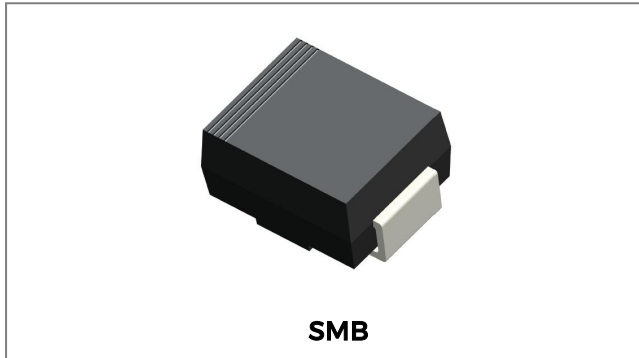


SK510B SCHOTTKY RECTIFIER



Features

- Small foot print, surface mountable
- Very low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- Green products in compliance the ROHS directive
- 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

- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage	V_{RRM}	-	100	V
Working Peak Reverse Voltage	V_{RWM}			
DC Blocking Voltage	V_R			
Average Rectified Forward Current	$I_{F(AV)}$	$T_L=115^{\circ}\text{C}$, In DC	5	A
Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3ms, Half Sine pulse, $T_c = 25^{\circ}\text{C}$	120	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V_{F1}	@ 5A, Pulse, $T_J = 25^{\circ}\text{C}$	0.82	0.85	V
	V_{F2}	@ 5A, Pulse, $T_J = 125^{\circ}\text{C}$	0.68	0.70	V
Reverse Current*	I_{R1}	@ V_R = rated V_R , $T_J = 25^{\circ}\text{C}$	0.01	0.1	mA
	I_{R2}	@ V_R = rated V_R , $T_J = 100^{\circ}\text{C}$	-	2.0	mA
Junction Capacitance	C_T	@ $V_R = 5\text{V}$, $T_c = 25^{\circ}\text{C}$, $f_{SIG} = 1\text{MHz}$	100	200	pF
Series Inductance	L_S	Measured lead to lead 5 mm from package body	8.0	-	nH
Voltage Rate of Change	dv/dt	-	-	10,000	V/ μs

* 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 Lead	$R_{\theta JL}$	DC operation	17	°C/W
Typical Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	DC operation	75	°C/W
Approximate Weight	wt	-	0.09	g

Ratings and Characteristics Curves

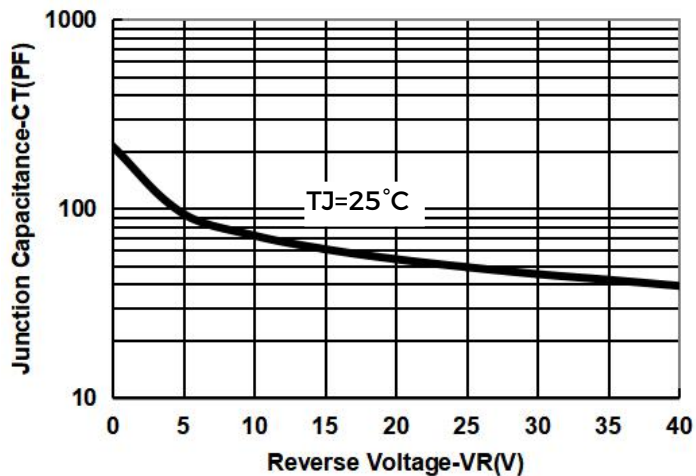


Fig.1-Typical Junction Capacitance

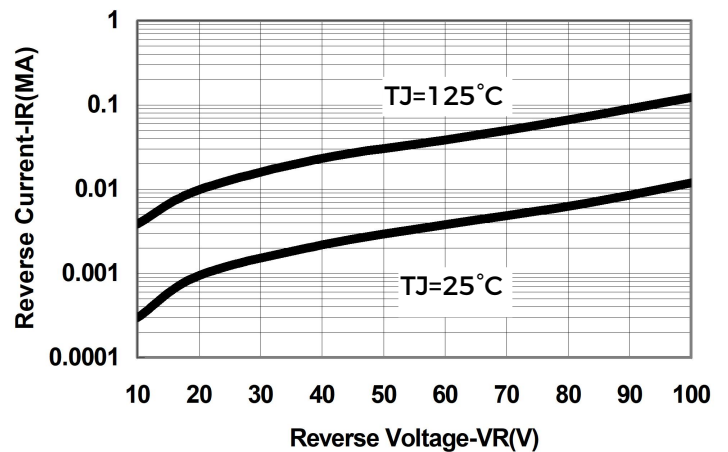


Fig.2-Typical Values Of Reverse Current

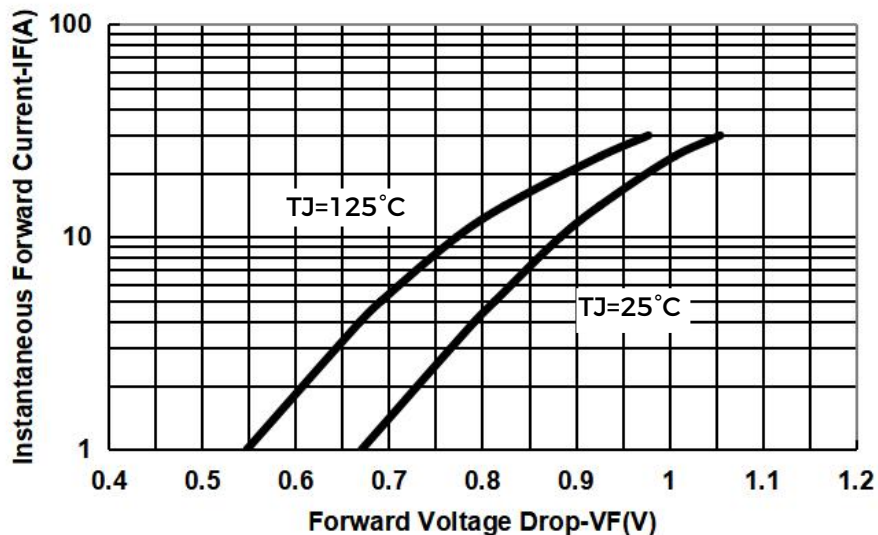
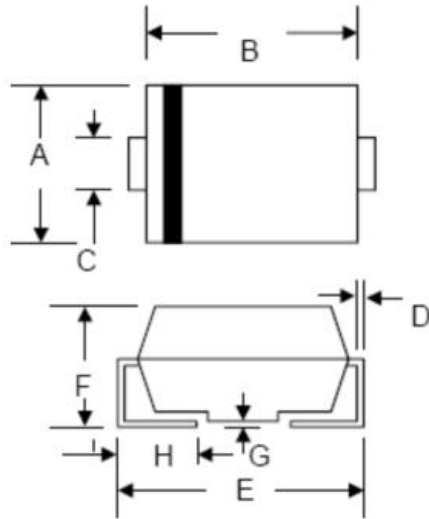


Fig.3-Typical Forward Voltage Drop Characteristics

Mechanical Dimensions SMB



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.30	3.94	0.130	0.155
B	4.06	4.70	0.160	0.185
C	1.80	2.20	0.071	0.087
D	0.152	0.305	0.006	0.012
E	4.80	5.59	0.189	0.220
F	2.10	2.60	0.083	0.102
G	0.051	0.203	0.002	0.008
H	0.76	1.52	0.030	0.060

Ordering Information

Device	Package	Shipping
SK510B	SMB (Pb-Free)	3000pcs / reel
SK510BTR	SMB (Pb-Free)	3000pcs / reel
SK510BTR2	SMB (Pb-Free)	3000pcs / Plastic 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

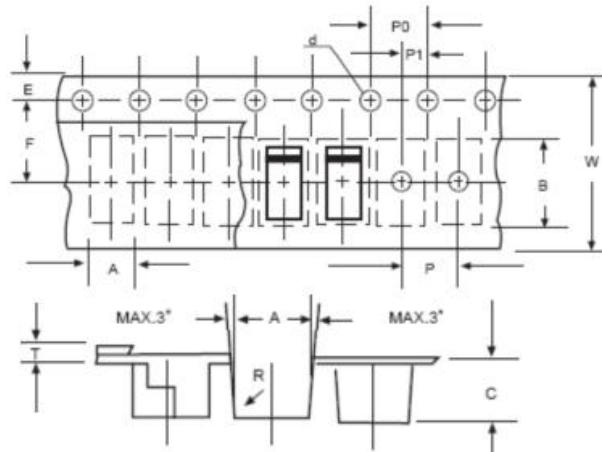


Where XXXXX is YYWWL

SK510B = Part Name
YY = Year
WW = Week
L = Lot Number

Cautions: Molding resin
Epoxy resin UL94V-0

Carrier Tape Specification SMB



SYMBOL	Millimeters	
	Min.	Max.
A	2.97	3.17
B	5.70	5.90
C	2.32	2.52
d	1.40	1.60
E	1.40	1.60
F	5.60	5.70
P	3.90	4.10
P0	3.90	4.10
P1	1.90	2.10
T	0.25	0.35
W	11.80	12.20

Technical Data
Data Sheet N0950, Rev. C



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