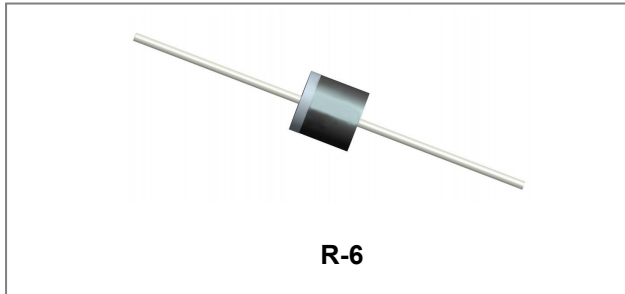


12SQ045 SCHOTTKY BARRIER RECTIFIER



Features

- Super-high speed & low noise switching
- Low voltage drop
- 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

- DC-DC converters
- AC adapter
- High frequency rectification circuit
- Bypass diodes

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	-	45	V
Average Rectified Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_A=25^\circ\text{C}$, rectangular wave form	12	A
Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 ms, half Sine pulse	275	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units	
Peak Forward Voltage	V_{FM}	$I_{FM}=12.0\text{A}$, $T_a=25^\circ\text{C}$	0.50	0.55	V	
Peak Reverse Current	I_{RRM1}	$V_{RM}=V_{RRM}$	$T_a=25^\circ\text{C}$	0.04	0.5	mA
	I_{RRM2}		$T_a=100^\circ\text{C}$	-	20	
Thermal Resistance	$R_{\theta J-C}$	Between junction and case	3.0	-	$^\circ\text{C/W}$	
	$R_{\theta J-L}$	Between junction and lead	2.0	-		

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature at reduced reverse voltage at reduced reverse voltage in DC forward mode	T_J	$V_R \leq 80\% V_{RRM}$ $V_R \leq 50\% V_{RRM}$	-55 to +150 -55 to +180 -55 to +200	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-	-55 to +150	$^{\circ}\text{C}$
Approximate Weight	wt	-	2.24	g
Case Style		R-6		

Ratings and Characteristics Curves

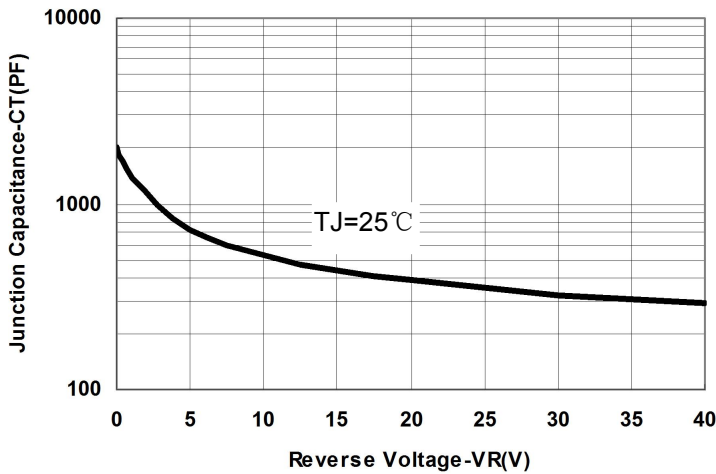


Fig.1-Typical Junction Capacitance

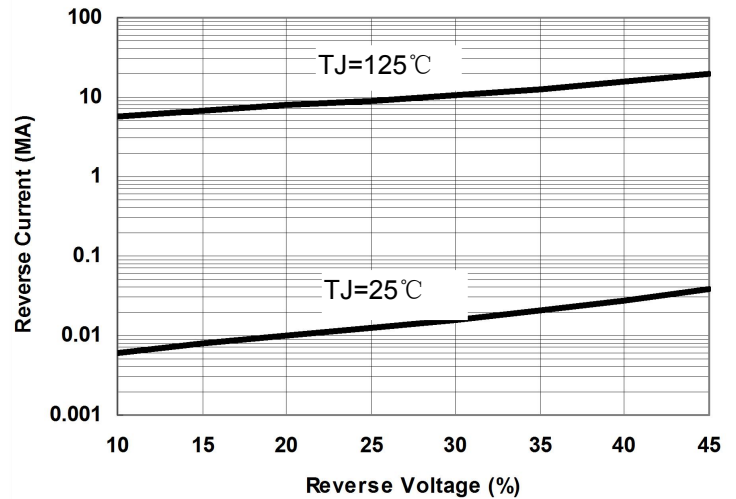


Fig.2-Typical Reverse Characteristics

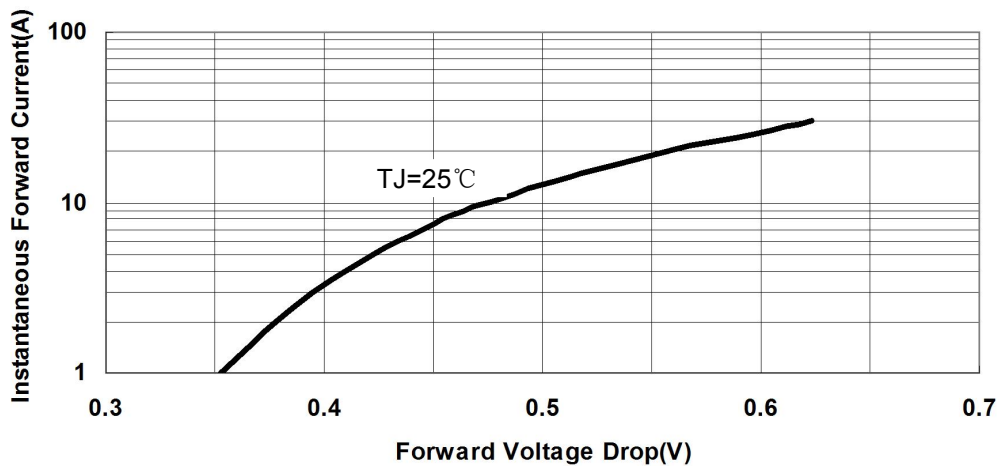
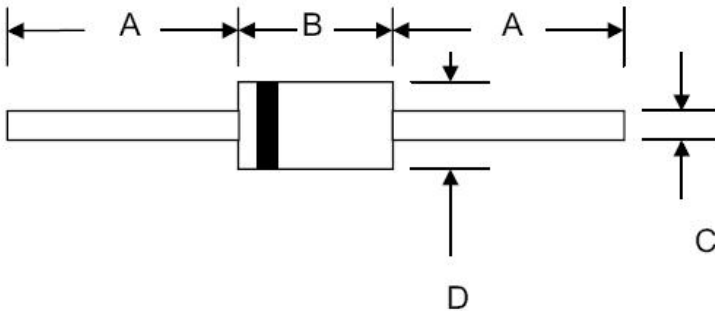


Fig.3-Typical Instantaneous Forward Voltage Characteristics

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
12SQ045	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.

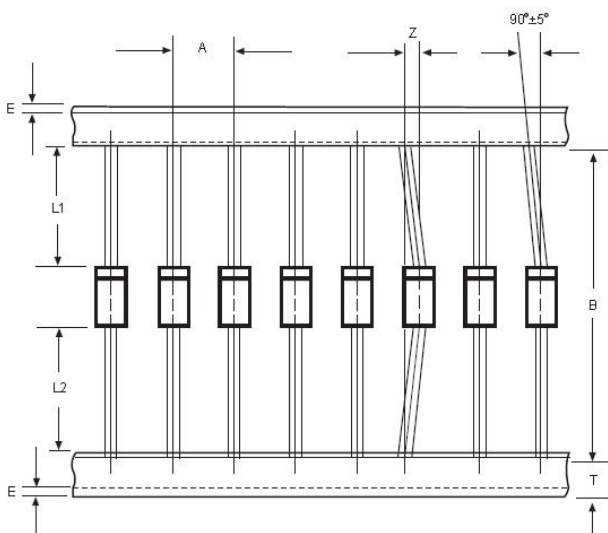
Marking Diagram



Where XXXXX is YYWWL

- 12 = Forward Current (12A)
- S = Package Type
- Q = Device Type
- 045 = Reverse Voltage (45V)
- 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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