Silicon-Based Technology Corp.

Small-Signal Schottky Barrier Diodes **SBT70 Series**

SBT70 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 2)	$V_{(BR)R}$	70	-	V	I_R=10μA
Forward Voltage (Note 2)	V_F	-	350 600	mV mV	I_F=1.0mA, t_p<300μS I_F=15mA, t_p<300μS
Leakage Current (Note 2)	I_R	-	100	nA	V_R=30V
Total Capacitance	C_T	-	2.0	pF	V_R=0, f=1.0MH$_Z$
Reverse Recovery Time	t_{rr}	-	5.0	ns	I_F=I_R=10mA, I_{rr}=0.1×I_R,R_L=100Ω

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

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	70	V
RMS Reverse Voltage	$V_{R(RMS)}$	49	V
Forward Continuous Current (Note 1)	I_{FM}	70	mA
Non-Repetitive Peak Forward Surge Current @t=1.0s	I_{FSM}	100	mA
Power Dissipation (Note 1)	P_d	200	mW
Thermal Resistance Junction to Ambient (Note 1)	$R_{\theta JA}$	625	℃/W
Operating Temperature Range	T_j	-55 to +125	℃
Storage Temperature Range	T_{STG}	-65 to +150	℃

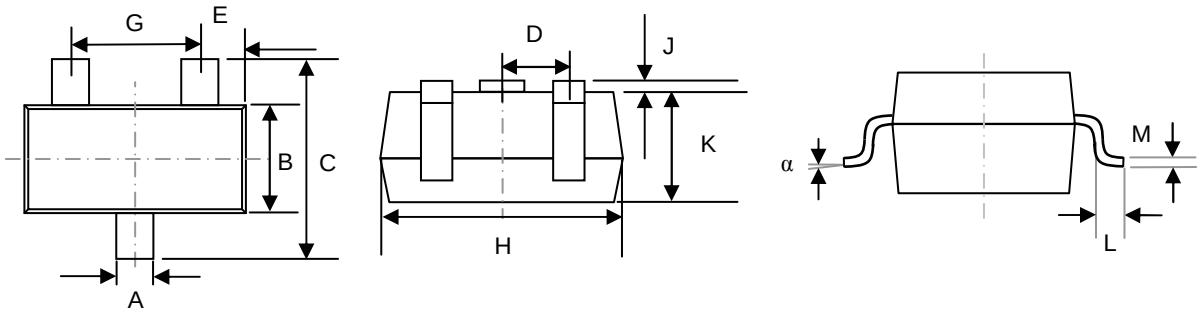
Notes: 1. Device is mounted on FR-4 PC board with a recommended pad layout, which can be found on our website at www.sbt.com.tw

2. Short duration test pulse is used to minimize self-heating effect.

■ 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**:** 0.008 grams
- Package outline and dimensions (see below)

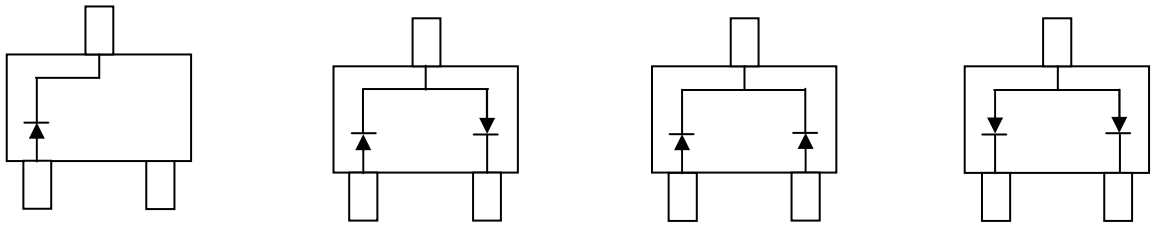
SOT-23



DIMENSIONS (MM)												
	A	B	C	D	E	G	H	J	K	L	M	α
Min.	0.37	1.20	2.30	0.89	0.45	1.78	2.80	0.013	0.903	0.45	0.085	0°
Max.	0.51	1.40	2.50	1.03	0.60	2.05	3.00	0.10	1.10	0.61	0.180	8°

■ Device Configurations :

TOP VIEW



SBT70 SBT70-04 SBT70-05 SBT70-06

■ Ordering Information (Note 3)

Part Number	Marking Code	Packaging Type	Shipping
			7″ Tape & Real
SBT70	SBTG01	SOT-23	3K
SBT70-04	SBTG02	SOT-23	3K
SBT70-05	SBTG03	SOT-23	3K
SBT70-06	SBTG04	SOT-23	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).