Silicon-Based Technology Corp.

Power Schottky Barrier Rectifier **SBT750 Series**

SBT750 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.	Typ.	Max.	Unit	Test Conditions
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	40	45	-	V	I_R=200μA
Forward Voltage (Note 2)	V_F	-	-	250 270 300 400 450 480 600	mV	I_F=50mA I_F=100mA I_F=250mA I_F=500mA I_F=750mA I_F=1000mA I_F=1500mA
Reverse Current (Note 2)	I_R	-	30	50	μA	V_R=30V
Total Capacitance	C_T	-	175 25	10	pF	V_R=1.0V, f=1.0MH$_Z$ V_R=25V, f=1.0MH$_Z$

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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	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	28	V
Average Rectified Current (Note 1)	I_O	0.75	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FRM}	5.5	A
Power Dissipation (Note 1)	P_d	350	mW
Typical Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	286	℃/W
Operating and Storage Temperature Range	T_j, T_{STG}	-40 to +125	℃

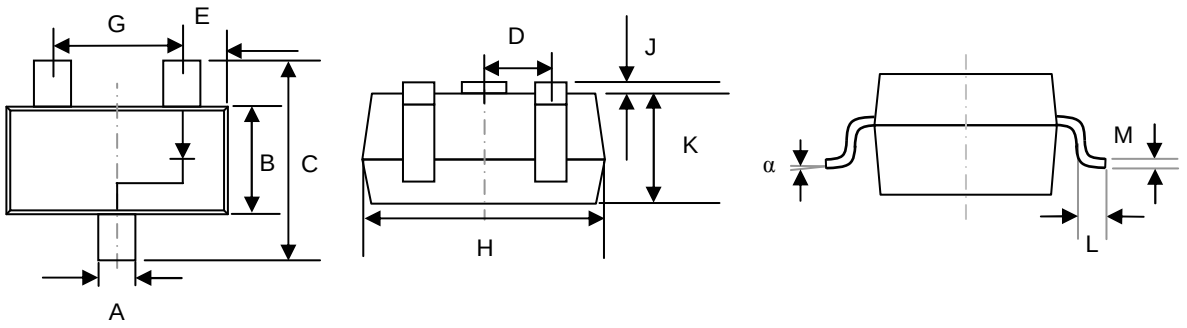
Notes: 1. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at www.sbt.com.tw.

2. Short duration test pulse 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°

■ Ordering Information (Note 3)

Part Number	Marking Code	Packaging Type	Shipping
			7″ Tape & Real
SBT750	SBT7ED	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).