Silicon-Based Technology Corp.

Power Schottky Barrier Rectifier **SBT0560S Series**

SBT0560S 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	SBT0540W	Unit	Test Conditions
Minimum Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	60	V	I_R=120μA
Minimum Forward Voltage Drop (Note 2)	V_F	0.50	V	I_F=0.5A, T_j=25℃
		0.65		I_F=1.0A, T_j=25℃
		0.45		I_F=0.5A, T_j=100℃
		0.60		I_F=1.0A, T_j=100℃
Minimum Reverse Current (Note 2)	I_R	10	μA	V_R=20V, T_j=25℃
		20		V_R=40V, T_j=25℃
		1.0	mA	V_R=20V, T_j=100℃
		200		V_R=60V, T_j=100℃
Total Capacitance	C_T	50	pF	F=1MH$_z$, V_R=5V

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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	60	V
RMS Reverse Voltage	$V_{R(RMS)}$	42	V
Average Rectified Output Current	I_O	0.5	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	5.5	A
Power Dissipation (Note 1)	P_D	410	mW
Typical Thermal Resistance Junction to Ambient (Note 1)	$R_{\theta JA}$	244	℃/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +125	℃
Voltage Rate of Change (Note 3)	dv/dt	1000	V/μs

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.

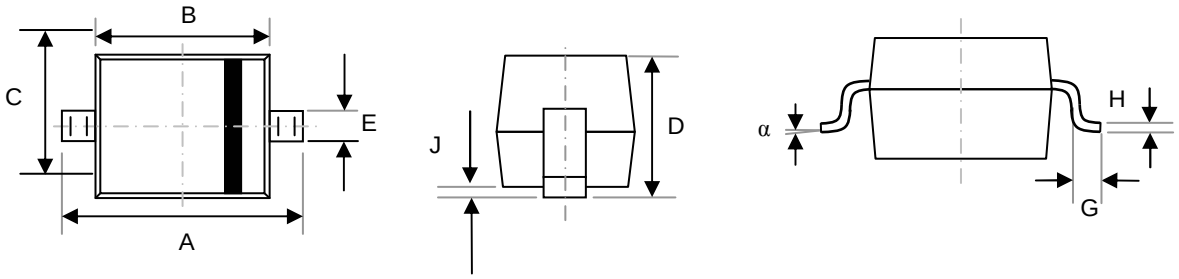
2. Pulse Test: Pulse width=300μs, Duty Cycle≤2%

3. dv/dt measured at rated V_R

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

SOD-123



DIMENSIONS (MM)										
	A	B	C	D	E		G	H	J	α
Min.	3.55	2.55	1.40	-	0.45	0.55	0.25	0.11	-	0°
Max.	3.85	2.85	1.70	1.35	0.65	Typical	-	Typical	0.10	8°

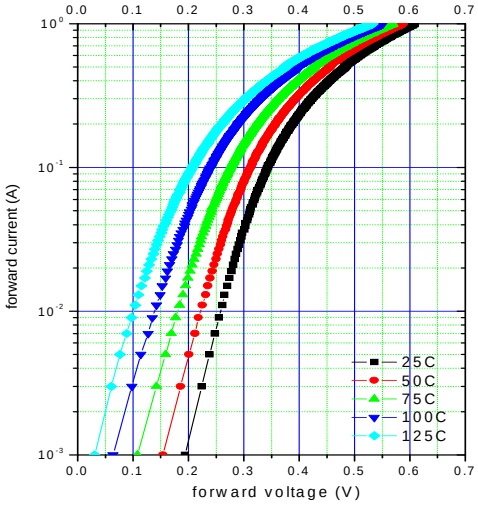
■ Ordering Information (Note 4)

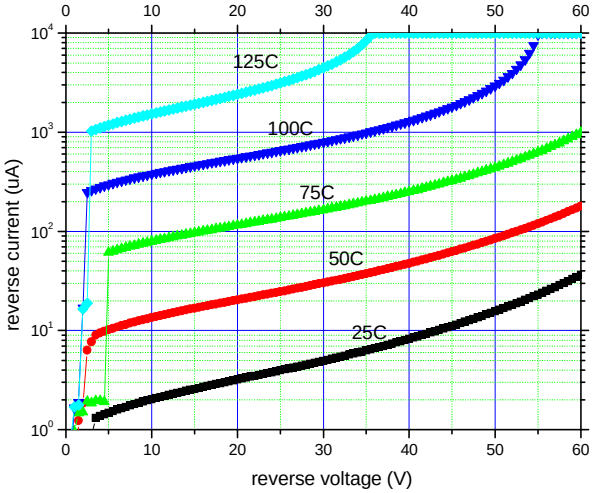
Part Number	Marking Code	Packaging Type	Shipping
			7″ Tape & Real
SBT0560S	SBTP5F	SOD-123	3K

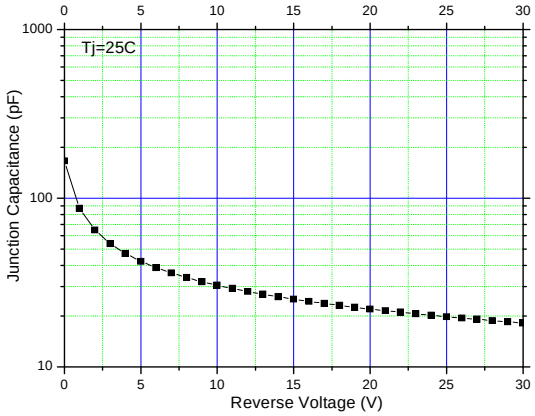
Notes: 4. Website at http://www.sbt.com.tw

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

6. 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).


forward current (A)
forward voltage (V)
25C
50C
75C
100C
125C


reverse current (uA)
reverse voltage (V)
125C
100C
75C
50C
25C


Tj=25C
Junction Capacitance (pF)
Reverse Voltage (V)