



1N5817W THUR 1N5819W

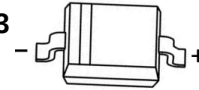
Plastic-encapsulate diodes

Product data sheet

1. General description

Schottky barrier diode encapsulated in a small SOD-123 Surface-Mounted Device (SMD) plastic package.

SOD-123



2. Features

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- Negligible Reverse Recovery Time
- Low Capacitance

3. Applications

- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications

4. Quick reference data

Table 1. Quick reference data

Parameter	Symbol	1N5817W	1N5818W	1N5819W	Unit
Non-Repetitive Peak Reverse Voltage	V_{RM}	20	30	40	V
Peak Repetitive Peak Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	20	30	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	14	21	28	V
Average Rectified Output Current	I_O	1			A
Non-repetitive Peak Forward Surge Current @ $t=8.3ms$	I_{FSM}	9			A
Repetitive Peak Forward Current	I_{FRM}	1.5			A
Power Dissipation	P_d	500			mW

5. Pinning information

Table 2. Pinning information

Pin	Name	Description	SOD-123 Sim plified outline	Graphic symbol
1	Cathode	connect to IO		
2	Anode	connect to IO		

6. Ordering information

Table 3. Ordering information

Part number	Package	Material	Packing	Quantity per reel	Flammability rating	Reel size
1N5817W THRU 1N5819W	SOD-123	halogen free	tape & reel	3,000pcs	UL 94V-0	7 inches

7. Marking

Table 4. Marking codes

Part number	Marking code
1N5817W	SJ
1N5818W	SK
1N5819W	SL

The marking bar indicates the cathode

Solid dot = Green molding compound device, if none, the normal device.

8. Limiting values and electrical Characteristics

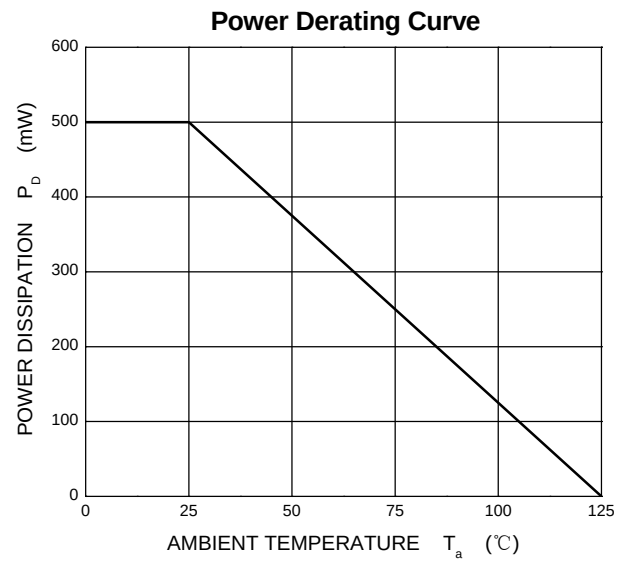
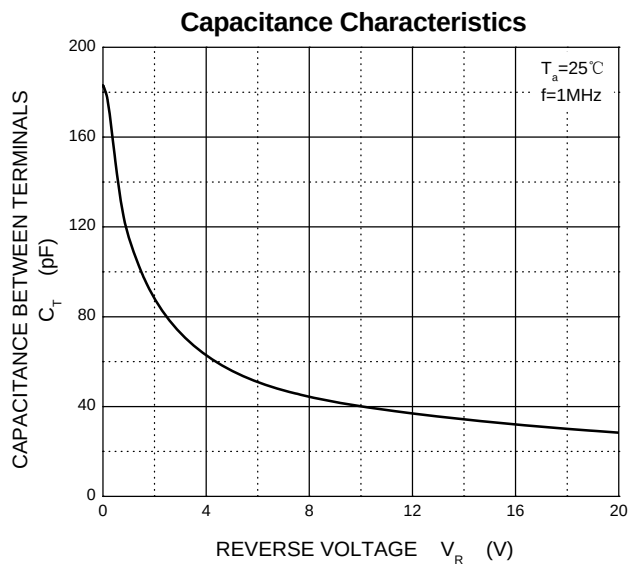
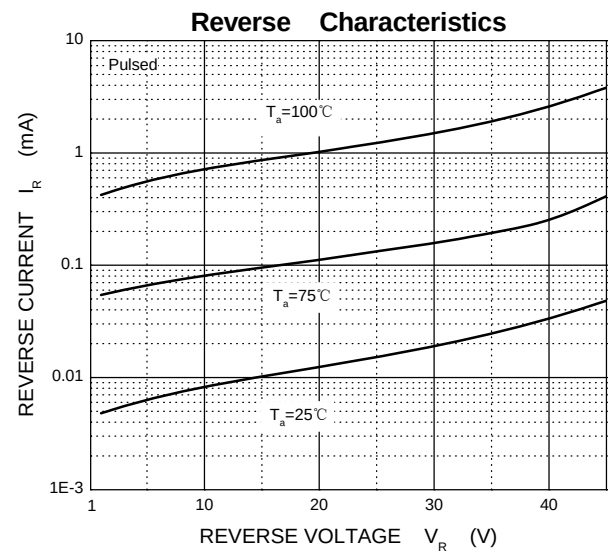
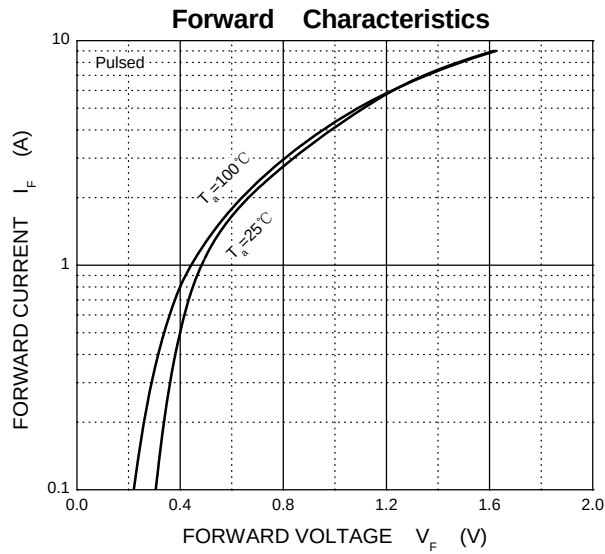
Table 5. Limiting values
Ta=25 °C

Parameter	Symbol	1N5817W	1N5818W	1N5819W	Unit
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Average Rectified Output Current	I_O	1			A
Non-repetitive Peak Forward Surge Current @t=8.3ms	I_{FSM}	9			A
Repetitive Peak Forward Current	I_{FRM}	1.5			A
Power Dissipation	P_d	500			mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	200			°C/W
Operation Junction temperature Range	T_J	-40~+125			°C
Storage Temperature Range	T_{STG}	-55~+150			°C

Table 6. Electrical Ratings
Ta=25 °C

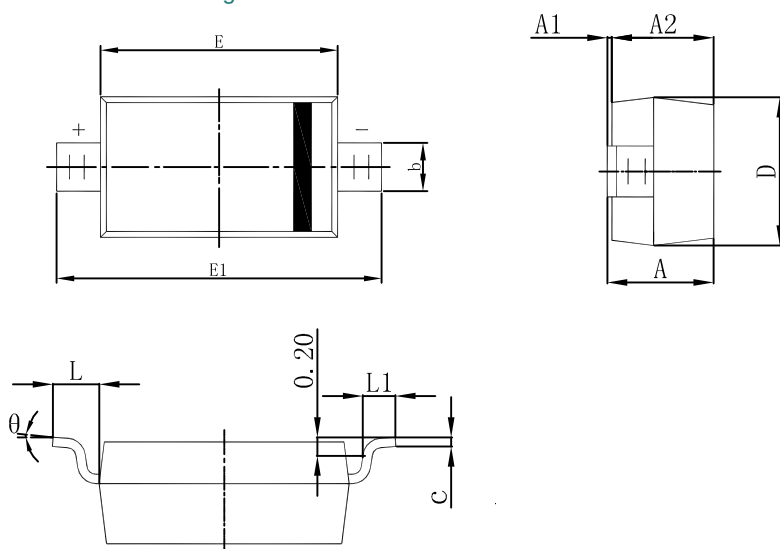
Parameter	Symbol	Test conditions	Min	Max	Unit
Reverse breakdown voltage	$V_{(BR)R}$	$I_R = 1mA$ 1N5817W 1N5818W 1N5819W	20 30 40		V
Reverse voltage leakage current	I_R	$V_R = 20V$ 1N5817W $V_R = 30V$ 1N5818W $V_R = 40V$ 1N5819W		1	mA
Forward voltage	V_F	1N5817W $I_F = 1A$ $I_F = 3A$		0.45 0.75	V
		1N5818W $I_F = 1A$ $I_F = 3A$		0.55 0.875	V
		1N5819W $I_F = 1A$ $I_F = 3A$		0.6 0.9	V
Diode capacitance	C_D	$V_R = 4V, f = 1MHz$		120	pF

9. Typical characteristics



10. Package outline

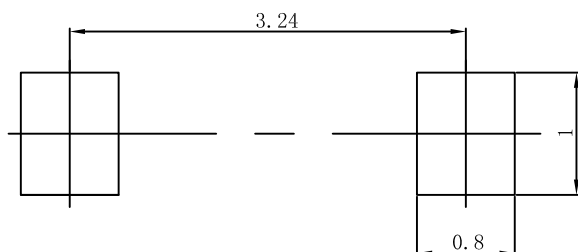
Table 7. SOD123 Package outline



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500 REF		0.020 REF	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°

11. Suggested pad layout

Table 8. Suggested pad layout



Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

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