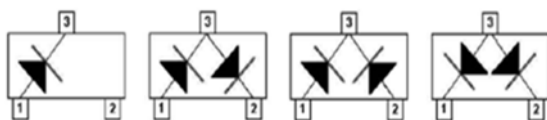




Schottky Barrier Diode

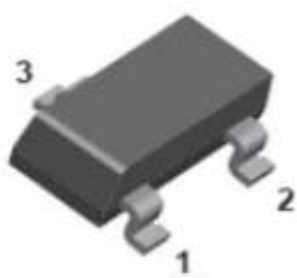


SD103B

SD103B-04

SD103B-05

SD103B-06



Features

- Moisture sensitivity level 1
- Reverse voltage: 30V
- Average forward current : 200mA

Application

- Signal switching
- High frequency rectifier

Mechanical data

- **Package:** SOT-23
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102

■ Maximum Ratings ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

Parameter	Symbol	Unit	Value	
Device marking code			SD103B	S5
			SD103B-04	S54
			SD103B-05	S55
			SD103B-06	S56
Repetitive peak reverse voltage	V_{RRM}	V	30	
Forward current	I_F	mA	200	
Non-repetitive Surge peak forward current @ $t=8.3\text{ms}$ half-sine wave	I_{FSM}	A	1.5	
Non-repetitive Surge peak forward current @ $t=1\text{ms}$ square wave			5	
Repetitive Peak Forward Current@ $t_p=1\text{ms}$, $\delta=0.25$	I_{FRM}	A	1	
Power dissipation	P_D	mW	150	
Junction temperature	T_J	$^{\circ}\text{C}$	-55 to +125	
Storage temperature	T_{STG}	$^{\circ}\text{C}$	-55 to +125	



SD103B THRU SD103B-06

RoHS
COMPLIANT

■ Electrical Characteristics (T_a=25°C Unless otherwise specified)

Parameter	Symbol	Unit	Conditions	Min	Typ	Max
Reverse voltage	V _R	V	I _R =100uA	30		
Forward voltage	V _{F1}	mV	I _F =20mA			0.37
	V _{F2}	mV	I _F =200mA			0.6
Reverse leakage current	I _R	uA	V _R =20V			5
Junction capacitance	C _j	pF	V _R =0V, f=1MHz			50
Reverse recovery time	T _{rr}	ns	I _F =I _R =200mA, I _{rr} =0.1*I _R , R _L =100Ω			10

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	R _{θJ-A} ⁽¹⁾	°C/W	667
Thermal resistance, junction-to-case	R _{θJ-C} ⁽¹⁾	°C/W	533

Note:

(1) Device mounted on PCB, single-sided copper, with standard footprint



■ Characteristics

Fig 1: P_D - T_a Curve

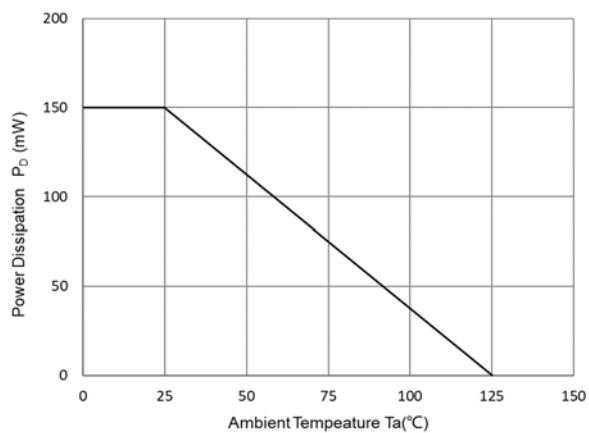


Fig 2: Capacitance Capability

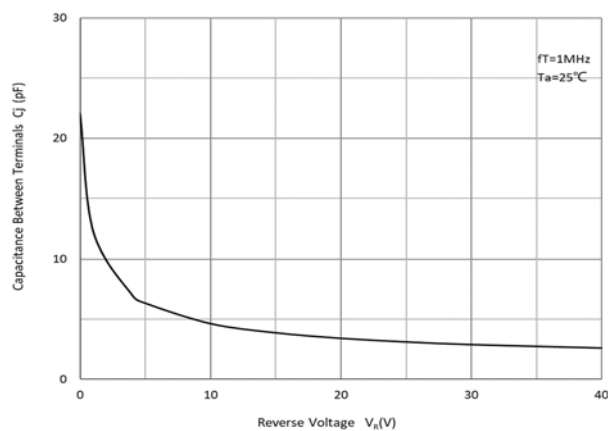


Fig 3: Typical Forward Characteristics

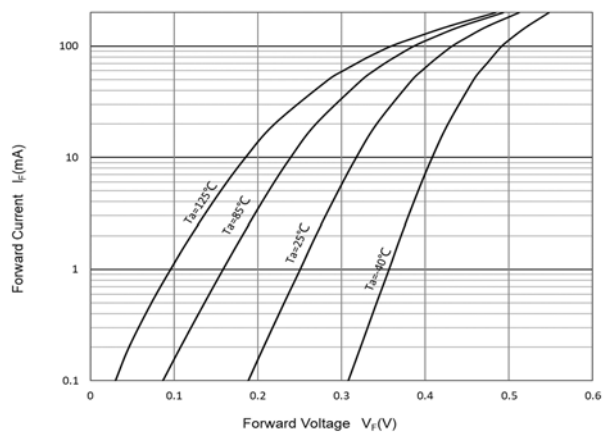
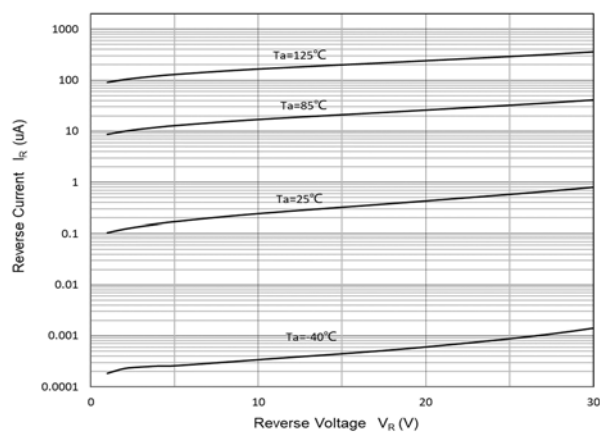


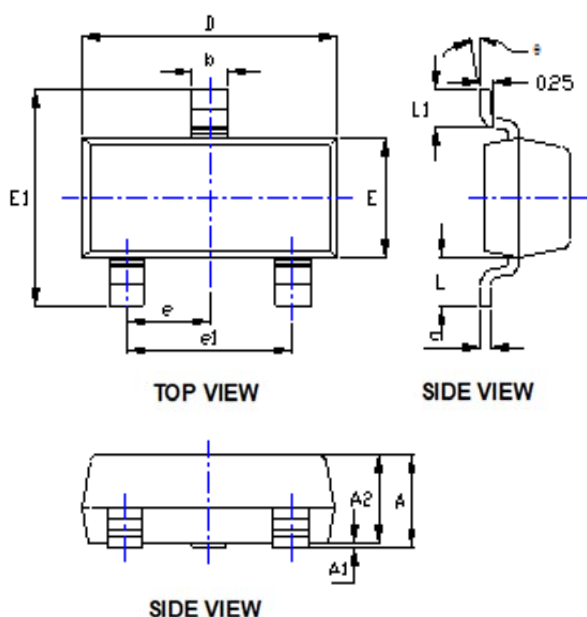
Fig 4: Typical Reverse Characteristics



■ Ordering Information

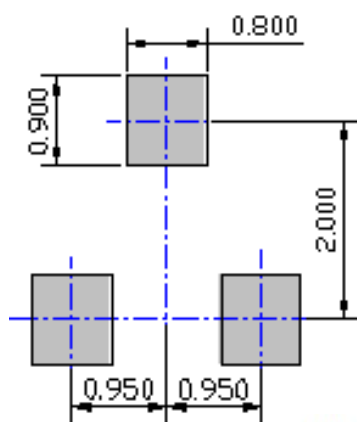
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity (pcs)	Delivery mode
SD103B THRU SD103B-06	F2	Approximate 0.008	3000	30000	120000	7" reel
SD103B THRU SD103B-06	F4	Approximate 0.008	10000	/	210000	13" reel

■ Outline Dimensions



DIMENSIONS				
SYMBOL	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.045	0.900	1.150
A1	0.000	0.004	0.000	0.100
A2	0.035	0.041	0.900	1.050
b	0.012	0.020	0.300	0.500
c	0.004	0.008	0.100	0.200
D	0.110	0.118	2.800	3.000
E	0.047	0.055	1.200	1.400
E1	0.089	0.100	2.250	2.550
e	0.037TYP		0.950TYP	
e1	0.071	0.079	1.800	2.000
L	0.022REF		0.550REF	
L1	0.012	0.020	0.300	0.500
θ	0°	8°	0°	8°

■ Suggested Pad Layout



UNIT : mm

Note:

1. All dimensions are in millimeters (mm) unless otherwise specified.

[所有尺寸均以毫米为单位，除非另有说明]

2. General tolerances: $\pm 0.10\text{mm}$ unless otherwise specified.

[通用公差为±0.10mm, 除非另有说明]

3. Dimensions and tolerances per ASME Y14.5M-2018.

[尺寸和公差遵循 ASME Y14.5M-2018 标准]

4. All dimensions shown are exclusive of burrs and gate residues. Burrs and gate vestiges shall not exceed 0.15 mm in maximum.

[所有尺寸均不包括毛刺和凌口残留。毛刺与凌口残留的尺寸最大不得超过 0.15mm]

5.Dimension b does not include dambar protrusion of max 0.100 mm per side.

[尺寸b不包括单边最大0.100 MM的中筋凸出部分]

6. Dimensions D and E are the overall extreme outer dimensions of the mold compound. These dimensions exclude mold flash, lead flash, protrusions and burrs but include the maximum allowable mold mismatch.

[D和E是塑封体的外部极限尺寸, 不包括包封溢料、内引线溢料、凸出部分以及胶体毛刺, 但是包含了包封错位的最大尺寸]

7. Formed leads shall be planar with respect to one another within a maximum of 0.076 mm relative to the seating plane.

〔成型的管脚应为同一平面，共面性最大为0.1mm〕

8. ★It is the key size.

★ 标记为关键尺寸



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