

Silicon-Based Technology Corp.

Small-Signal Schottky Barrier Diodes

SBT107WS Series

SBT107WS 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 : (@ $T_A=25^\circ\text{C}$ unless otherwise specified)

Characteristic	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	30	-	-	V	$I_R=100\mu\text{A}$
Forward Voltage (Note 2)	V_{FM}	-	280 320 450 550	- - 500 600	mV	@ $I_F=2.0\text{mA}$ @ $I_F=15\text{mA}$ @ $I_F=50\text{mA}$ @ $I_F=100\text{mA}$
Reverse Current (Note 2)	I_{RM}	-	-	1.0	μA	$V_R=25\text{V}$
Total Capacitance	C_T	-	7	-	pF	$V_R=0\text{V}$, $f=1.0\text{MHz}$



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■ Maximum Ratings : (@ $T_A=25^{\circ}\text{C}$ unless otherwise specified)

Characteristic	Symbol	SBT107WS	Unit
Peak Repetitive Reverse Voltage	V_{RRM}		
Working Peak Reverse Voltage	V_{RWM}	30	V
DC Blocking Voltage	V_R		
RMS Reverse Voltage	$V_{R(RMS)}$	21	V
Forward Continuous Current (Note 1)	I_{FM}	100	mA
Non-Repetitive Peak Forward Surge Current @ $t \leq 10\mu\text{s}$	I_{FSM}	750	mA
Power Dissipation (Note 1)	P_d	250	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	500	$^{\circ}\text{C/W}$
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +125	$^{\circ}\text{C}$

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.

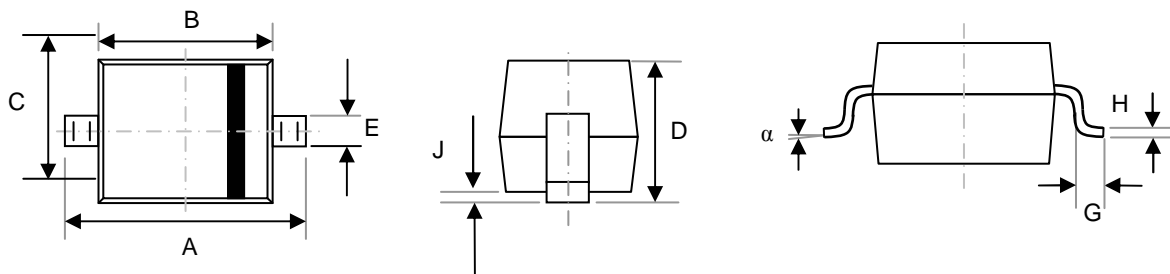
www.DataSheet4U.com

■ 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
SBT107WS	SBTJ7S	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).