

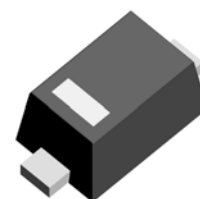
## General Purpose Schottky Barrier Diode

### General Description

The SDB110Q Schottky barrier diodes are designed for high-speed switching applications, circuit protection, and voltage clamping. Extremely low forward voltage reduces conduction losses. Miniature surface mount package is excellent for hand-held and portable applications where space is limited.

### Features and Benefits

- Low forward drop voltage and low leakage current
- Very low switching time
- “Green” device and RoHS compliant device
- Available in full lead (Pb)-free device



SOD-523



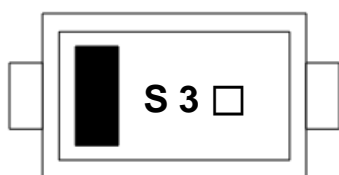
### Applications

- General purpose and high speed switching
- Protection circuit and voltage clamping

### Ordering Information

Part Number	Marking Code	Package	Packaging
SDB110Q	S3 □	SOD-523	Tape & Reel

### Marking Information



S 3 = Specific Device Code

□ = Year & Week Code Marking

■ = Color band denote cathode

### Pinning Information

Pin	Description	Simplified Outline	Graphic Symbol
1	Cathode		
2	Anode		

## Absolute Maximum Ratings (T<sub>amb</sub>=25°C, Unless otherwise specified)

Characteristic	Symbol	Ratings	Unit
DC reverse voltage	V <sub>R</sub>	10	V
Forward current	I <sub>F</sub>	30	mA
Non-repetitive peak forward surge current(t=10ms)	I <sub>FSM</sub>	2	A
Power dissipation <sup>1)</sup>	P <sub>D</sub>	150	mW

<sup>1)</sup> Device mounted on FR-4 board with recommended pad layout.

## Thermal Characteristics (T<sub>amb</sub>=25°C, Unless otherwise specified)

Characteristic	Symbol	Ratings	Unit
Thermal resistance, junction to ambient <sup>1)</sup>	R <sub>th(j-a)</sub>	833	°C/W
Operating junction temperature	T <sub>j</sub>	150	°C
Storage temperature range	T <sub>stg</sub>	-55 ~ 150	°C

<sup>1)</sup> Device mounted on FR-4 board with recommended pad layout.

## Electrical Characteristics (T<sub>amb</sub>=25°C, Unless otherwise specified)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Forward voltage <sup>2)</sup>	V <sub>F(1)</sub>	I <sub>F</sub> =1mA	0.1	-	0.3	V
	V <sub>F(2)</sub>	I <sub>F</sub> =10mA	-	-	0.4	V
	V <sub>F(3)</sub>	I <sub>F</sub> =30mA	-	-	0.5	V
Reverse leakage current <sup>3)</sup>	I <sub>R(1)</sub>	V <sub>R</sub> =5V	-	-	0.5	μA
	I <sub>R(2)</sub>	V <sub>R</sub> =10V	-	-	1	μA
Total capacitance	C <sub>T</sub>	V <sub>R</sub> =5V, f=1MHz	-	4.2	-	pF

<sup>2)</sup> Pulse test: t<sub>p</sub>≤380μs, Duty cycle≤2%

<sup>3)</sup> Pulse test: t<sub>p</sub>≤5ms, Duty cycle≤2%

## Rating and Characteristic Curves

Fig. 1) Typical Forward Characteristics

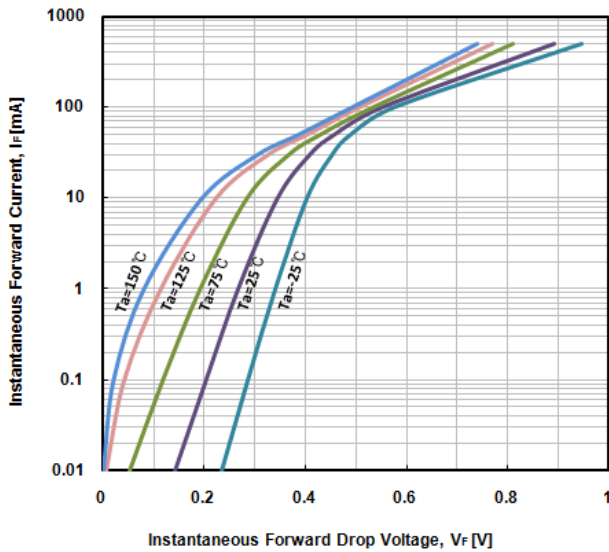


Fig. 2) Typical Reverse Characteristics

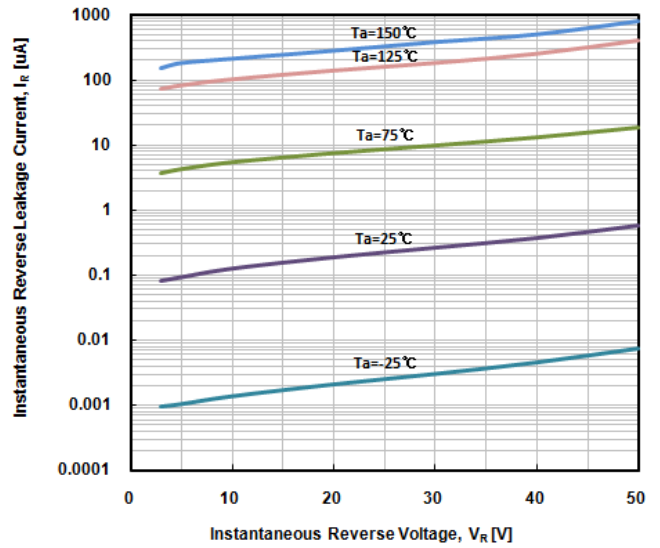


Fig. 3) Typical Total Capacitance Characteristics

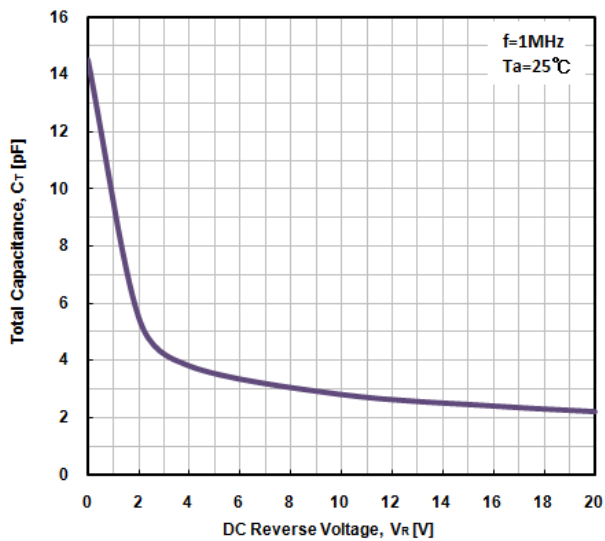
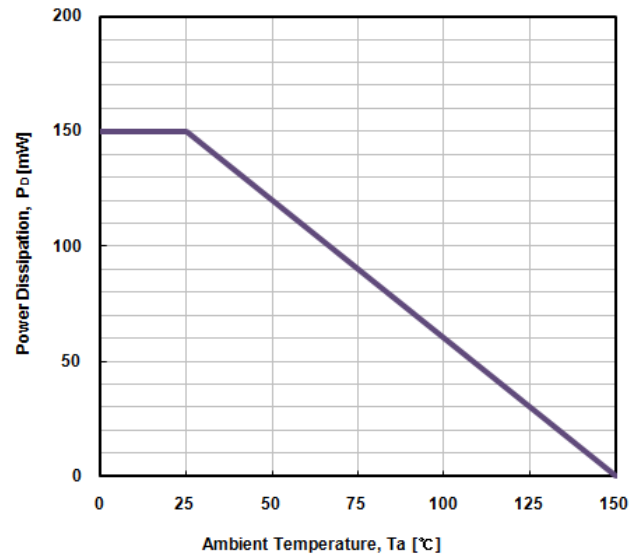
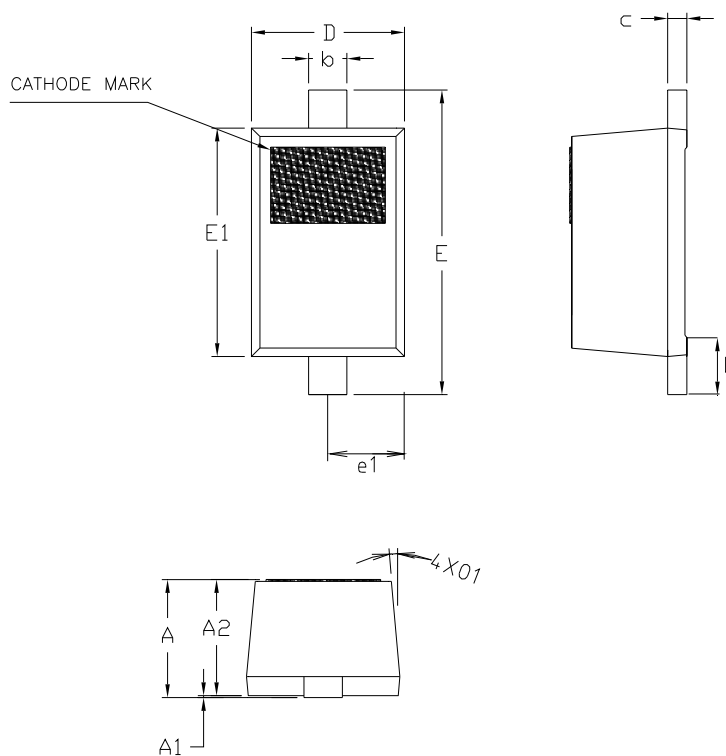


Fig. 4) Power dissipation vs. Ambient temperature

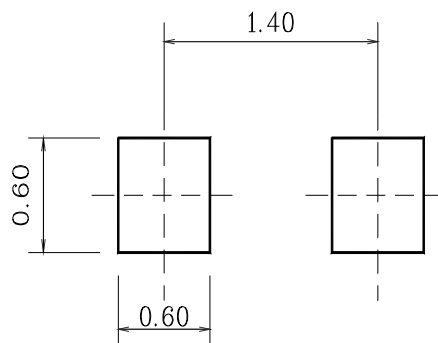


## Package Outline Dimensions



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	0.60	0.70	0.80	
A1	0.00	—	0.10	
A2	0.50	0.60	0.70	
b	0.18	0.25	0.32	
c	0.08	0.12	0.16	
D	0.70	0.80	0.90	
E	1.50	1.60	1.70	
E1	1.10	1.20	1.30	
e1	0.40 BSC			
L	0.20	0.30	0.40	
Ø1	4°	—	10°	

※ Recommend PCB solder land (Unit : mm)



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