






**THE DATASHEET OF
B5819W**



SPECIFICATION SHEET

SPECIFICATION SHEET NO.	N0310- SOD123819WS0SL
DATE	Mar. 10, 2021
REVISION	A0
DESCRIPTION	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
CUSTOMER	
CUSTOMER PART NUMBER	
CROSS REF. PART NUMBER	
ORIGINAL PART NUMBER	MDD B5819W
PART CODE	SOD123819WS0SL

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

CUSTOMER APPROVE	
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	SOD123819WS0SL		
SOD123T42WS0S7	SOD123T43WS0S8	SOD123T54TS0L9		
SOD12301AWS0S1	SOD12301BWS0S2	SOD12301CWS0S3	SOD12303AWS0S4	SOD12303BWS0S5
SOD12303CWS0S6				

SMD SMALL SIGNAL SCHOTTKY DIODES SOD123

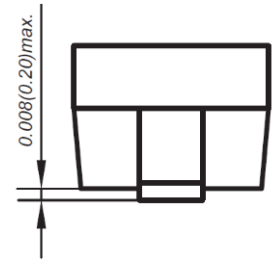
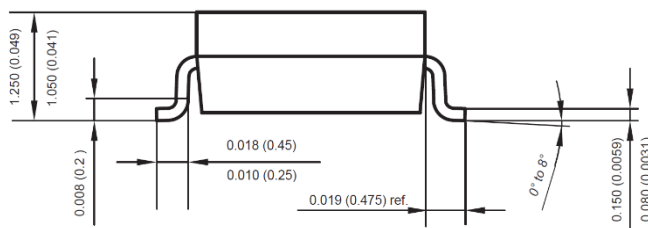
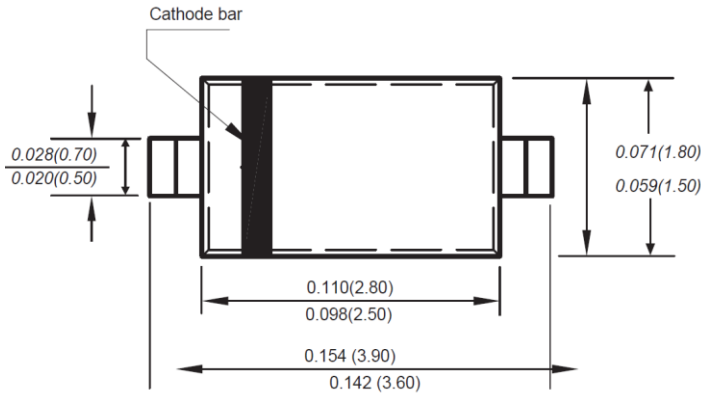
DIMENSION (Unit: Inch/mm)

Image for reference

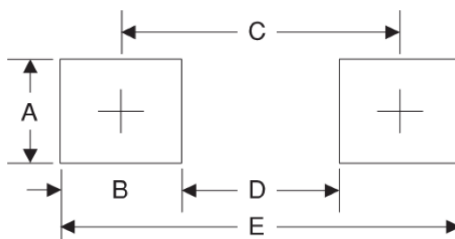


Marking: SL

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

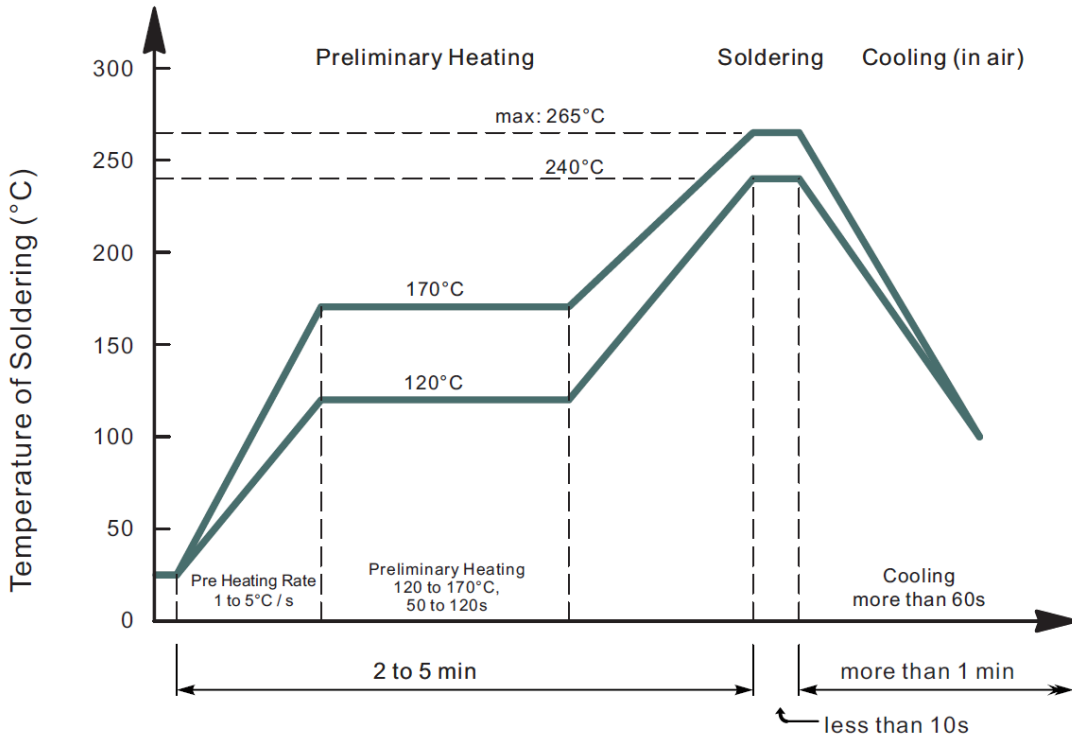
Parameter	SYMBOLS	VALUE			UNIT	Condition
		Min.	Typ.	Max.		
Reverse Breakdown Voltage at	V _{(BR)R}			40	V	At I _R =1mA
Forward Voltage	V _F			0.69	V	At 1A
	V _F			0.90	V	At 3A
Peak Reverse Current at	I _R			1.0	mA	At V _R =20V T _J =25°C
Junction Capacitance	C _j		120		pF	
Non-Repetitive peak reverse 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

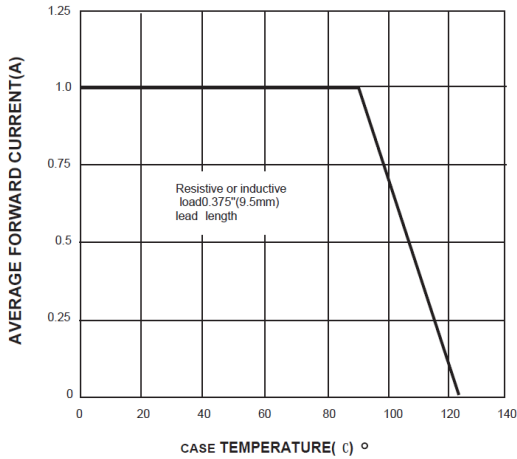


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

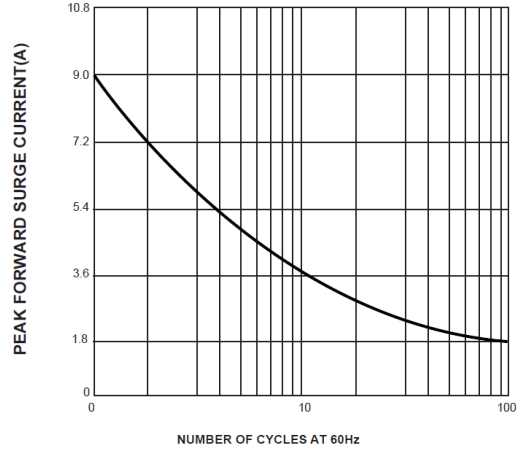


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

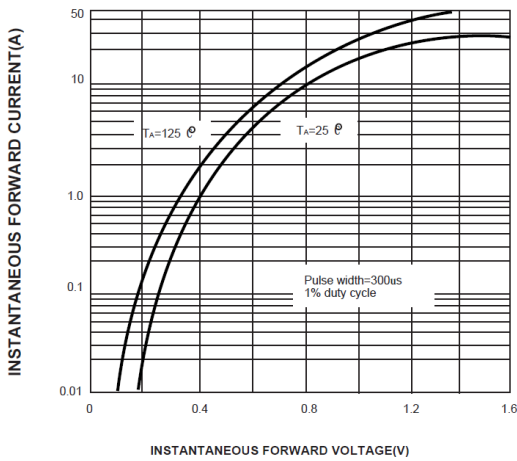


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

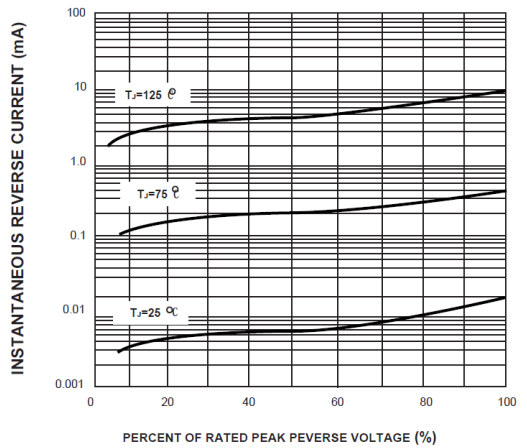


FIG. 5- TYPICAL JUNCTION CAPACITANCE

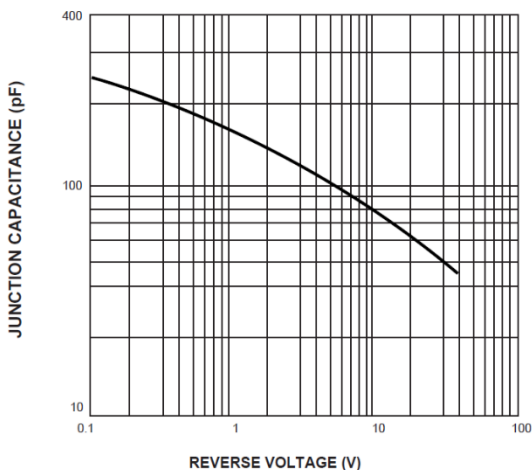
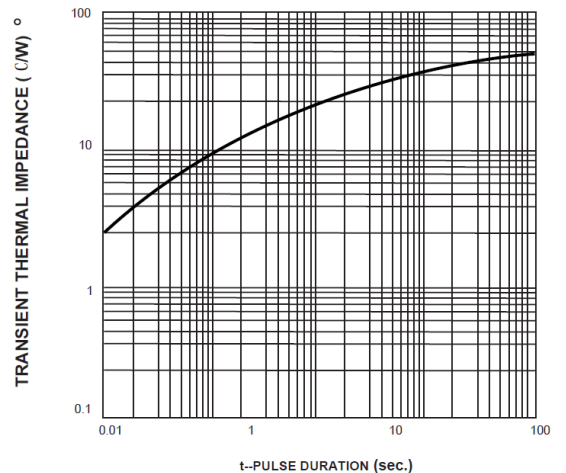


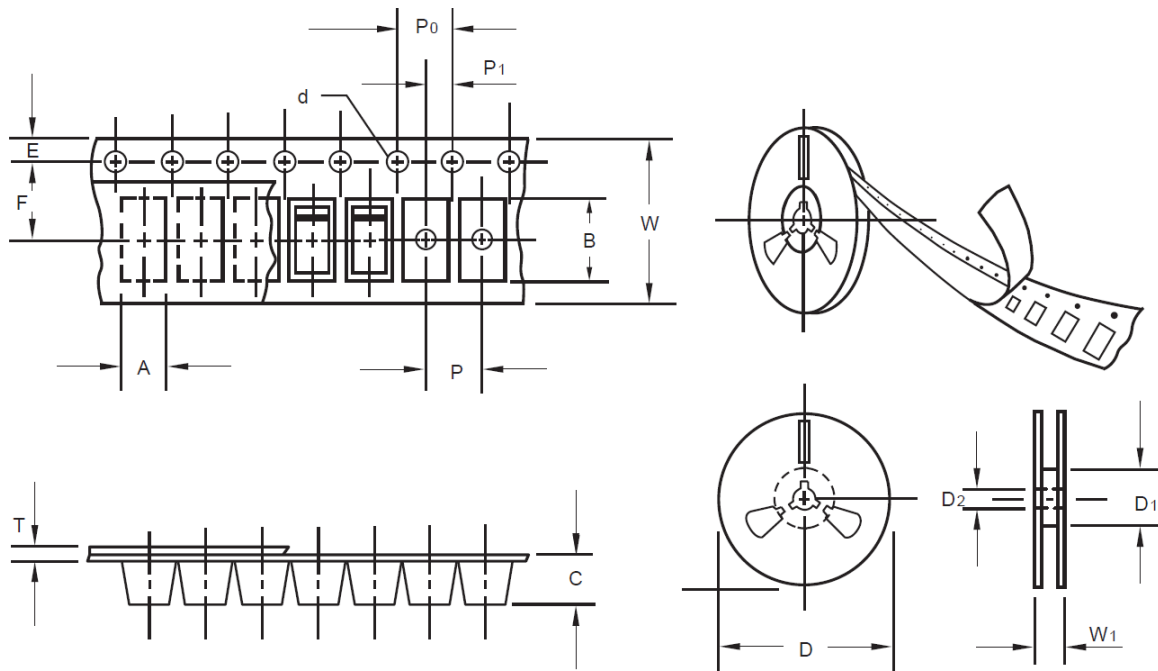
FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



SMD SMALL SIGNAL SCHOTTKY DIODES SOD123

TAPE/REEL (Unit: mm)

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

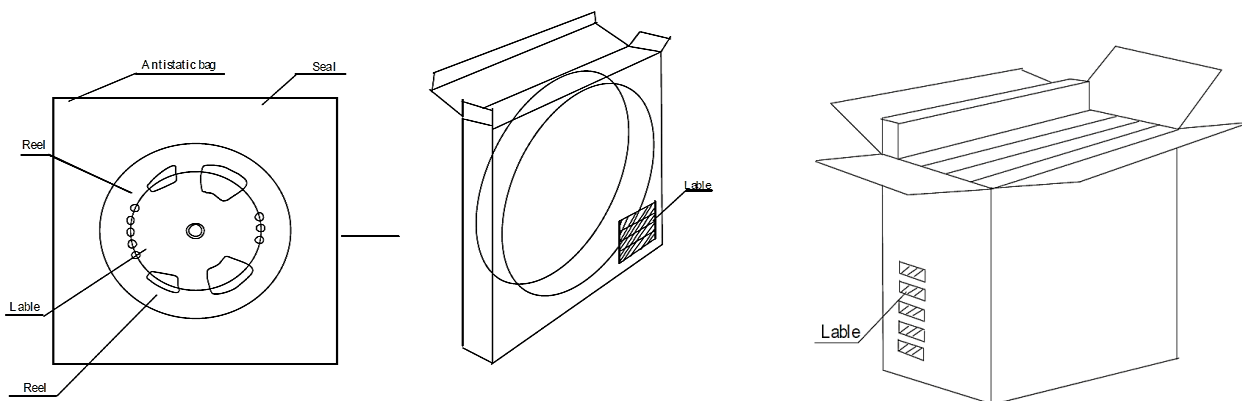


Item	Symbol	Tolerance	SO-123
Carrier width	A	0.1	2.10
Carrier Length	B	0.1	4.00
Carrier Depth	C	0.1	1.60
Sprocket hole	d	0.05	1.55
13" Reel outside diameter	-	-	-
13" Reel inner diameter	-	-	-
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D1	Min.	50.00
Feed hole diameter	D2	0.5	13.00
Sprocket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