

## SCHOTTKY BARRIER DIODE

### FEATURES

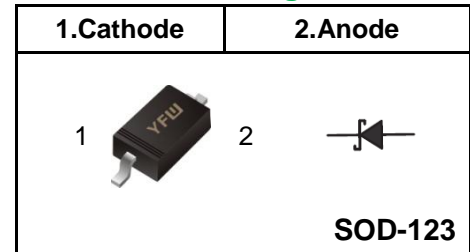
- ◆ Low Forward Voltage Drop
- ◆ Guard Ring Construction for Transient Protection
- ◆ Negligible Reverse Recovery Time
- ◆ Low Capacitance
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives



### MECHANICAL DATA

- ◆ Case: SOD-123
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026
- ◆ Approx. Weight: 16mg / 0.00056oz

### Pinning



### Marking Code

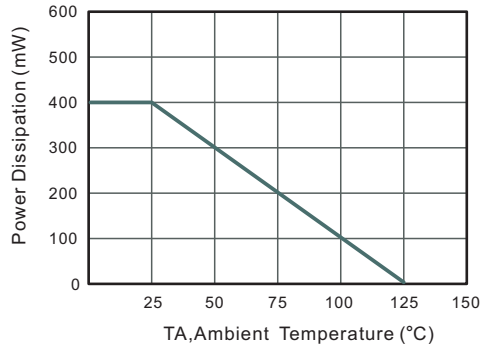
<b>1N5819W</b>	<b>S4</b>
<b>1N5818W</b>	<b>S5</b>
<b>1N5817W</b>	<b>S6</b>

### Maximum Ratings and Electrical characteristics

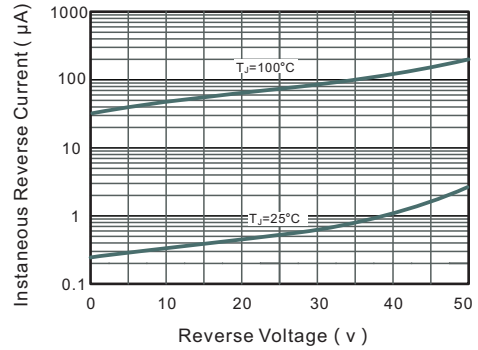
Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbols	1N5819W	1N5818W	1N5817W	Units
Peak Repetitive Reverse Voltage	$V_{RRM}$	40	30	20	V
RMS reverse voltage	$V_{RMS}$	28	21	14	V
Working Peak Reverse Voltage	$V_{DC}$	40	30	20	V
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed On Rated Load(JEDEC method)	$I_{FSM}$	13			A
Maximum Instantaneous Forward Voltage	$V_F$	$I_F=20mA$	0.37		V
		$I_F=200mA$	0.60		
Power Dissipation	$P_D$	400			mW
Reverse current	$I_R$	1N5819W, $V_R=30V$	5	-	uA
		1N5818W, $V_R=20V$	-	5	
		1N5817W, $V_R=10V$	-	-	
Thermal Resistance, Junction to Ambient Air	$R_{\theta JA}$	300			°C/W
Reverse voltage $I_R=100uA$	$V_{(BR)R}$	1N5819W	40		V
		1N5818W	30		
		1N5817W	20		
Reverse recovery time $I_F=I_R=200mA, I_{rr}=0.1 \times I_R, R_L=100\Omega$	$T_{rr}$	10			nS
Forward Continuons Current	$I_{FM}$	350			mA
Total capacitance $V_R=0V, f=1MHZ$	$C_{tot}$	28			pF
Junction temperature	$T_j$	125			°C
Storage temperature	$T_{stg}$	-55 ~ +150			°C

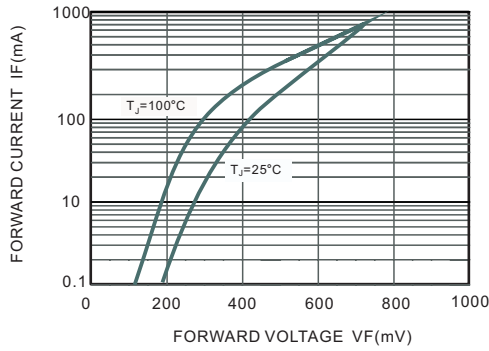
**Fig.1 Power Derating Curve**



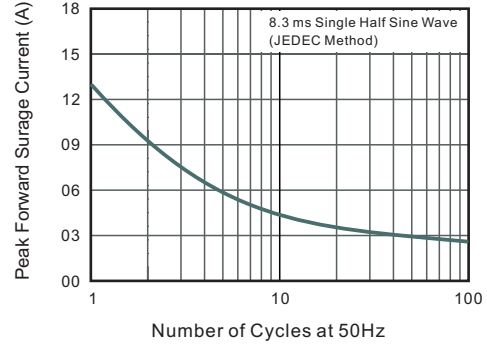
**Fig.2 Typical Reverse Characteristics**



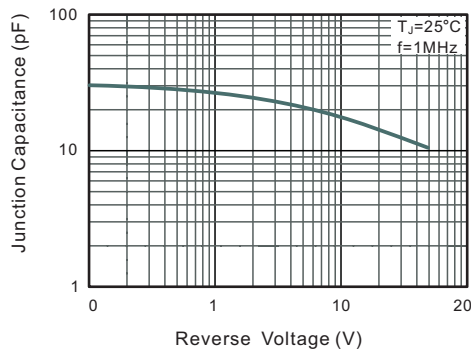
**Fig.3 Forward Characteristics**



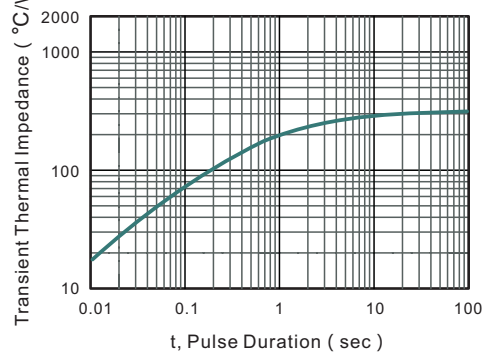
**Fig.4 Maximum Non-Repetitive Peak Forward Surge Current**



**Fig.5 Typical Junction Capacitance**



**Fig.6 Typical Transient Thermal Impedance**



**Package Outline SOD-123**

Plastic surface mounted package; 2 leads



UNIT		A	C	D	E	E <sub>1</sub>	L <sub>1</sub>	b	A <sub>1</sub>	∠
mm	max	1.3	0.22	1.8	2.8	3.9	0.45	0.7	0.2	9°
	min	0.9	0.09	1.5	2.5	3.6	0.25	0.5	—	
mil	max	51	8.7	71	110	154	18	28	8	
	min	35	3.5	59	98	142	10	20	—	

**The recommended mounting pad size**



Unit:  $\frac{\text{mm}}{\text{mil}}$

**Summary of Packing Options**

Package	Packing Description	Packing Quantity	Industry Standard
SOD-123	Tape/Reel, 7" reel	3000	EIA-481-1

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