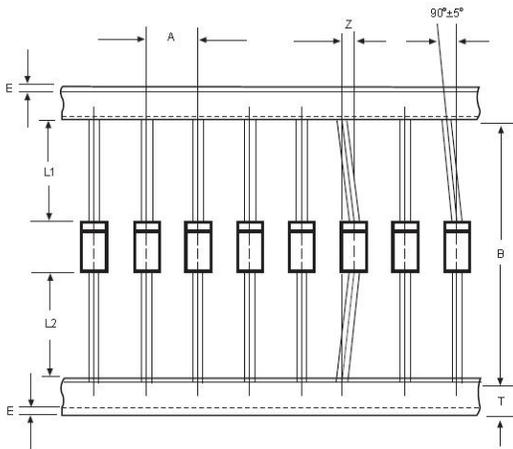
**Marking Diagram**



Where XXXXX is YYWWL

- S = Device Type
- T = Ultralow VF
- 50 = Forward Current (50A)
- 45 = Reverse Voltage (45V)
- AX = Package type
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

**Carrier Tape Specification R-8**



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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