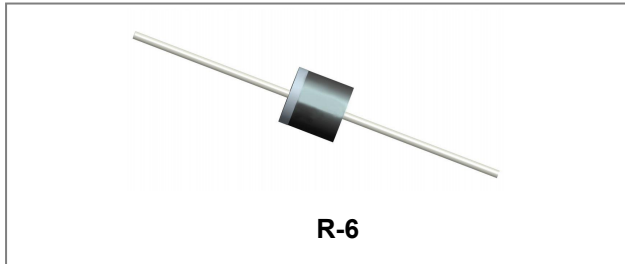


## 20SQ045-1 SCHOTTKY BARRIER RECTIFIER



### Features

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



### Applications

- DC-DC converters
- AC adapter
- High frequency rectification circuit
- Bypass diodes
- Photovoltaic Solar cell Protection Schottky Rectifier

### 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	$I_{F(AV)}$	$T_C = 117^\circ\text{C}$ , In DC	20	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	
Peak Forward Voltage	$V_{FM}$	$I_F = 20.0\text{A}$ , $T_J = 25^\circ\text{C}$	0.51	0.55	V	
Peak Reverse Current	$I_{RRM1}$	$V_{RM} = V_{RRM}$	$T_J = 25^\circ\text{C}$	0.07	0.5	mA
	$I_{RRM2}$		$T_J = 100^\circ\text{C}$	-		
Junction Capacitance	$C_T$	@ $V_R = 5\text{V}$ , $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	946	-	pF	
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	-		
	$R_{\theta J-A}$	Between junction and ambient	45	-		

**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature IN DC Forward Mode, without reverse bias, $t \leq 1$ h	$T_J$	-	-55 to +200	$^{\circ}\text{C}$
Storage Temperature	$T_{\text{stg}}$	-	-55 to +150	$^{\circ}\text{C}$
Approximate Weight	wt	-	1.9	g

**Ratings and Characteristics Curves**

Figure1 Typical Forward Characteristics

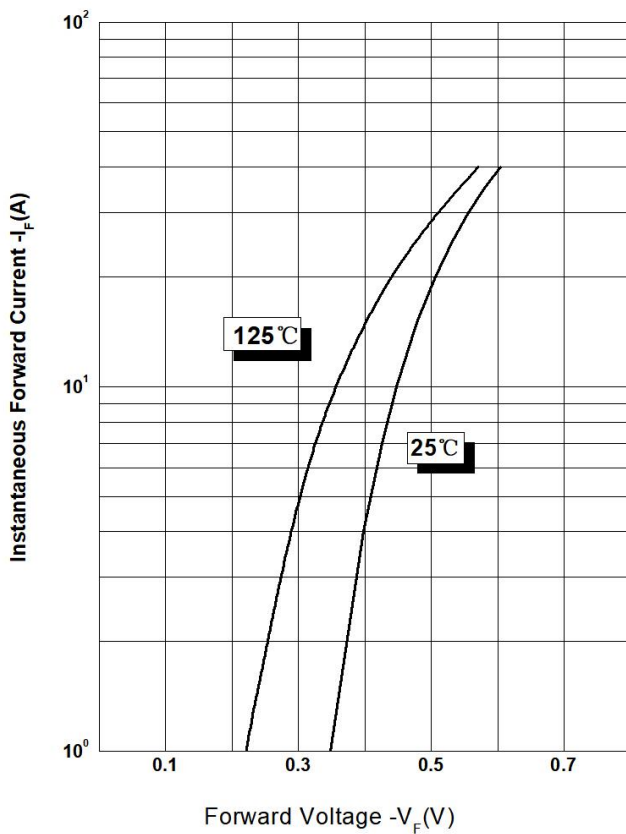


Figure 2 Typical Reverse Characteristics

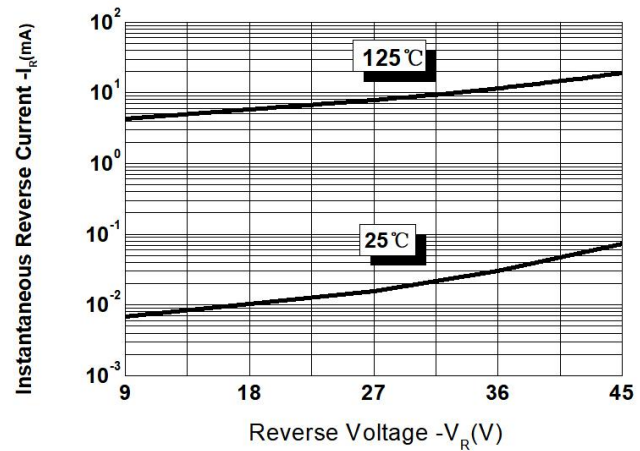
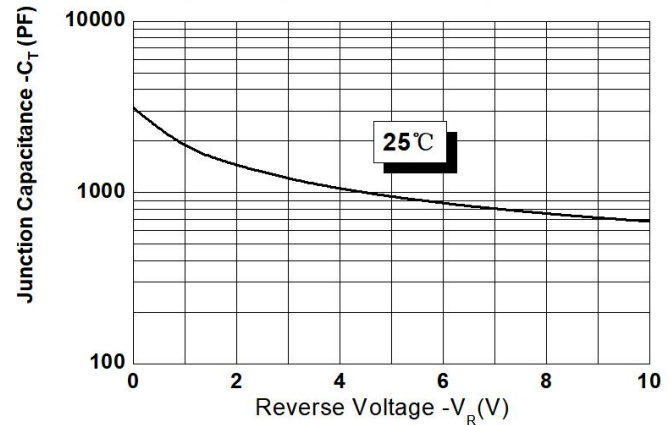
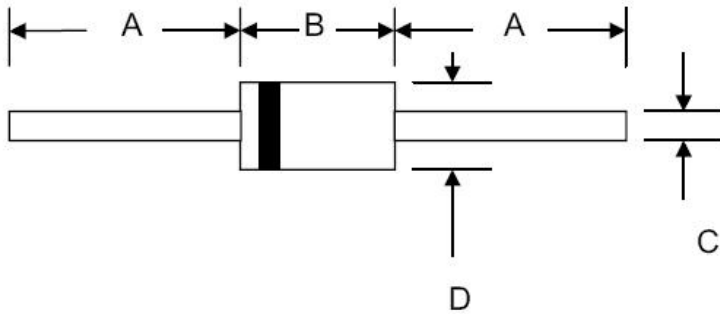


Figure 3 Typical Junction Capacitance



**Mechanical Dimensions R-6**



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	24.5	-	0.965	-
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
20SQ045-1	R-6(Pb-Free)	500pcs / reel
20SQ045-1TA	R-6(Pb-Free)	450pcs / tape
20SQ045-1TR	R-6(Pb-Free)	500pcs / reel

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

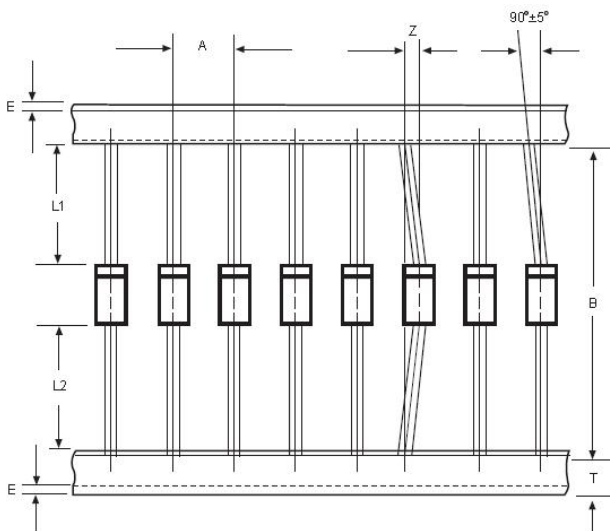
**Marking Diagram**



Where XXXXX is YYWWL

- 20 = Forward Current (20A)
- S = Package Type
- Q = Device Type
- 045 = Reverse Voltage (45V)
- 1 = -1
- 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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