




**SPECIFICATION SHEET**

<b>SPECIFICATION SHEET NO.</b>	N0310-SOD123C270S0WP
<b>DATE</b>	Mar. 10, 2021
<b>REVISION</b>	A0
<b>DESCRIPTION</b>	SMD Zener Diodes, SOD-123 series, BZT52C27 Type, 2 Pads Zener Voltage 27.0 Volts Typical, Peak Pulse Power - 500 mW Operating Temp. Range -65°C ~+150°C Package in Tape/Reel, 3000pcs/Reel RoHS/RoHS III compliant
<b>CUSTOMER</b>	
<b>CUSTOMER PART NUMBER</b>	
<b>CROSS REF. PART NUMBER</b>	
<b>ORIGINAL PART NUMBER</b>	MDD BZT52C27
<b>PART CODE</b>	SOD123C270S0WP

<b>VENDOR APPROVE</b>			
Issued/Checked/Approved			
DATE: March 10, 2021			

<b>CUSTOMER APPROVE</b>	
DATE:	

**SMD ZENER DIODES SOD-123 SERIES**

**MAIN FEATURE**

- Total power dissipation: Max. 500mW.
- Wide zener reverse voltage range 2.0V to 75V.
- Small plastic package suitable for surface mounted design.
- Tolerance approximately  $\pm 5\%$



**APPLICATION**

- For SMD application

**RFQ**

[Request For Quotation](#)

**PART CODE GUIDE**

SOD123	C270	S	OWP
1	2	3	4

- 1) **SOD123**: SMD Zener Diodes, SOD-123 series
- 2) **C270**: Type code for original part number BZT52C27
- 3) **S**: Package code, Tape/reel, 3000pcs/reel.
- 4) **OWP**: Marking code for “WP” on the case surface, Different Marking for different specification.

**SMD ZENER DIODES SOD-123 SERIES**

**MORE ITEMS AVAILABLE**

SOD123C2V0S0WY	SOD123C2V2S0WZ	SOD123C2V4S0WX		
SOD123C2V7S0W1	SOD123C3V0S0W2	SOD123C3V3S0W3	SOD123C3V6S0W4	SOD123C3V9S0W5
SOD123C4V3S0W6	SOD123C4V7S0W7	SOD123C5V1S0W8	SOD123C5V6S0W9	
SOD123C6V2S0WA	SOD123C6V8S0WB	SOD123C7V5S0WC	SOD123C8V2S0WD	SOD123C9V1S0WE
SOD123C100S0WF	SOD123C110S0WG	SOD123C120S0WH	SOD123C130S0WI	SOD123C150S0WJ
SOD123C160S0WK	SOD123C180S0WL	SOD123C200S0WM	SOD123C220S0WN	SOD123C240S0WO
<b>SOD123C270S0WP</b>	SOD123C300S0WQ	SOD123C330S0WR	SOD123C360S0WS	SOD123C390S0WT
SOD123C430S0WU	SOD123C470S0WV	SOD123C510S0WW	SOD123C560S0VW	
SOD123C620S06E	SOD123C680S06F	SOD123C750S06H		

**SMD ZENER DIODES SOD-123 SERIES**

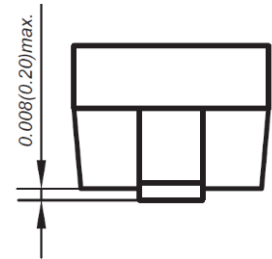
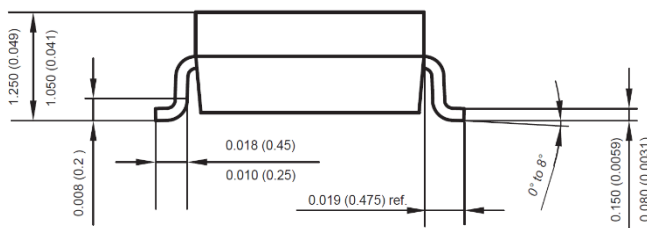
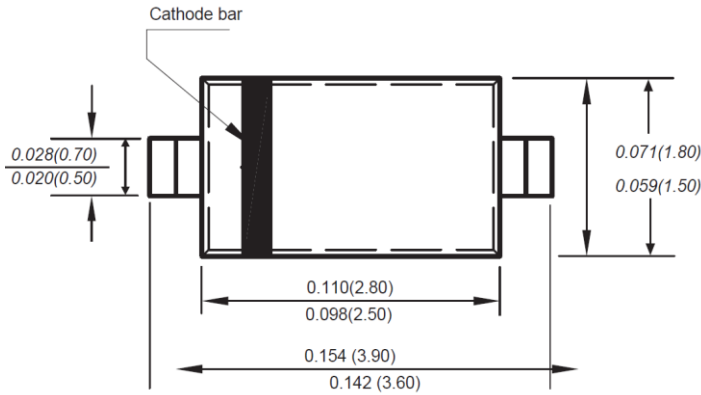
**DIMENSION (Unit: Inch/mm)**

Image for reference

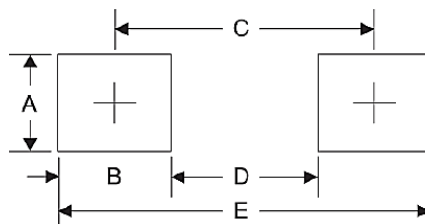


Marking: WP

SOD-123



Recommend Pad Layout



Symbol	Unit (inch)	Unit (mm)
A	0.047	1.20
B	0.047	1.20
C	0.126	3.20
D	0.079	2.00
E	0.173	4.40

**SMD ZENER DIODES SOD-123 SERIES**
**MECHANICAL DATA**

Case	Terminals	Polarity	Mounting Position	Weight per piece
JEDEC SOD-123 molded plastic body	Solder plated, Solderable per MIL-STD-750, Method 2026	Polarity symbol marking on case	Any	0.0007 Ounce, 0.0021 grams

**MAX. RATING & CHARACTERISTICS - Ratings at 25°C ambient temperature unless otherwise specified.**

Parameter	SYMBOLS	VALUE			UNITS
		Min.	Typical	Max.	
Forward Voltage @ IF=10mA	V <sub>F</sub>		0.9		V
Power Dissipation	P <sub>d</sub>		500		mW
Thermal resistance junction to ambient (See Note 1)	R <sub>QJA</sub>		305		°C/W
junction temperature	T <sub>J</sub>			+150	°C
Storage temperature range	T <sub>STG</sub>	-65		+150	°C

**Note**

1. Thermal resistance from junction to ambient at P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper areas pads.

**ELECTRICAL CHARACTERISTICS - Ratings at 25°C ambient temperature unless otherwise specified.**

Parameter	SYMBOLS	VALUE			UNITS
		Min.	Typical	Max.	
Zenner Voltage Range @I <sub>ZT</sub> =5.0mA (See Note 1)	V <sub>ZT</sub>	25.1	27.0	28.9	V
Dynamic Impedance @I <sub>ZT</sub> =5.0mA	Z <sub>ZT</sub>			70	Ω
Reverse Current @V <sub>R</sub> =21.0V	I <sub>R</sub>			0.1	μA

**Note**

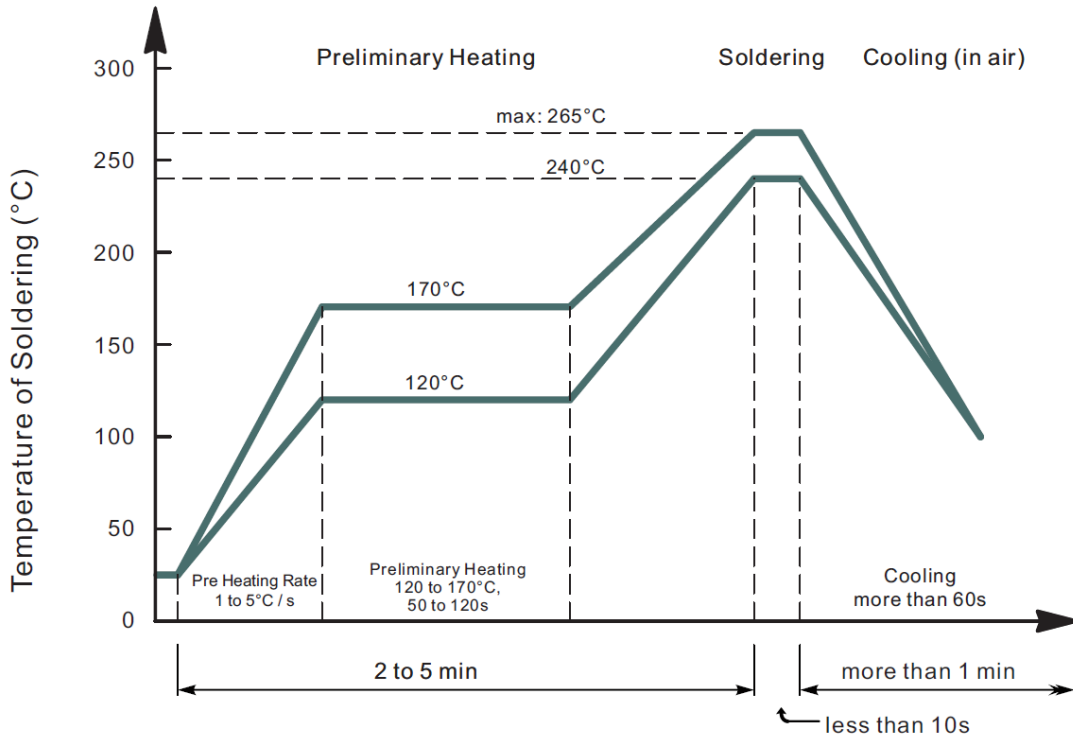
1. V<sub>ZT</sub> is tested with pulses (20 ms).

**SMD ZENER DIODES SOD-123 SERIES**

**RELIABILITY**

Number	Experiment Items	Experiment Method And Conditions	Reference Documents
1	Solder Resistance Test	Test 260°C± 5°C for 10 ± 2 sec. Immerse body into solder 1/16" ± 1/32"	MIL-STD-750D METHOD-2031.2
2	Solderability Test	230°C ±5°C for 5 sec.	MIL-STD-750D METHOD-2026.1 0
3	Pull Test	1 kg in axial lead direction for 10 sec.	MIL-STD-750D METHOD-2036.4
4	Bend Test	0.5Kg Weight Applied To Each Lead, Bending Arcs 90 °C ± 5 °C For 3 Times	MIL-STD-750D METHOD-2036.4
5	High Temperature Reverse Bias Test	TA=100°C for 1000 Hours at VR=80% Rated VR	MIL-STD-750D METHOD-1038.4
6	Forward Operation Life Test	TA=25°C Rated Average Rectified Current	MIL-STD-750D METHOD-1027.3
7	Intermittent Operation Life Test	On state: 5 min with rated IRMS Power Off state: 5 min with Cool Forced Air. On and off for 1000 cycles.	MIL-STD-750D METHOD-1036.3
8	Pressure Cooker Test	15 PSIG, TA=121°C, 4 hours	MIL-S-19500 APPENOIXC
9	Temperature Cycling Test	-55°C~+125°C; 30 Minutes For Dwelled Time 5 minutes for transferred time. Total: 10 cycles.	MIL-STD-750D METHOD-1051.7
10	Thermal Shock Test	0°C for 5 minutes., 100°C for 5minutes, Total: 10 cycles	MIL-STD-750D METHOD-1056.7
11	Forward Surge Test	8.3ms Single Sale Sine-wave One Surge.	MIL-STD-750D METHOD-4066.4
12	Humidity Test	TA=65°C, RH=98% for 1000 hours.	MIL-STD-750D METHOD-1021.3
13	High Temperature Storage life Test	150°C for 1000 Hours	MIL-STD-750D METHOD-1031.5

**SUGGESTED REFLOW PROFILE (For Reference Only)**



- Recommended peak temperature is over 245°C, If peak temperature is below 245 °C, you may adjust the following parameters; time length of peak temperature (longer), time length of soldering (longer), thickness of solder paste (thicker)
- Welding shall not exceed 2 times
- Remark: lead free solder paste (96.5 sn/3.0 Ag/0.5Cu)

**RATINGS AND CHARACTERISTIC CURVES (For Reference Only)**

Fig.1 Maximum Continuous Power Derating

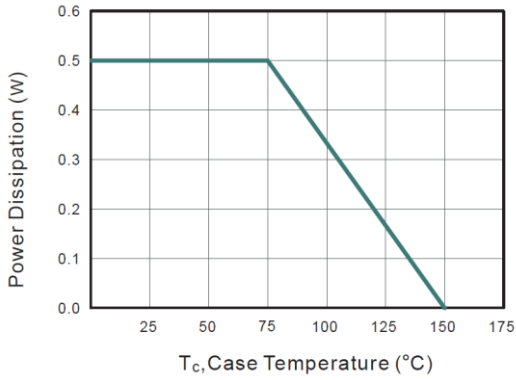
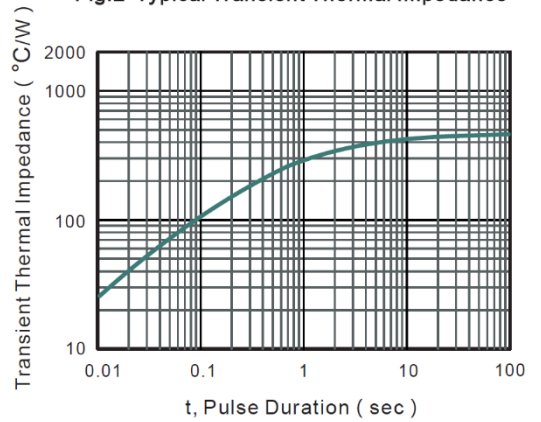


Fig.2 Typical Transient Thermal Impedance





**SMD ZENER DIODES SOD-123 SERIES**

**TAPE/REEL (Unit: mm)**

All Devices are packed in accordance with EIA standard RS-481-A and specifications.

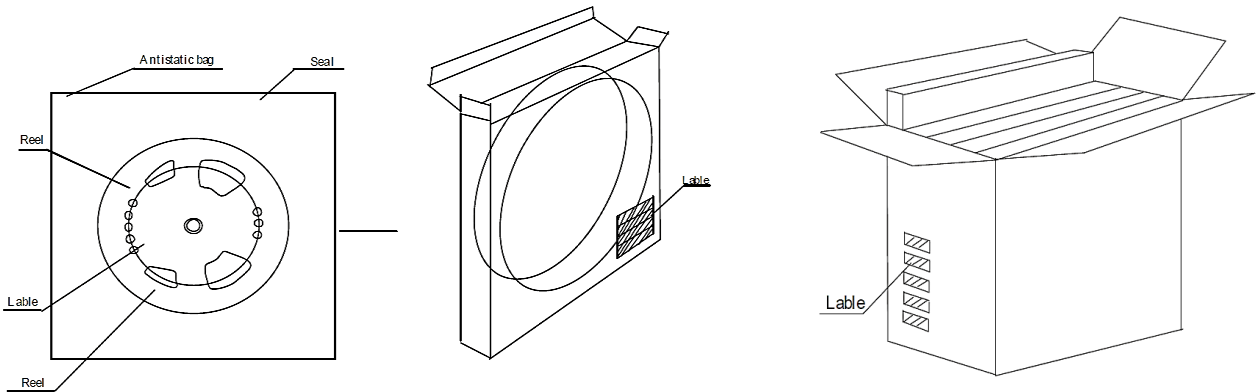


Item	Symbol	Tolerance	SO-123
Carrier width	A	0.1	2.10
Carrier Length	B	0.1	4.00
Carrier Depth	C	0.1	1.60
Sprocket hole	d	0.05	1.55
13" Reel outside diameter	-	-	-
13" Reel inner diameter	-	-	-
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D1	Min.	50.00
Feed hole diameter	D2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P0	0.1	4.00
Embossment center	P1	0.1	2.00
Overall tape thickness	T	0.1	0.25
Tape width	W	0.3	8.15
Reel width	W1	1.0	10.50

**SMD ZENER DIODES SOD-123 SERIES**

**PACKAGE**

Case Code	Reel Size	MPQ (pcs)	Component Spacing (mm)	Qty. Per Box (pcs)	Inner Box L*W*H (mm)	Reel Size (mm)	Carton size L*W*H (mm)	Qty. Per Carton (pcs)	G. W (kg)
SOD-123	7"	3,000	4.0	24,000	210*208*203	178	400*400*250	180,000	9.0



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