

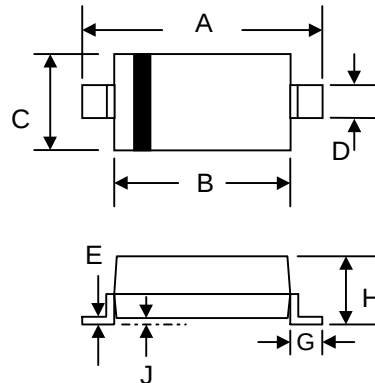
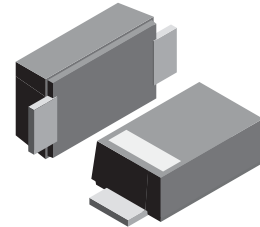
VOLTAGE RANGE: 40V
CURRENT: 1.0 A

Features

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop

Mechanical Data

- Case: SOD-123, Plastic
- Type Code: SL
- Weight: 0.01 grams (approx.)



SOD-123		
Dim	Min	Max
A	3.6	3.9
B	2.5	2.8
C	1.4	1.8
D	0.5	0.7
E	—	0.2
G	0.4	—
H	0.95	1.35
J	—	0.12
All Dimensions in mm		

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	1N5819HW	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage @ $I_R = 1.0\text{mA}$	V_{RRM} V_{RWM} V_R	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	28	V
Average Rectified Output Current @ $T_L = 90^\circ\text{C}$	I_O	1.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	25	A
Power Dissipation (Note 2)	P_d	450	mW
Typical Thermal Resistance Junction to Ambient (Note 2)	$R_{\theta JA}$	222	$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +125	$^\circ\text{C}$

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	40	—	—	V	$I_R = 1.0\text{mA}$
Forward Voltage (Note 1)	V_F	—	—	0.320 0.450 0.750	V	$I_F = 0.1\text{A}$ $I_F = 1.0\text{A}$ $I_F = 3.0\text{A}$
Reverse Leakage Current (Note 1)	I_R	—	—	1.0 10 50 1 2 15 75 3	mA mA μA mA μA μA mA	$V_R = 40\text{V}, T_A = 25^\circ\text{C}$ $V_R = 40\text{V}, T_A = 100^\circ\text{C}$ $V_R = 4\text{V}, T_A = 25^\circ\text{C}$ $V_R = 4\text{V}, T_A = 100^\circ\text{C}$ $V_R = 6\text{V}, T_A = 25^\circ\text{C}$ $V_R = 6\text{V}, T_A = 100^\circ\text{C}$
Total Capacitance	C_T	—	110	—	pF	$V_R = 4\text{V}, f = 1.0\text{MHz}$

Notes: 1. Short duration pulse test used to minimize self-heating effect.
2. Device mounted on FR-4 PC Board, 2"x2", 2 oz. Copper, single sided, Cathode pad dimensions 0.75"x1.0", Anode pad dimensions 0.25"x1.0".

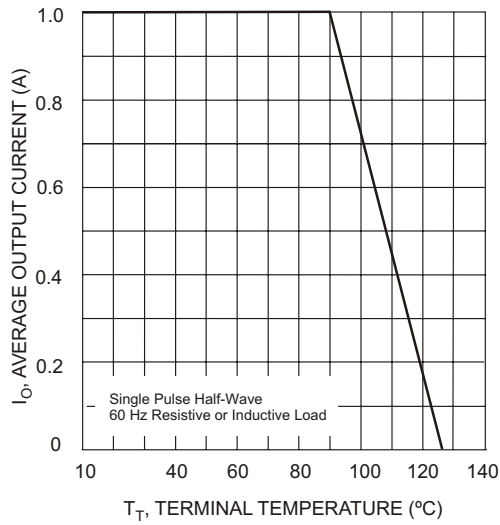


Fig. 1 Forward Current Derating Curve

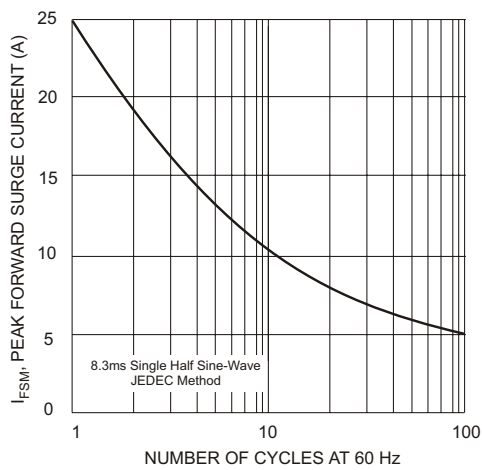


Fig. 3 Maximum Non-Repetitive Peak Fwd Surge Current

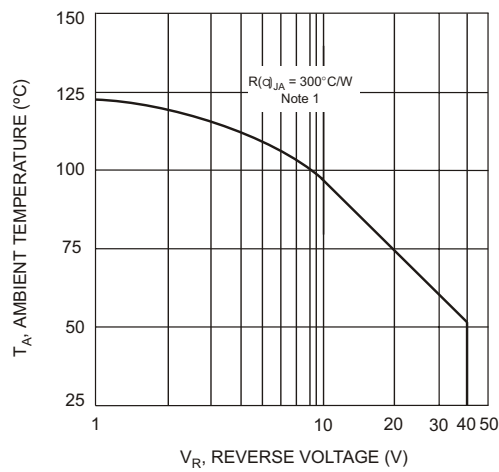


Fig. 5 Typical Safe Operating Area

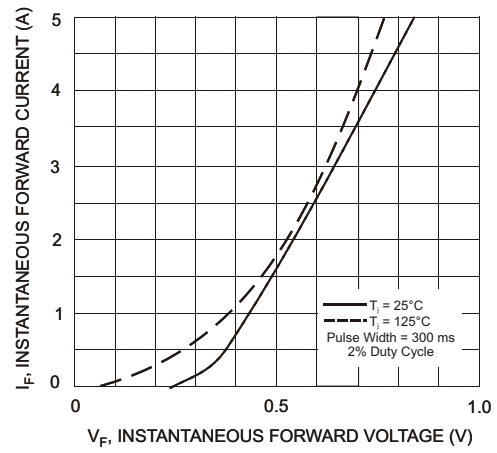


Fig. 2 Typical Forward Characteristics

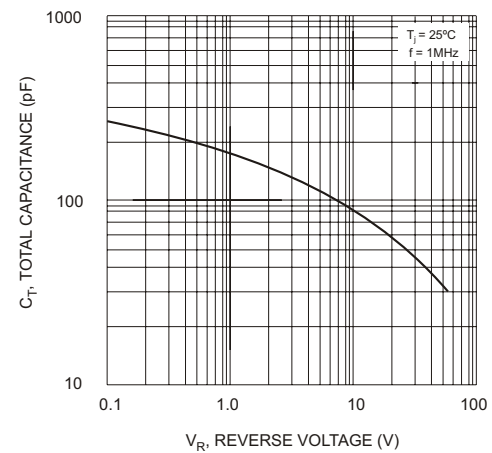


Fig. 4 Typical Total Capacitance

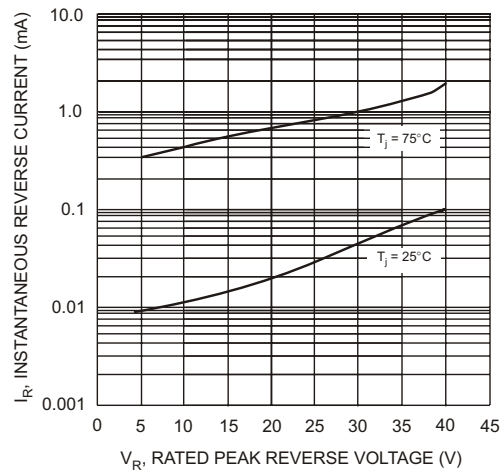


Fig. 6 Typical Reverse Characteristics