Technical Data *Green Products*
Data Sheet N0105, Rev. -

SK54B SCHOTTKY RECTIFIER

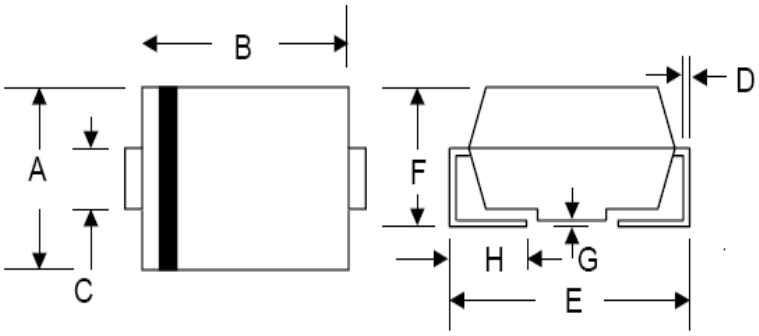
Applications:

- **Switching power supply**
- **Converters**
- **Free-Wheeling diodes**
- **Reverse battery protection**
- **Disk drives**
- **Battery charging**

Features:

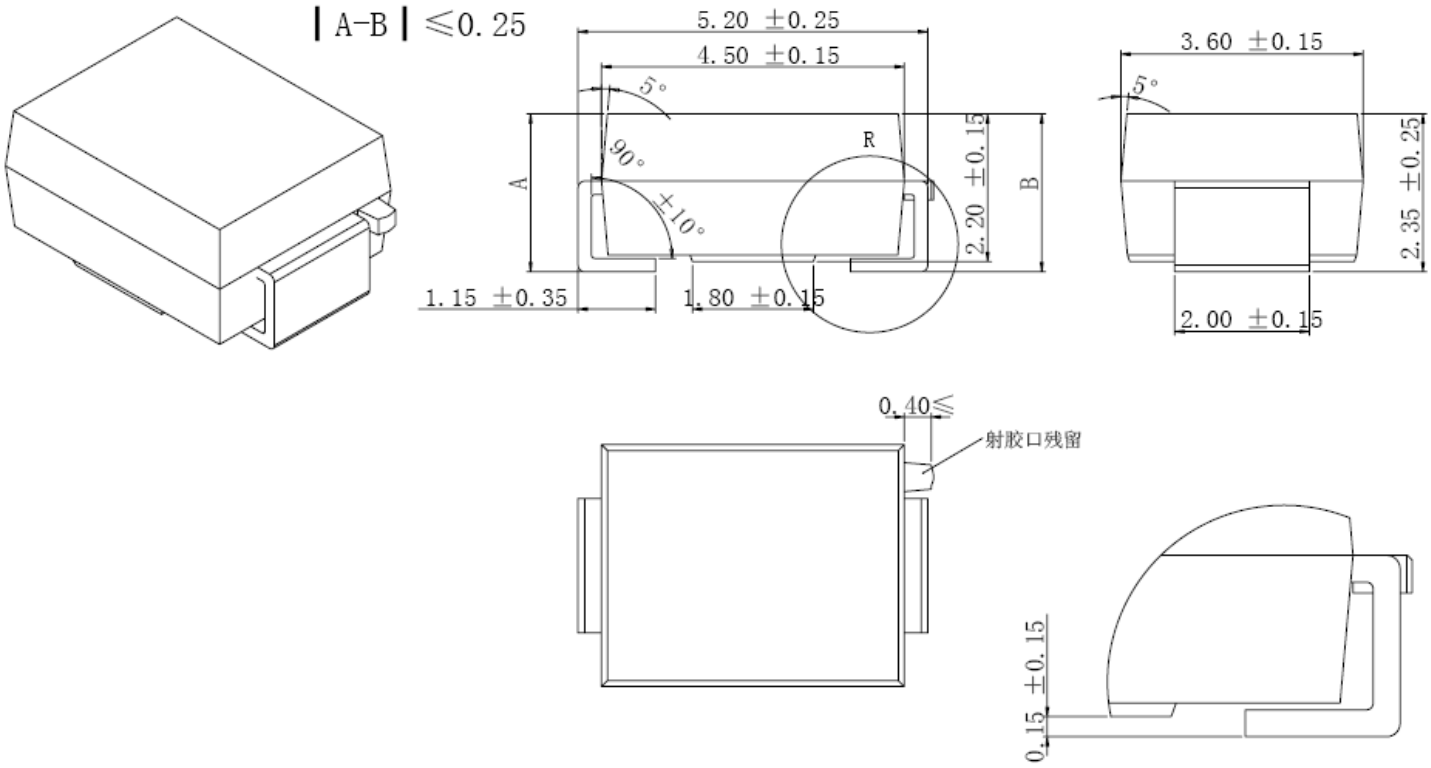
- **Small foot print, surface mountable**
- **Very low forward Voltage Drop**
- **High frequency operation**
- **Guard ring for enhanced ruggedness and long term reliability**
- **Green Products in Compliance the ROHS Directive**
- **This is a Pb − Free Device**
- **All SMC parts are traceable to the wafer lot**
- **Additional testing can be offered upon request**

Mechanical Dimensions: In mm



SMB/DO-214AA				
Dim	Min	Max	Min	Max
A	3.30	3.94	0.130	0.155
B	4.06	4.70	0.160	0.185
C	1.91	2.11	0.075	0.083
D	0.152	0.305	0.006	0.012
E	5.08	5.59	0.2	0.220
F	2.13	2.44	0.084	0.096
G	0.051	0.203	0.002	0.008
H	0.76	1.27	0.029	0.05
	in mm		In inch	

OPTION 1



OPTION 2(JK)

SMB

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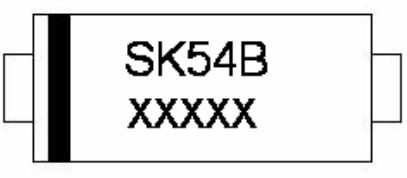
Marking Diagram:



Where XXXXX is YYWWL

SK = Device Type
5 = Forward Current (5A)
4 = Reverse Voltage (40V)
B = Package type
YY = Year
WW = Week
L = Lot Number

Cautions: Molding resin
Epoxy resin UL:94V-0

Ordering Information:

Device	Package	Shipping
SK54B	SMB (Pb-Free)	3000pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	40	V
Max. Average Forward	$I_{F(AV)}$	50% duty cycle @T_C =105°C, rectangular wave form	5	A
Max. Peak Repetitive Forward Current	I_{FRM}	At Rated VR, Square Wave,20KHZ,TC=80℃	10	A
Max. peak one cycle Non-repetitive Surge Current	I_{FSM}	8.3 ms, half Sine pulse	125	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg) *	V_{F1}	@ 5A, Pulse, T_J = 25 °C	0.65	V
	V_{F2}	@ 5 A, Pulse, T_J = 125 °C	0.63	V
Max. Reverse Current (per leg) *	I_{R1}	@V_R = rated VR T_J = 25 °C	1.0	mA
	I_{R2}	@V_R = rated VR T_J = 125 °C	30	mA
Max. Junction Capacitance (per leg)	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	150	pF
Max. Voltage Rate of Change	dv/dt	-	10,000	V/us

* Pulse Width < 300μs, Duty Cycle <2%

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	T_J	-	-55 to +150	°C
Max. Storage Temperature	T_{stg}	-	-55 to +150	°C
Maximum Thermal Resistance Junction to Lead	$R_{\theta JL}$	-	17	°C/W
Maximum Thermal Resistance, Junction to Ambiebt	$R_{\theta JA}$	-	75	°C/W
Approximate Weight	wt	-	0.68	g
Case Style	SMB			

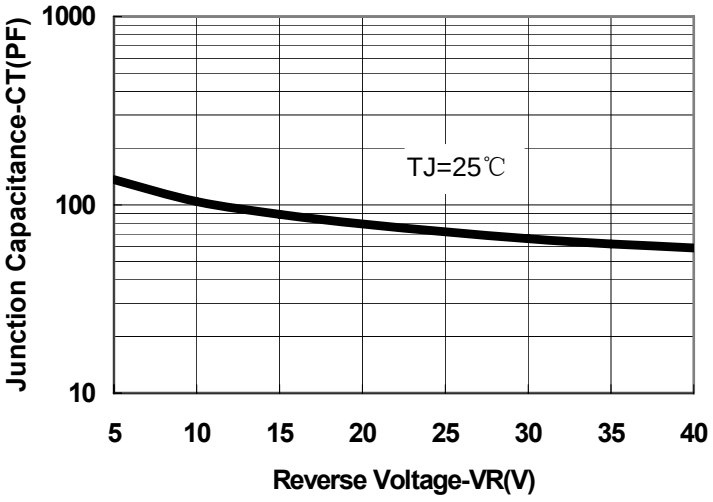


Fig.1-Typical Junction Capacitance

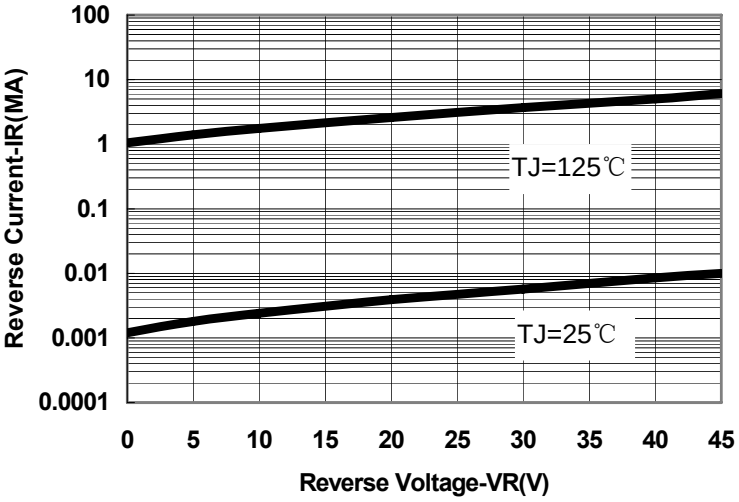


Fig.2-Typical Reverse Characteristics

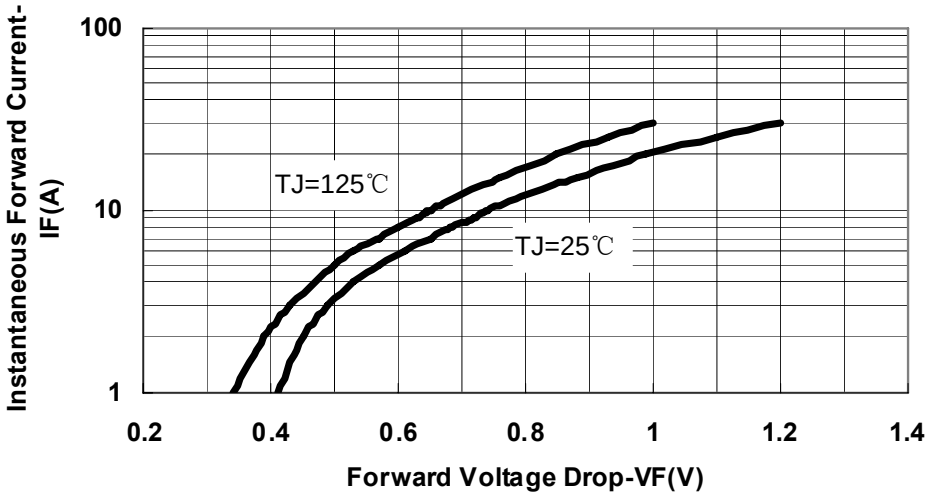


Fig.3-Typical Instantaneous Forward Voltage Characteristics

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