

High-speed Switching Rectifiers

FEATURES

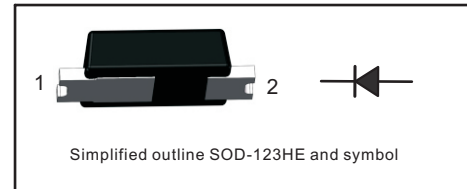
- For surface mounted applications
- Ideal for automated placement
- Low junction capacitance
- Low leakage current
- For general purpose switching applications

MECHANICAL DATA

- Case: SOD-123HE
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 14mg / 0.0005oz

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Absolute Maximum Ratings at 25 °C

Parameter	Symbols	1N4148WE	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Maximum RMS voltage	V_{RMS}	75	V
Average Rectified Forward Current	$I_{F(AV)}$	150	mA
Non-repetitive Peak Forward Surge Current	I_{FSM}	0.5	A
at 1s		1	
at 1ms		4	
at 1us			
Total Power Dissipation	P_{tot}	400	mW
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150	°C

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

Parameter	Symbols	1N4148WE	Units
Reverse Breakdown Voltage at $I_R = 1\mu\text{A}$	$V_{(BR)R}$	75	V
Maximum Forward Voltage	V_F	0.715	V
at 1 mA		0.855	
at 10 mA		1.00	
at 50 mA		1.25	
Peak Reverse Current	I_R	0.025	μA
at $V_R = 20\text{V}$ $T_j = 25^\circ\text{C}$		1	
at $V_R = 75\text{V}$ $T_j = 25^\circ\text{C}$		30	
at $V_R = 25\text{V}$ $T_j = 150^\circ\text{C}$		50	
Typical Junction Capacitance $f = 1\text{MHz}, V_R = 0\text{V}$	C_j	2	pF
Maximum Reverse Recovery Time ⁽¹⁾	t_{rr}	4	ns

(1) Measured with $I_F = I_R = 10\text{mA}$, $I_{rr} = 0.1 \times I_R$, $R_L = 100\Omega$

Fig.1 Power Derating Curve

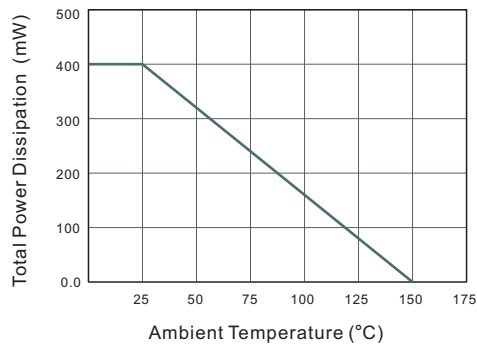


Fig.2 Typical Reverse Characteristics

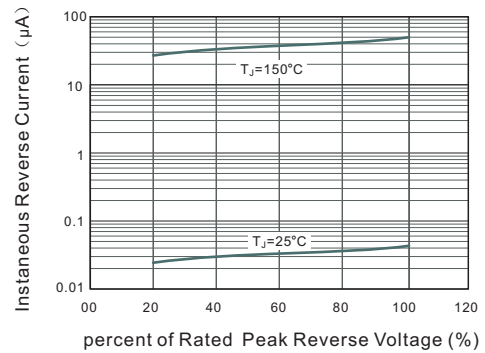


Fig.3 Typical Instaneous Forward Characteristics

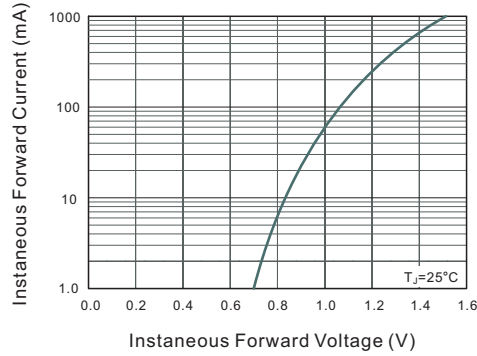
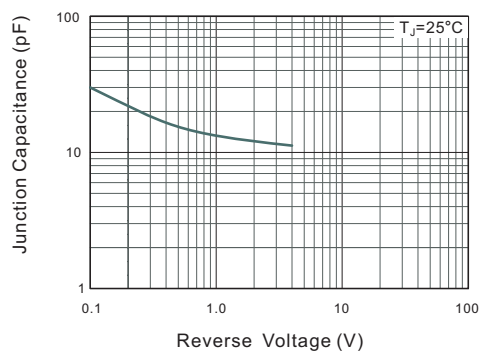


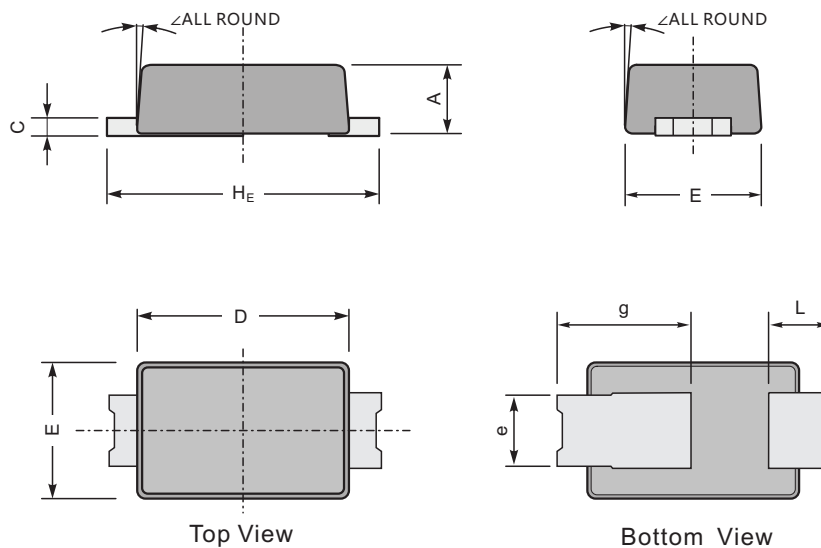
Fig.4 Typical Junction Capacitance



PACKAGE OUTLINE

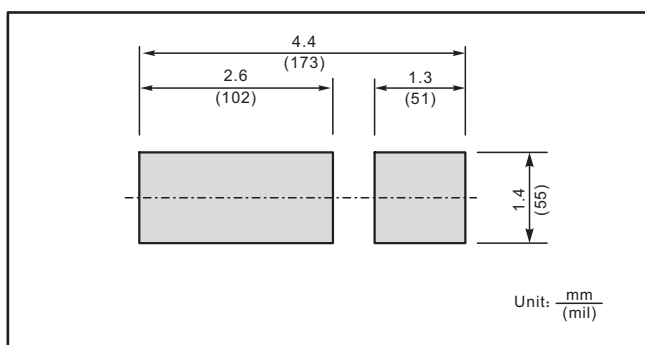
Plastic surface mounted package; 2 leads

SOD-123HE



UNIT		A	C	D	E	e	g	L	H _E	∠
mm	max	1.0	0.3	2.9	1.9	1.15	2.0	1.1	3.8	12°
	min	0.8	0.2	2.7	1.7	0.8	1.5	0.7	3.5	
mil	max	39	11.8	114	75	45	79	43	150	
	min	31	7.9	106	67	31	59	28	138	

The recommended mounting pad size



Marking

Type number	Marking code
1N4148WE	T4