#### GONGTINI BANNEN BIO

# **General Purpose Schottky Barrier Diode**

#### **General Description**

The SDB310Q Schottky barrier diodes are designed for high-speed switching applications, circuit protection, and voltage clamping. Extremely low forward voltage reduces conductions. Miniature surface mount package is excellent for hand-held and portable applications where space is limited.



#### SOD-523

#### **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



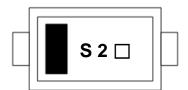
#### **Applications**

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

#### **Ordering Information**

Part Number	Marking Code	Package	Packaging
SDB310Q	S2 □	SOD-523	Tape & Reel

### **Marking Information**



S 2 = Specific Device Code

☐ = Year & Week Code Marking

= Color band denote cathode

## **Pinning Information**

Pin	Description	Simplified Outline	Graphic Symbol	
1	Cathode	1 2		
2	Anode			

Rev. date: 25-AUG-10 KSD-D6D004-004 www.auk.co.kr

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

Characteristic	Symbol	Ratings	Unit
Peak reverse voltage	V <sub>RM</sub>	40	V
DC reverse voltage	V <sub>R</sub>	30	V
Repetitive peak forward current	I <sub>FRM</sub>	0.5	А
Forward current	I <sub>F</sub>	0.2	А
Non-repetitive peak forward surge current(t=10ms)	I <sub>FSM</sub>	2	А
Power dissipation 1)	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 1)	R <sub>th(j-a)</sub>	833	°C/W
Operating junction temperature	Tj	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.	Тур.	Max.	Unit
Forward voltage <sup>2)</sup>	V <sub>F(1)</sub>	I <sub>F</sub> =10mA	-	-	0.4	V
	$V_{F(2)}$	I <sub>F</sub> =30mA	-	-	0.5	V
Reverse leakage current 3)	I <sub>R</sub>	V <sub>R</sub> =30V	-	-	1	μΑ
Total capacitance	C <sub>T</sub>	V <sub>R</sub> =1V, f=1MHz	-	-	10	pF
Reverse recovery time	t <sub>rr</sub>	I <sub>F</sub> = I <sub>R</sub> =10mA, I <sub>R(REC)</sub> = 1mA	-	-	5	ns

<sup>&</sup>lt;sup>2)</sup> Pulse test:  $t_P \le 380 \,\mu\text{s}$ , Duty cycle  $\le 2\%$ 

 $<sup>^{3)}</sup>$  Pulse test:  $t_P \le 5 \text{ms}$ , Duty cycle  $\le 2\%$ 

### **Rating and Characteristic Curves**

Fig. 1) Typical Forward Characteristics

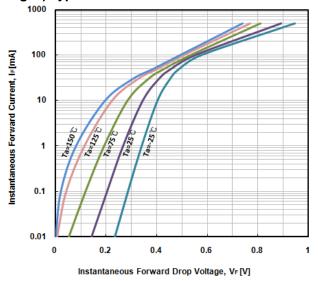


Fig. 2) Typical Reverse Characteristics

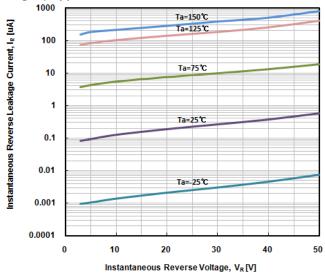


Fig. 3) Typical Total Capacitance Characteristics

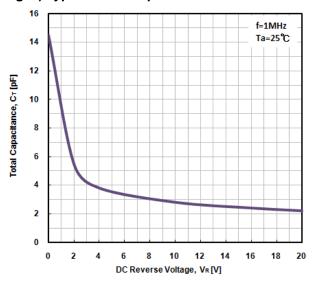


Fig. 4) Power dissipation vs. Ambient temperature

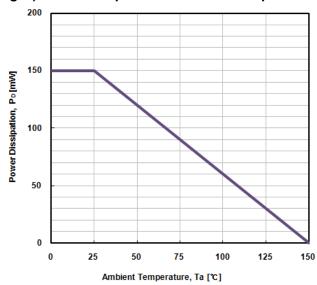
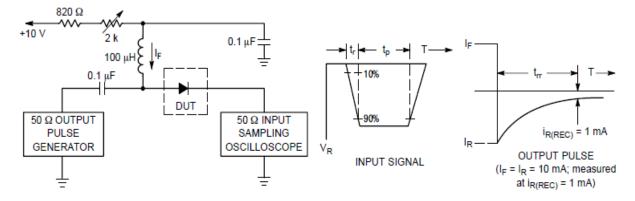
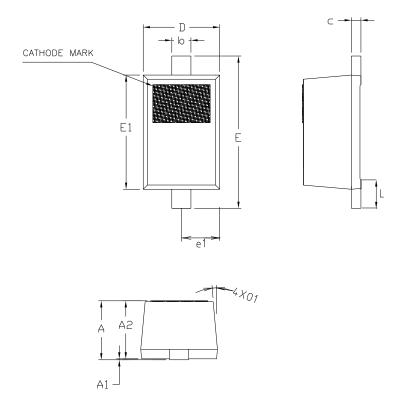


Fig. 5) Reverse recovery time equivalent test circuit

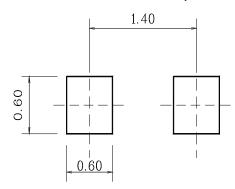


# **Package Outline Dimensions**



	MILLIMETERS			NOTE
SYMBOL	MINIMUM	NOMINAL	MAXIMUM	INOIE
Α	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	
С	0.08	0.12	0.16	
D	0.70	0.80	0.90	
Ε	1.50	1.60	1.70	
E1	1.10	1.20	1.30	
e1	0.40 BSC			
L	0.20	0.30	0.40	
<del>0</del> 1	4°	_	10°	

# **X Recommend PCB solder land (Unit : mm)**



**SDB310Q** 

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