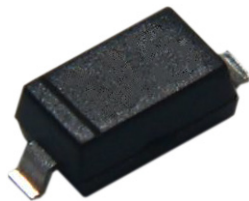


400mW High Speed SMD Switching Diode



RoHS
Compliant



Features:

- Fast switching device ($T_{rr} < 4.0\text{ns}$)
- Surface device type mounting
- Moisture sensitivity level 1
- Matte Tin(Sn) lead finish with Nickel (Ni) under plate
- Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code

SOD-123F



Mechanical Data:

Case	: Flat lead SOD-123F small outline plastic package
Terminal	: Matte tin plated, lead free., solderable per MIL-STD-202, Method 208 guaranteed
High temperature soldering guaranteed	: 260°C/10s
Polarity	: Indicated by cathode band
Weight	: 8.85 ±0.5mg
Marking Code	: D1

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Maximum Ratings

Parameter	Symbol	Value	Units
Power Dissipation	P_D	100	mW
Non-Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Repetitive Peak Reverse Voltage	V_{RRM}	300	V
Repetitive Peak Forward Current	I_{FRM}	400	mA
Mean Forward Current	I_o	150	mA
Thermal Resistance (Junction to Ambient) (Note 1)	$R_{\theta JA}$	450	°C/W
Junction and Storage Temperature Range	T_J, T_{STG}	-65 to +150	°C

Electrical Characteristics

Parameter	Symbol	Min	Max	Units
Reverse Breakdown Voltage $I_R = 100\mu\text{A}$ $I_R = 5\mu\text{A}$	$V_{(BR)}$	100	-	V
		75	-	
Forward Voltage 1N4148W $I_F = 10\text{mA}$	V_F	-	1	V
Reverse Leakage Current $V_R = 20\text{V}$ $V_R = 75\text{V}$	I_R	-	5	nA
		-	25	μA
Junction Capacitance $V_R=0, f = 1\text{MHz}$	C_J	-	4	pF
Reverse Recovery Time (Note 2)	T_{rr}	-	4	ns

Note 1 : Test Condition : 8.3ms Single half Sine-Wave Superimposed on Rated Load (JEDEC Method)

Note 2 : Reverse Recovery Test Conditions : $I_F=10\text{mA}$, $I_R = 60\text{mA}$, $R_L = 100\Omega$, $I_{RR} = 1\text{mA}$

400mW High Speed SMD Switching Diode



Ratings And Characteristics Curves

Fig.1 Typical Forward Characteristics

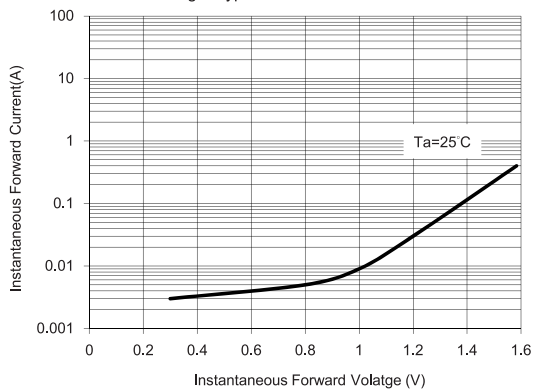


Fig. 2 Reverse Current vs Reverse Voltage

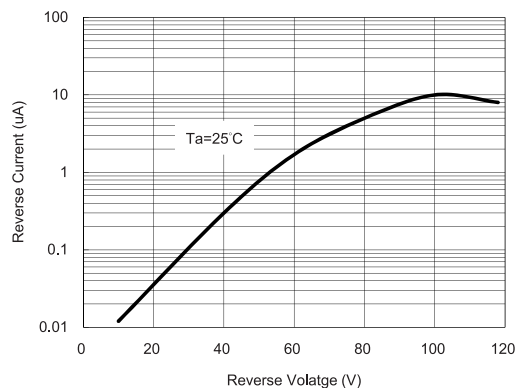


Fig. 3 Admissible Power Dissipation

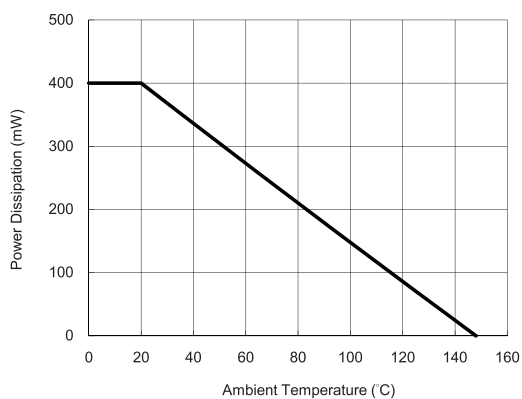


Fig. 4 Typical Junction Capacitance

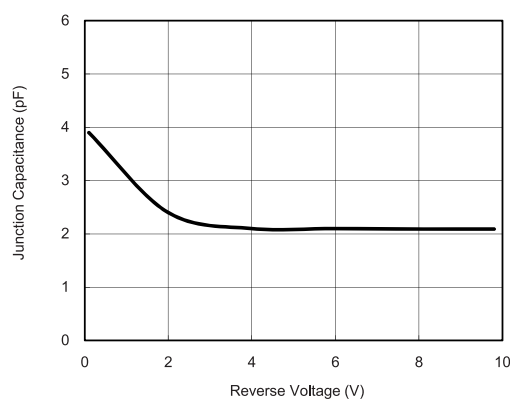
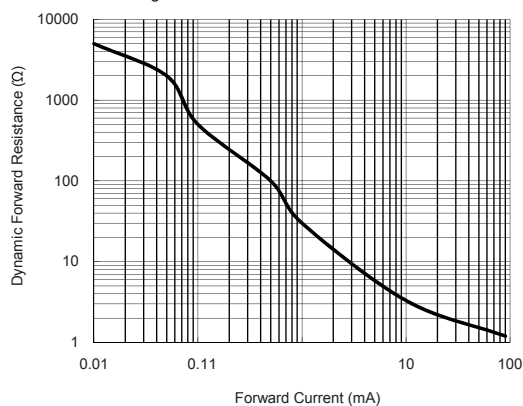


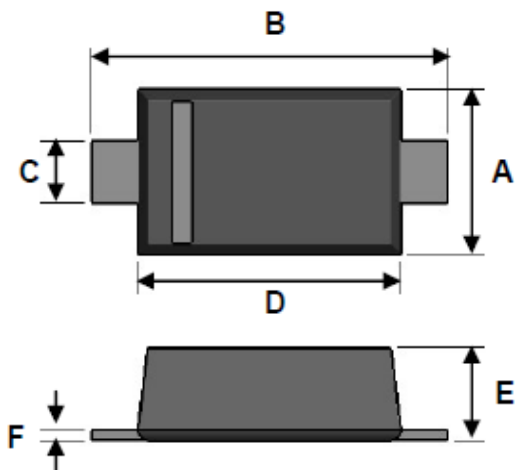
Fig. 5 Forward Resistance vs. Forward Current



400mW High Speed SMD Switching Diode

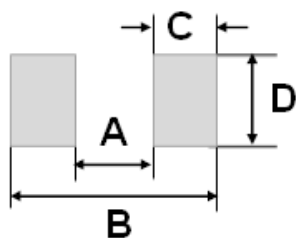


Dimensions



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	1.5	1.7	0.059	0.067
B	3.3	3.9	0.13	0.154
C	0.5	0.7	0.02	0.028
D	2.5	2.7	0.098	0.106
E	0.8	1.15	0.031	0.045
F	0.05	0.2	0.002	0.008

Suggested PAD Layout



DIM.	Unit (mm)	Unit (inch)
	Typ.	Typ.
A	2.36	0.093
B	4.19	0.165
C	0.91	0.036
D	1.22	0.048

Part Number Table

Description	Part Number
Diode, High Speed, SOD-123F	1N4148W

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