

Silicon-Based Technology Corp.

Small-Signal Schottky Barrier Diodes

SBT103D Series

SBT103D 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	SBT103AD SBT103BD SBT103CD	V_{FM}	40	-	-	V	$I_{RS}=100\mu\text{A}$
			30				
			20				
Maximum Forward Voltage Drop		V_{FM}	-	-	0.35 0.50	V	$I_F=20\text{mA}$ $I_F=200\text{mA}$
Maximum Peak Reverse Current	SBT103AD SBT103BD SBT103CD	I_{RM}	-	-	5.0	μA	$V_R=30\text{V}$ $V_R=20\text{V}$ $V_R=10\text{V}$
Total Capacitance		C_j	-	50	-	pF	$V_R=0\text{V}$, $f=1.0\text{MHz}$
Reverse Recovery Time		t_{rr}	-	10	-	ns	$I_F=I_R=50\text{mA}$ to 200mA , $I_{rr}=0.1 \times I_R$, $R_L=100\Omega$



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

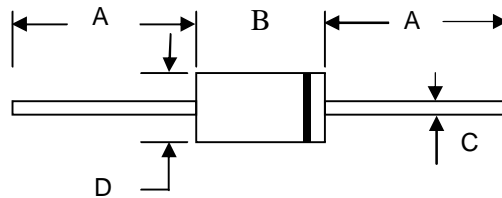
Characteristic	Symbol	SBT103AD	SBT103BD	SBT103CD	Unit
Peak Repetitive Reverse Voltage	V_{RRM}				
Working Peak Reverse Voltage	V_{RWM}	40	30	20	V
DC Blocking Voltage	V_R				
RMS Reverse Voltage	$V_{R(RMS)}$	28	21	14	V
Forward Continuous Current	I_{FM}	350			mA
Repetitive Peak Forward Current @ $t \leq 1.0\text{s}$	I_{FRM}	1.0			A
Non-Repetitive Peak Forward Surge Current 8.3ms Half Sine Wave	I_{FSM}	15			mA A
Power Dissipation	P_d	400			mW
Thermal Resistance, Junction to Ambient Air	$R_{\theta JA}$	300			$^{\circ}\text{C/W}$
Operating Temperature Range	T_j	125			$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 to +125			$^{\circ}\text{C}$

■ 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 1)

Part Number	Marking Code	Packaging Type	Shipping
			7" Tape & Real
SBT103AD	SBTJDA	DO-35	3K
SBT103BD	SBTJDB	DO-35	3K
SBT103CD	SBTJDC	DO-35	3K

Notes: 1. Website at <http://www.sbt.com.tw>

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

3. 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).