

Silicon-Based Technology Corp.

Small-Signal Schottky Barrier Diodes

SBT101D Series

SBT101D 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.	Max.	Unit	Test Conditions
Reverse Breakdown Voltage (Note 3)	SBT101AD SBT101BD SBT101CD $V_{(BR)R}$	60 50 40	-	V	$I_R=10\mu\text{A}$
Forward Voltage Drop	SBT101AD SBT101BD SBT101CD SBT101AD SBT101BD SBT101CD V_F	-	0.30 0.30 0.28 0.60 0.60 0.55	V	$I_F=1.0\text{mA}$ $I_F=1.0\text{mA}$ $I_F=1.0\text{mA}$ $I_F=15\text{mA}$ $I_F=15\text{mA}$ $I_F=15\text{mA}$
Peak Reverse Current (Note 2)	SBT101AD SBT101BD SBT101CD I_{RM}	-	200	nA	$V_R=50\text{V}$ $V_R=40\text{V}$ $V_R=30\text{V}$
Total Capacitance	SBT101AD SBT101BD SBT101CD C_T	-	2.0 2.1 2.2	pF	$V_R=0\text{V}$, $f=1.0\text{MHz}$
Reverse Recovery Time	t_{rr}	-	1.0	ns	$I_F=I_R=5.0\text{mA}$, $I_{rr}=0.1 \times I_R$, $R_L=100\Omega$



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**■ Maximum Ratings : (@T_A=25°C unless otherwise specified)**

Characteristic	Symbol	SBT101A	SBT101B	SBT101C	Unit
Peak Repetitive Reverse Voltage	V _{RRM}				
Working Peak Reverse Voltage	V _{RWM}	60	50	40	V
DC Blocking Voltage	V _R				
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	I _{FSM}	50			mA
Forward Surge Current @t=10μs		2.0			A
Power Dissipation (Note 1)	P _d	400			mW
Thermal Resistance, Junction to Ambient Air (Note 1)	R _{θJA}	375			°C/W
Operating and Storage Temperature Range	T _j , T _{STG}	-65 to +125			°C

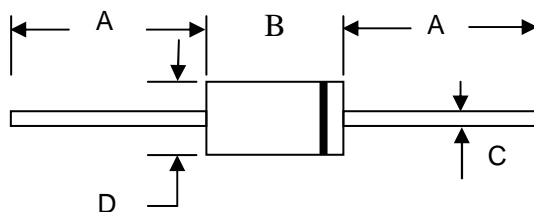
Notes: 1. Valid provided that leads are kept at ambient temperature.

2. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see EU Directive Annex Notes6 and 7.

■ 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: 0.13 grams.
- Package outline and dimensions (see below)

DO-35



DIMENSIONS (MM)				
	A	B	C	D
Min.	25.40	-	-	-
Max.	-	4.00	0.60	2.00

■ Ordering Information (Note 3)

Part Number	Marking Code	Packaging Type	Shipping
			7" Tape & Real
SBT101AD	SBTJAD	DO-35	3K
SBT101BD	SBTJBD	DO-35	3K
SBT101CD	SBTJCD	DO-35	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).