Silicon-Based Technology Corp.

Small-Signal Schottky Barrier Diodes **SBT101WS Series**

SBT101WS series are Schottky Barrier Diodes fabricated by a series of proprietary Schottky barrier patents and technologies (SBT®) developed by Silicon-Based Technology Corporation, which exhibit high-performance characteristics for modern switching, conversion and protection applications with high speed and low power consumptions. The package types as described in this data sheet are set forth in routine production; other packages are available upon special orders.

■ Features and Advantages:

- Low forward voltage drop(V_F)
- Low reverse leakage current (I_R)
- Very small conduction power loss
- Very small switching power loss
- Very high switching speed
- Very high reliability

■ Electrical Characteristics : (@T_A=25℃ unless otherwise specified)

Characteristic		Symbol	Min.	Max.	Unit	Test Conditions
Reverse Breakdown Voltage (Note 3)	SBT101AWS SBT101BWS SBT101CWS	$V_{(BR)R}$	60 50 40	-	V	I_R=10μA
Forward Voltage Drop	SBT101AWS SBT101BWS SBT101CWS SBT101AWS SBT101BWS SBT101CWS	V_F	-	0.30 0.30 0.28 0.60 0.60 0.55	V	I_F=1.0mA I_F=1.0mA I_F=1.0mA I_F=15mA I_F=15mA I_F=15mA
Peak Reverse Current (Note 2)	SBT101AWS SBT101BWS SBT101CWS	I_{RM}	-	200	nA	V_R=50V V_R=40V V_R=30V
Total Capacitance	SBT101AWS SBT101BWS SBT101CWS	C_T	-	2.0 2.1 2.2	pF	V_R=0V, f=1.0MH$_Z$
Reverse Recovery Time		t_{rr}	-	1.0	ns	I_F=I_R=5.0mA, I_{rr}=0.1×I_R,R_L=100Ω

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■ Maximum Ratings : (@T_A=25℃ unless otherwise specified)

Characteristic	Symbol	SBT101AWS	SBT101BWS	SBT101CWS	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	60	50	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	42	35	28	V
Forward Continuous Current (Note 1)	I_{FM}	15			mA
Non-Repetitive Peak @t≤1.0s Forward Surge Current @t=10μs	I_{FSM}	50 2.0			mA A
Power Dissipation (Note 1)	P_D	200			mW
Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	625			℃/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +125			℃

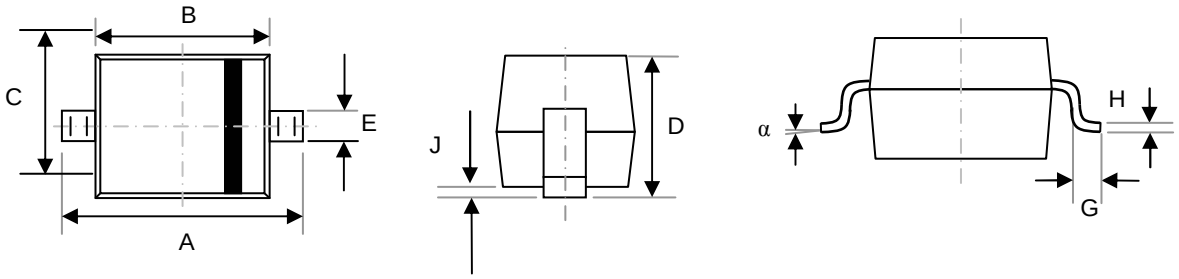
Notes: 1. Part mounted on FR4 PC Board with recommended pad layout, which can be found on our website at http://www.sbt.com.tw.

2. No purposefully added lead.

■ Package Data :

- Case**:** Molded Plastic Material (UL Flammability Classification 94V-0)
- Terminals**:** Solderable Plated Terminals (MIL-STD-202, Method 208)
- Lead Free Plating (Matte Tin Finish)
- Polarity**:** See device configurations below
- Approx. Weight**:** 0.004 grams.
- Package outline and dimensions (see below)

SOD-323



DIMENSIONS (MM)									
	A	B	C	D	E	G	H	J	α
Min.	2.30	1.60	1.20	1.05	0.25	0.20	0.10	0.05	0°
Max.	2.70	1.80	1.40	Typical	0.35	0.40	0.15	Typical	8°

■ Ordering Information (Note 3)

Part Number	Marking Code	Packaging Type	Shipping
			7″ Tape & Real
SBT101AWS	SBTJAS	SOD-323	3K
SBT101BWS	SBTJBS	SOD-323	3K
SBT101CWS	SBTJCS	SOD-323	3K

Notes: 3. Website at http://www.sbt.com.tw

4. Bulk package in a box form is also available upon request.

5. Day code marking is YM, in which Y represents year (For example: 2005 is marked by 5);
M represents month in a year (For example: March is marked by C; November is marked by K).