Elektronische Bauelemente

1N4148W

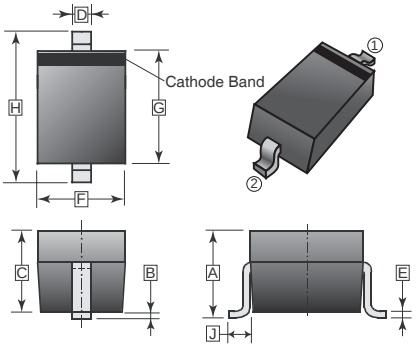
Surface Mount Fast Switching Diode

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

DESCRIPTION

- Fast switching speed
- Ultra-Small surface mount package
- For general purpose switching applications
- High conductance
- Also available in lead-free version

SOD-123



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.05	1.25	F	1.50	1.70
B	0.10 REF.		G	2.60	2.80
C	1.05	1.15	H	3.55	3.85
D	0.45	0.65	J	0.50 REF.	
E	0.08	0.15			

MECHANICAL DATA

- Case: SOD-123, Plastic
- Epoxy: UL 94V-0 rate flame retardant
- Metallurgically bonded construction
- Polarity: Color band denotes cathode end
- Mounting position: Any
- Weight: 0.0094 grams

MARKING

T4

ABSOLUTE MAXIMUM RATINGS

(at Ta = 25°C unless otherwise specified, single phase half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.)

Parameter	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	V_{RM}	100	V
Peak Repetitive Reverse Voltage	V_{RRM}	75	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
RMS Reverse Voltage	$V_{R(RMS)}$	53	V
Forward Continuous Current	I_{FM}	300	mA
Average Rectified Output Current	I_O	150	mA
Non-Repetitive Peak Forward Surge Current @ t = 1.0μs @ t = 1.0s	I_{FSM}	2.0 1.0	A
Power Dissipation (Note 1)	P_D	400	mW
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{\theta JA}$	318	℃ / W
Operating Temperature, Storage Temperature	T_J, T_{STG}	-65 ~ 150	℃

ELECTRICAL CHARACTERISTICS (at Ta = 25°C unless otherwise specified)

Parameters	Symbol	Min.	Max.	Unit	Test Conditions
Reverse Breakdown Voltage	V_{RM}	75	-	V	I_R = 1.0μA
Forward Voltage (Note 2)	V_{FM}	-	0.715 0.855 1.0 1.25	V	I_F = 1.0 mA I_F = 10 mA I_F = 50 mA I_F = 150 mA
Peak Reverse Current (Note 2)	I_{RM}	-	2.5 50 30 25	μA μA μA nA	V_R = 75V V_R = 75V, T_J = 150 °C V_R = 25V, T_J = 150 °C V_R = 20V
Total Capacitance	C_T	-	2.0	pF	V_R = 0, f = 1.0 MHz
Reverse Recovery Time	t_{RR}		4.0	nS	I_F = I_R = 10mA, I_{rr} = 0.1x I_R, R_L = 100 Ω

NOTES: 1. Part mounted on FR-4 PC board with recommended pad layout
2. Short duration test pulse used to minimize self-heating effect.

RATINGS AND CHARACTERISTIC CURVES (1N4148W)

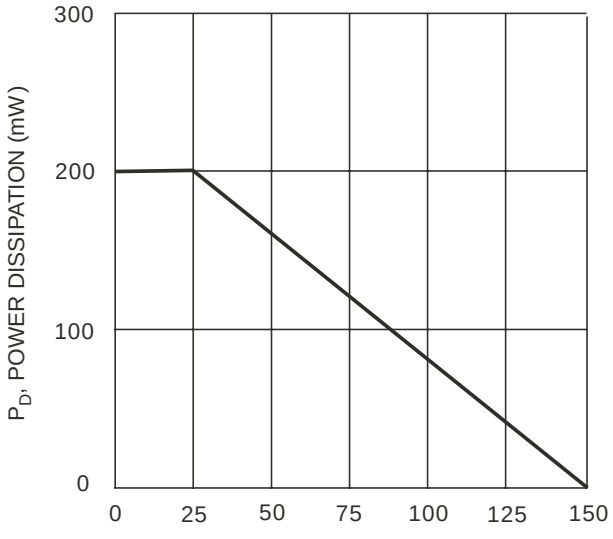


Fig. 1 Power Derating Curve

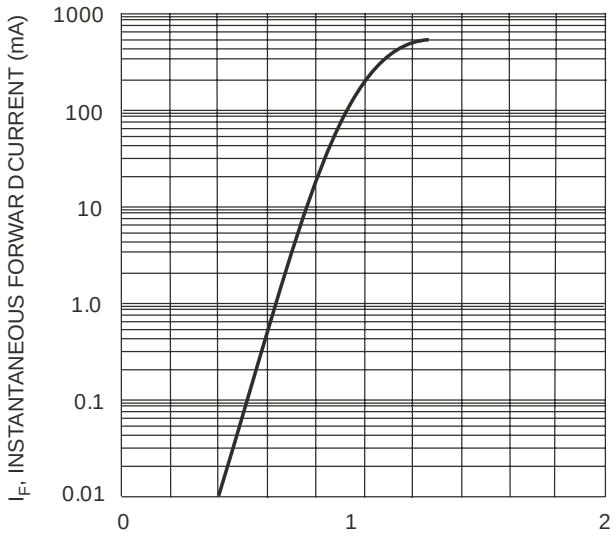


Fig. 2 Forward Characteristics

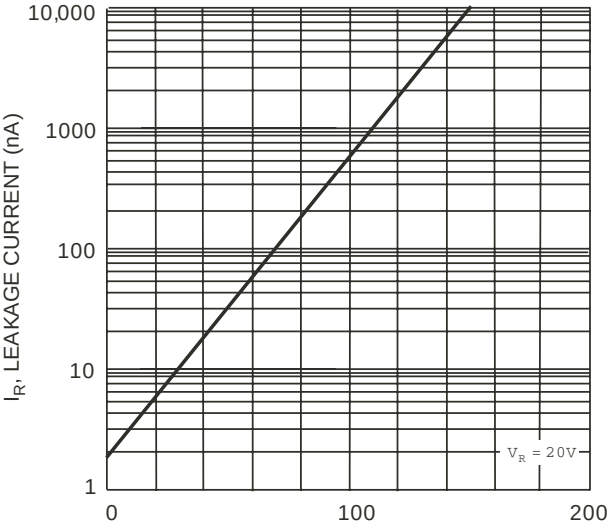


Fig. 3 Leakage Current vs Junction Temperature