



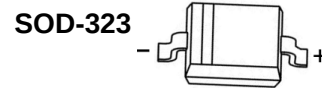
1N5817WS THRU 1N5819WS

Plastic-encapsulate diodes

Product data sheet

1. General description

Schottky barrier diode encapsulated in a small SOD-323 Surface-Mounted Device (SMD) plastic package.



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	1N5817WS	1N5818WS	1N5819WS	Unit
Non-repetitive peak reverse voltage	V_{RM}	20	30	40	V
Peak repetitive peak reverse voltage	V_{RRM}	20	30	40	V
Working peak reverse voltage	V_{RWM}				
DC blocking voltage	V_R				
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	250			mW

5. Pinning information

Table 2. Pinning information

Pin	Name	Description	SOD-323 Simplified 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
1N5817WS THRU 1N5819WS	SOD-323	halogen free	tape & reel	3,000pcs	UL 94V-0	7 inches

7. Marking

Table 4. Marking codes

Part number	Marking code
1N5817WS	SJ
1N5818WS	SK
1N5819WS	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

 $T_a=25^{\circ}\text{C}$

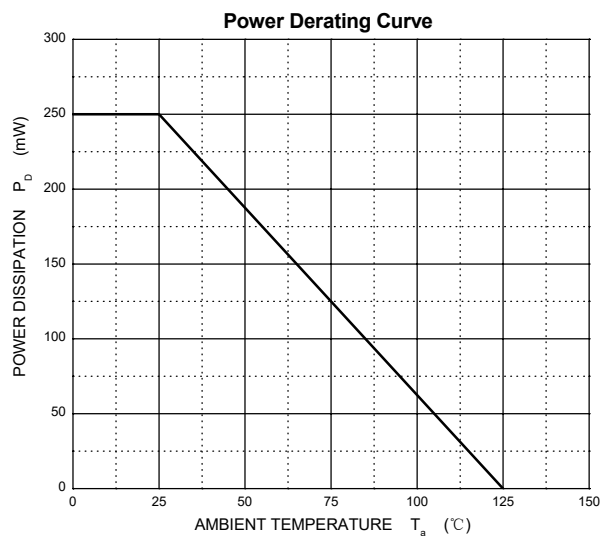
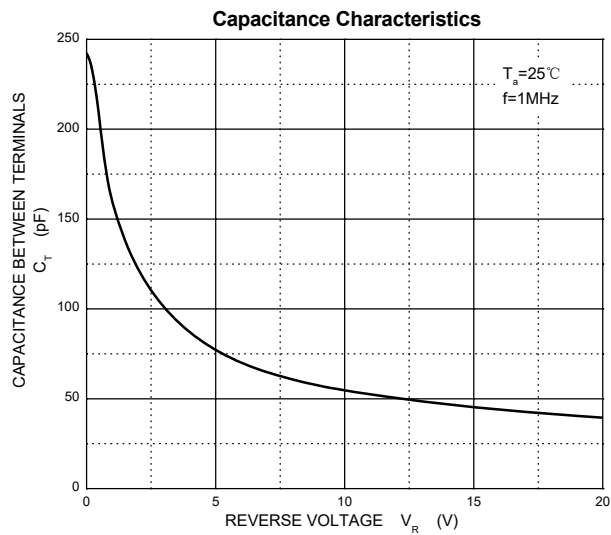
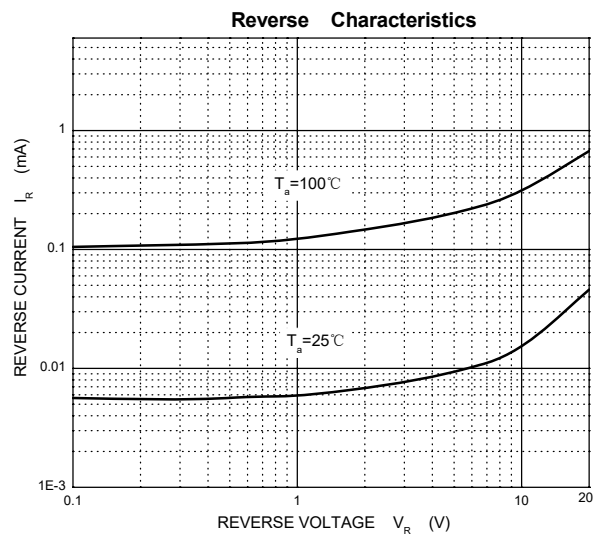
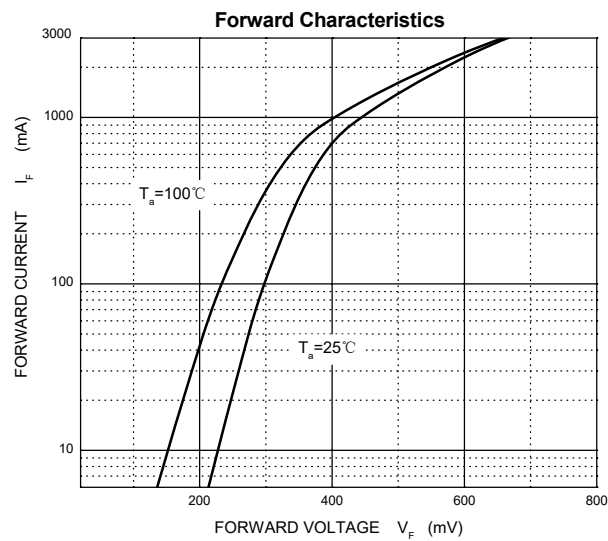
Parameter	Symbol	1N5817WS	1N5818WS	1N5819WS	Unit
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RMS reverse voltage	$V_{R(RMS)}$	14	21	28	V
Average rectified output current	I_O	1			A
Non-repetitive Peak Forward Surge Current @ $t=8.3\text{ms}$	I_{FSM}	9			A
Repetitive peak forward current	I_{FRM}	1.5			A
Power dissipation	P_d	250			mW
Thermal resistance junction to ambient	$R_{\theta JA}$	400			$^{\circ}\text{C/W}$
Operation Junction temperature Range	T_J	$-40\sim+125$			$^{\circ}\text{C}$
Storage temperature Range	T_{STG}	$-55\sim+150$			$^{\circ}\text{C}$

Table 6. Electrical Ratings

 $T_a=25^{\circ}\text{C}$

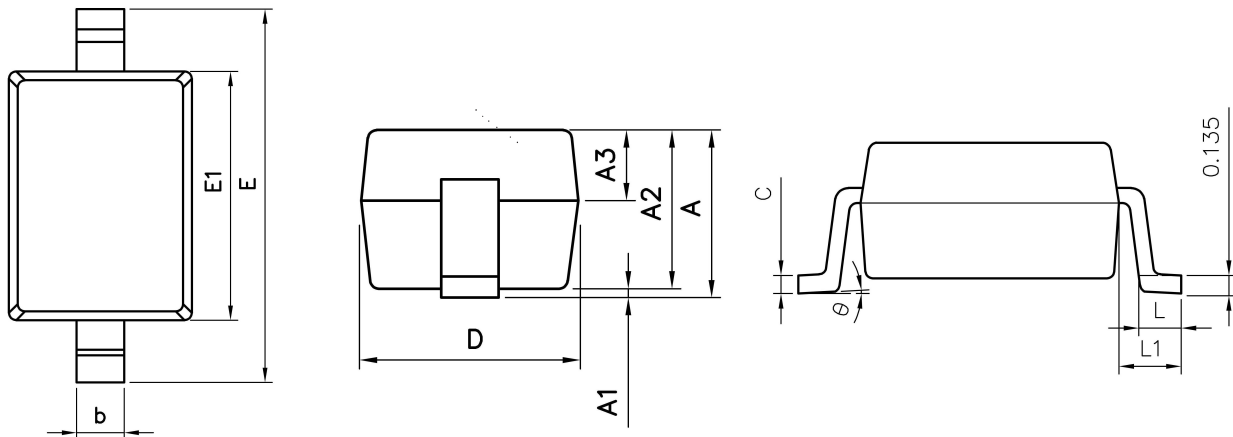
Parameter	Symbol	Test conditions	Min	Max	Unit
Reverse breakdown voltage	$V_{(BR)R}$	$I_R=1\text{mA}$ 1N5817WS 1N5818WS 1N5819WS	20 30 40		V
Reverse voltage leakage current	I_R	$V_R=20\text{V}$ $V_R=30\text{V}$ $V_R=40\text{V}$ 1N5817WS 1N5818WS 1N5819WS		1	mA
Forward voltage	V_F	1N5817WS $I_F=1\text{A}$ $I_F=3\text{A}$		0.45 0.75	V
		1N5818WS $I_F=1\text{A}$ $I_F=3\text{A}$		0.55 0.875	V
		1N5819WS $I_F=1\text{A}$ $I_F=3\text{A}$		0.6 0.9	V
Diode capacitance	C_D	$V_R=4\text{V}$, $f=1\text{MHz}$		120	pF

9. Typical characteristics



10. Package outline

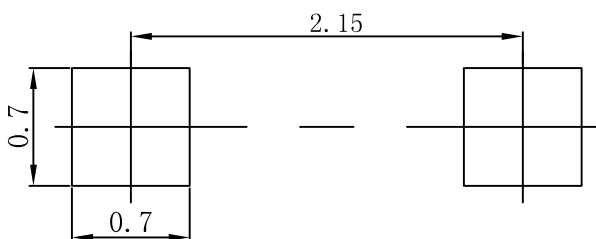
Table 7. SOD-323 Package outline



Symbol	Dimension in millimeter		
	Min	Nom	Max
A	0.95	1.0	1.05
A1	0.0	0.05	0.1
A2	0.85	0.90	0.95
A3	0.35	0.40	0.45
b	0.30	0.35	0.40
c	0.127	0.131	0.135
D	1.20	1.25	1.30
E	2.50	2.65	2.80
E1	1.65	1.70	1.75
L	0.20	0.30	0.40
L1	0.45		0.65
θ	0°	3°	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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