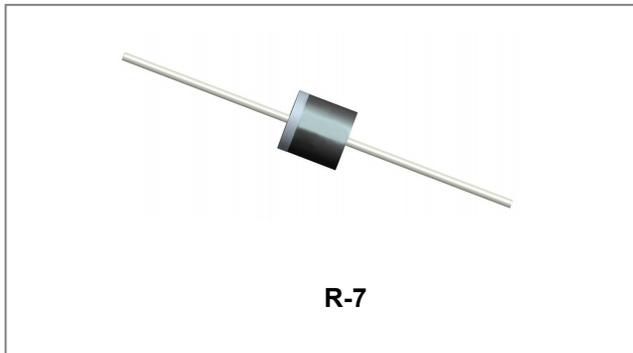


ST4045AX-D/ST4045AX-C SCHOTTKY BARRIER RECTIFIER



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-7 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	$I_{F(AV)}$	$T_c = 110^\circ\text{C}$, In DC	40	A
Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 ms, half Sine pulse	450	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V_{F1}	@ 30A, Pulse, $T_J = 25^\circ\text{C}$	0.46	0.50	V
		@ 40A, Pulse, $T_J = 25^\circ\text{C}$	0.48	0.55	
Reverse Current*	I_{R1}	@ $V_R = \text{rated } V_R$, $T_J = 25^\circ\text{C}$	0.03	0.2	mA
		@ $V_R = \text{rated } V_R$, $T_J = 100^\circ\text{C}$	-	20	
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 μs , 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_{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	ST4045AX-D ST4045AX-C	2.6 3	g

Ratings and Characteristics Curves

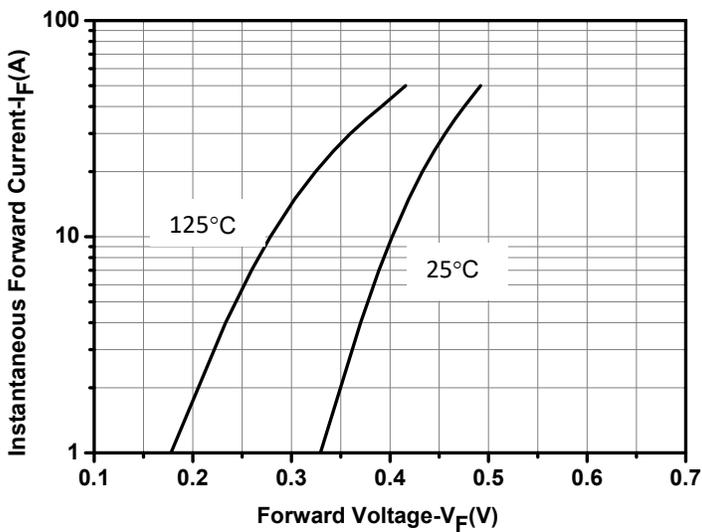


Fig.1-Typical Forward Voltage Characteristics

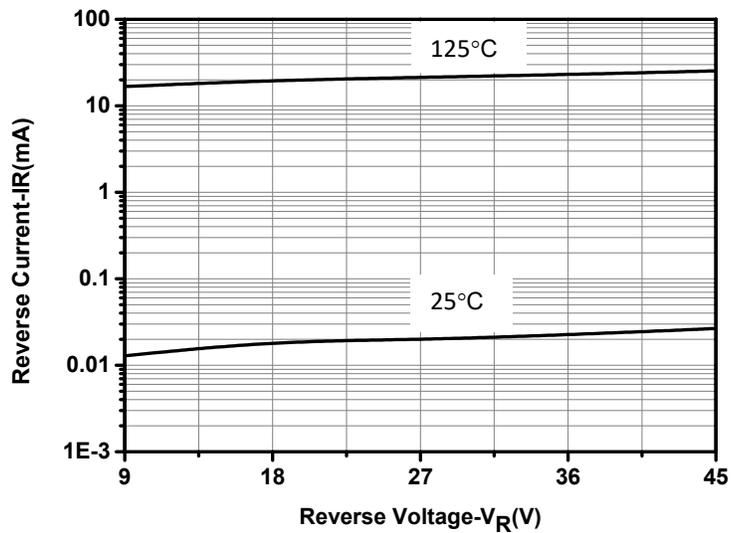


Fig.2-Typical Reverse Characteristics

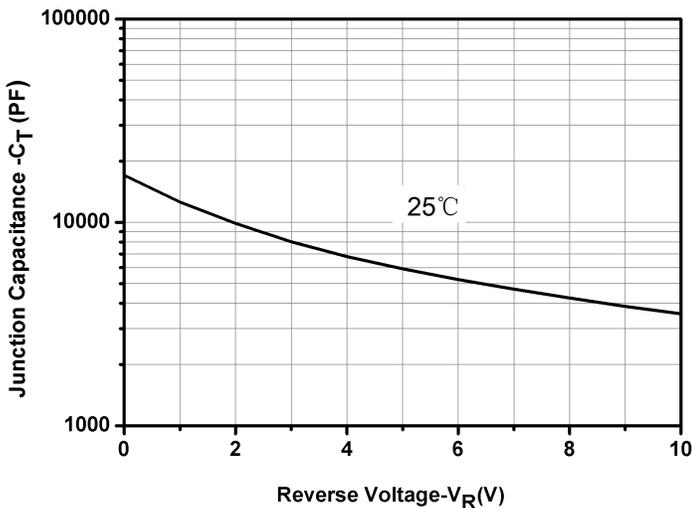
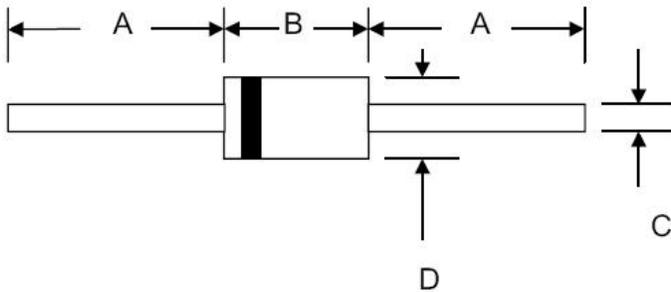


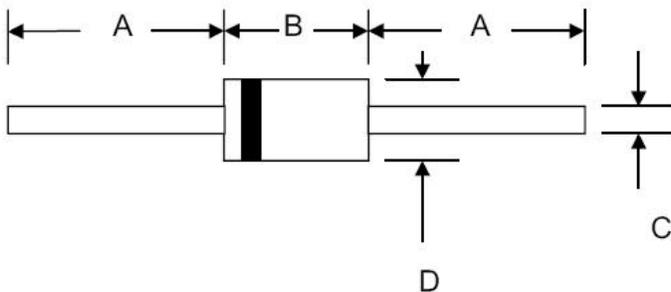
Fig.3-Capacitance vs. Reverse Voltage

Mechanical Dimensions R-7(ST4045AX-D)



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	15.00	-	0.590	-
B	8.60	9.10	0.340	0.360
C	1.90	2.10	0.075	0.083
D	8.60	9.10	0.340	0.360

Mechanical Dimensions R-7(ST4045AX-C)



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	22.00	-	0.860	-
B	8.60	9.10	0.340	0.360
C	1.90	2.10	0.075	0.083
D	8.60	9.10	0.340	0.360

Ordering Information

Device	Package	Shipping
ST4045AX-D	R-7(Pb-Free)	800pcs / reel
ST4045AX-C	R-7(Pb-Free)	800pcs / reel
ST4045AX-DTR	R-7(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.

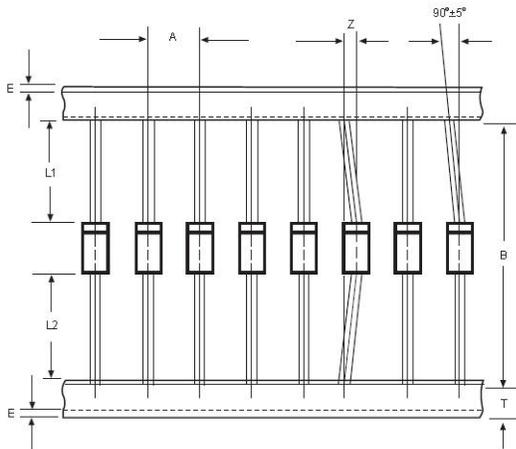
Marking Diagram



Where XXXXX is YYWWL

S = Device Type
T = Ultralow VF
40 = Forward Current (40A)
45 = Reverse Voltage (45V)
AX = Package type
SSG = SSG
YY = Year
WW = Week
L = Lot Number

Carrier Tape Specification R-7



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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