




**SPECIFICATION SHEET**

<b>SPECIFICATION SHEET NO.</b>	N0310- SOD123819WS0SL
<b>DATE</b>	Mar. 10, 2021
<b>REVISION</b>	A0
<b>DESCRIPTION</b>	SMD Small Signal Schottky diodes, SOD-123 series, 2 pads, B5819W Type Reverse Voltage 40V Max. Forward Current 1.5A Max. 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 B5819W
<b>PART CODE</b>	SOD123819WS0SL

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

<b>CUSTOMER APPROVE</b>
DATE:

**SMD SMALL SIGNAL SCHOTTKY DIODES SOD123**



**MAIN FEATURE**

- Fast switching speed
- Surface mount package ideally suited for automatic insertion
- High conductance

**APPLICATION**

- For general purpose switching applications

**RFQ**

[Request For Quotation](#)

**PART CODE GUIDE**

SOD123	819W	S	OSL
1	2	3	4

1) **SMB**: SMD Small Signal Schottky diodes, SOD-123 series, 2 pads

2) **819W**: Type code for original part number B5819W

3) **S**: Package code, Tape/reel, 3000pcs/reel.

4) **OSL**: Marking code for "SL" on the case surface, Different Marking for different specification

**MORE ITEMS AVAILABLE**

SOD123520WS0B3	SOD123530WS0B3	SOD123540WS0B4		
SOD123817WS0SJ	SOD123818WS0SK	<b>SOD123819WS0SL</b>		
SOD123T42WS0S7	SOD123T43WS0S8	SOD123T54TS0L9		
SOD12301AWS0S1	SOD12301BWS0S2	SOD12301CWS0S3	SOD12303AWS0S4	SOD12303BWS0S5
SOD12303CWS0S6				

**SMD SMALL SIGNAL SCHOTTKY DIODES SOD123**

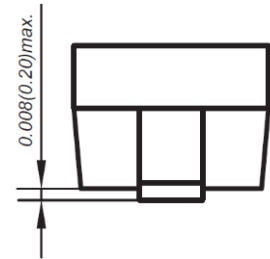
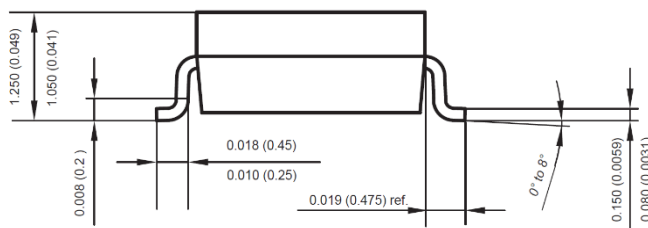
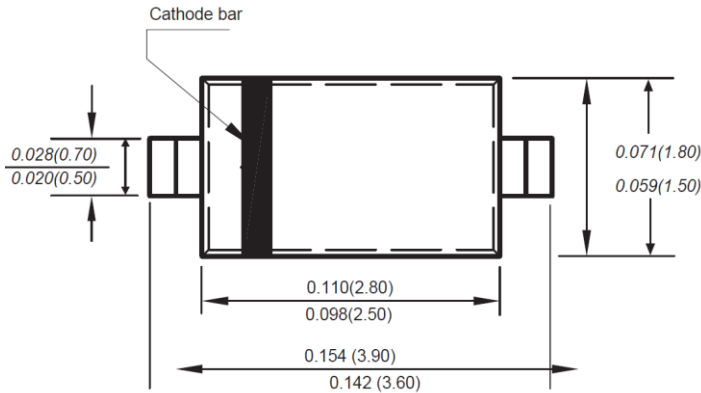
**DIMENSION (Unit: Inch/mm)**

Image for reference

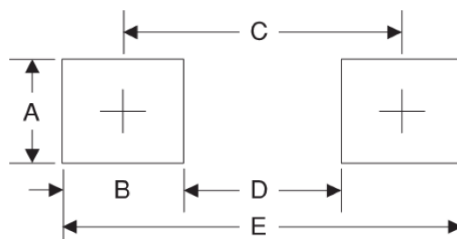


Marking: SL

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 SMALL SIGNAL SCHOTTKY DIODES SOD123**
**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

**ABSOLUTE MAX. RATING AT 25 °C**

Parameter	SYMBOLS	VALUE			UNITS
		Min.	Typical	Max.	
Repetitive peak reverse voltage	$V_{RRM}$			40	Volts
RMS voltage	$V_{RMS}$			28	Volts
Average Rectified Output Current	$I_O$			1	A
Continuous Forward Current	$I_{FRM}$			1.5	A
Non-repetitive Peak Forward Surge Current at 8.3ms	$I_{FSM}$			9	A
Power Dissipation	$P_{tot}$			500	mW
Thermal resistance	$R_{QJA}$		200		°C/W
Operating Junction temperature range	$T_J$	-65		+150	°C
Storage temperature range	$T_{STG}$	-65		+150	°C

**CHARACTERISTICS AT Ta= 25 °C**

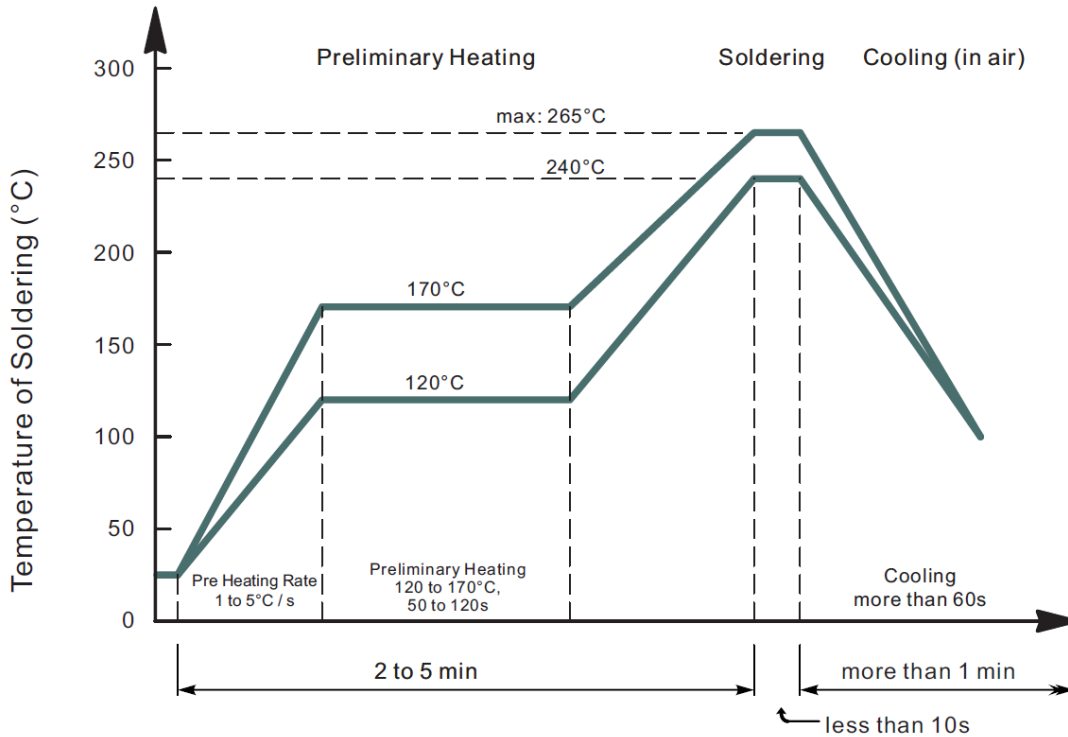
Parameter	SYMBOLS	VALUE			UNIT	Condition
		Min.	Typ.	Max.		
Reverse Breakdown Voltage at	$V_{(BR)R}$			40	V	At $I_R=1mA$
Forward Voltage	$V_F$			0.69	V	At 1A
	$V_F$			0.90	V	At 3A
Peak Reverse Current at	$I_R$			1.0	mA	At $V_R=20V$ $T_J=25°C$
Junction Capacitance	$C_j$		120		pF	
Non-Repetitive peak reverse voltage	$V_{RM}$			40	V	

**SMD SMALL SIGNAL SCHOTTKY DIODES SOD123**
**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

**SMD SMALL SIGNAL SCHOTTKY DIODES SOD123**

**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)

**SMD SMALL SIGNAL SCHOTTKY DIODES SOD123**

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

FIG. 1- FORWARD CURRENT DERATING CURVE

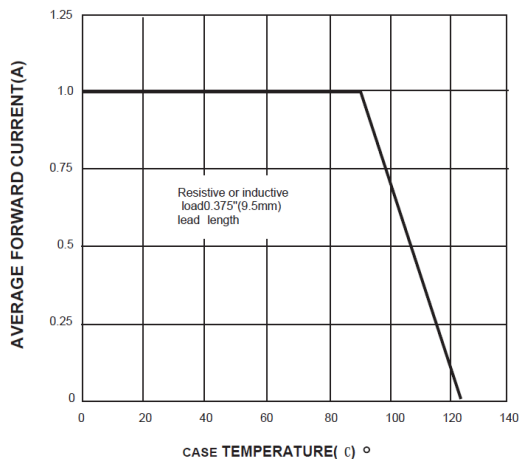


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

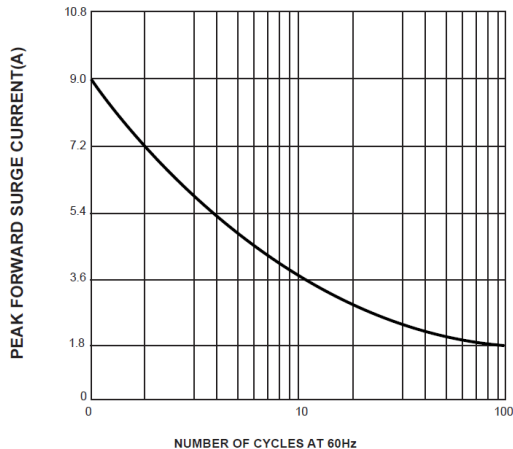


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

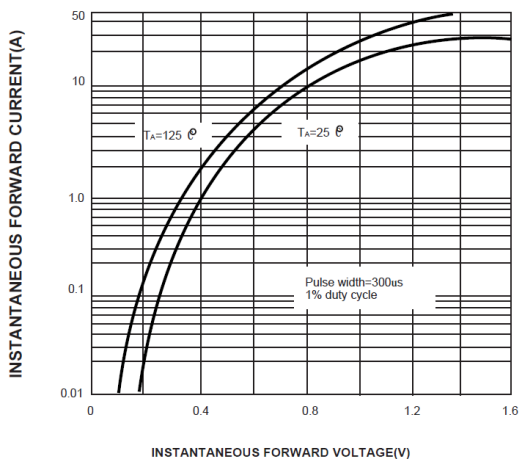


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

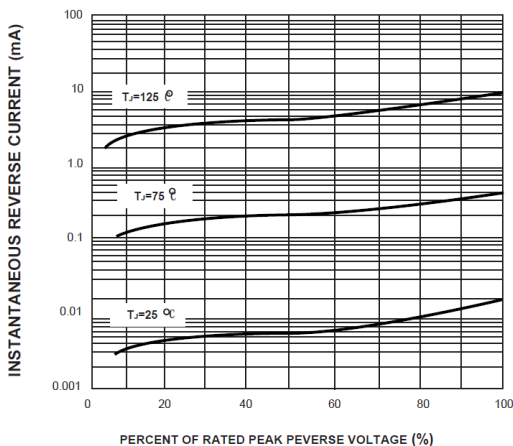


FIG. 5- TYPICAL JUNCTION CAPACITANCE

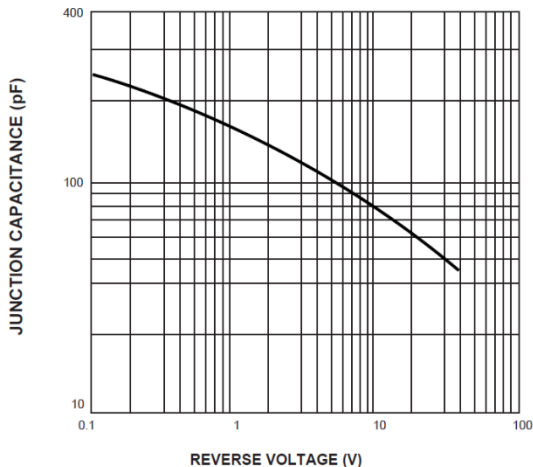
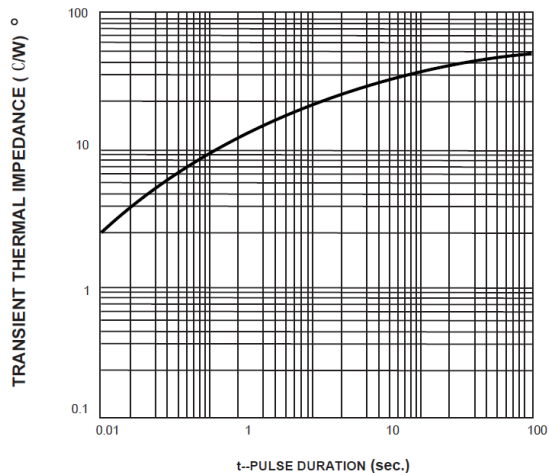


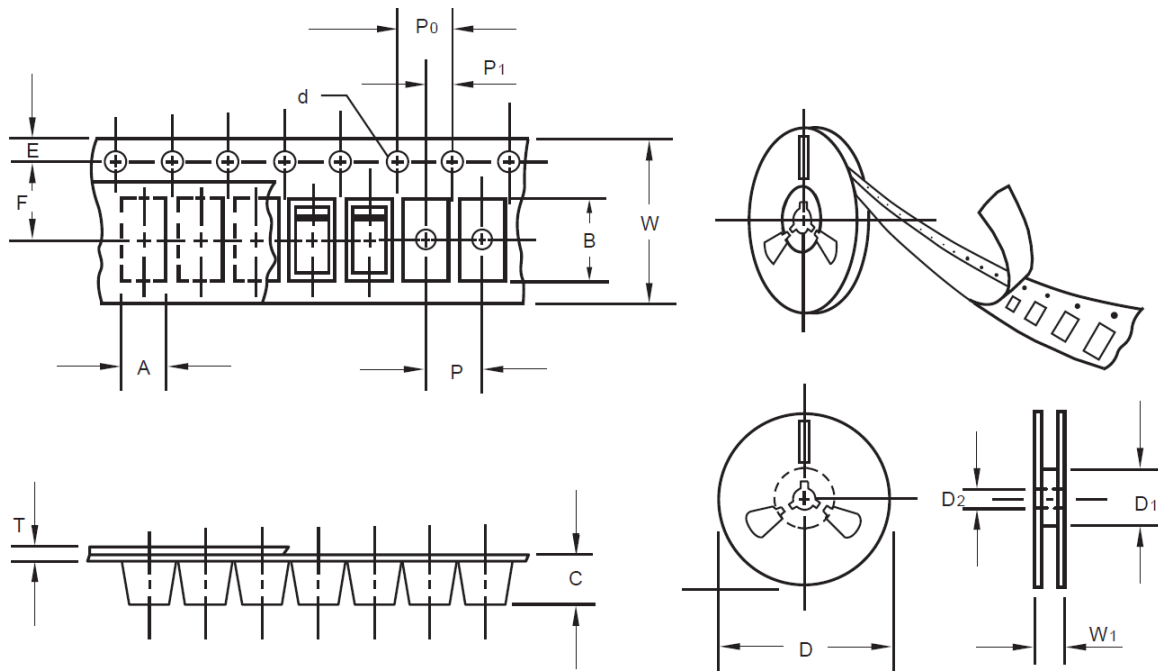
FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



**SMD SMALL SIGNAL SCHOTTKY DIODES SOD123**

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

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



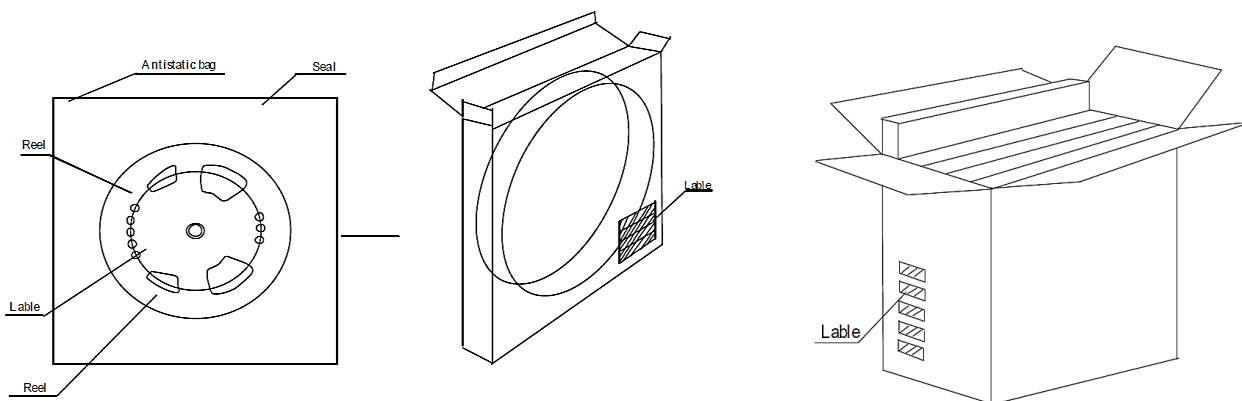
Item	Symbol	Tolerance	SO-123
Carrier width	A	0.1	2.10
Carrier Length	B	0.1	4.00
Carrier Depth	C	0.1	1.60
Sprocket hole	d	0.05	1.55
13" Reel outside diameter	-	-	-
13" Reel inner diameter	-	-	-
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D1	Min.	50.00
Feed hole diameter	D2	0.5	13.00
Sprocket 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 SMALL SIGNAL SCHOTTKY DIODES SOD123**

**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	-	24,000	210*208*203	178	400*400*250	180,000	9.0



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