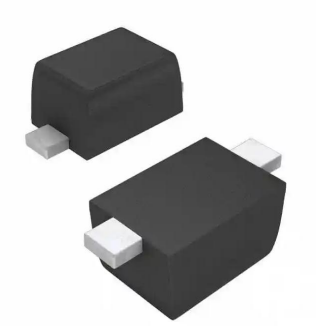
1N4148WT

Silicon Epitaxial Planar Switching Diode

1. Features

- Fast switching speed
- Ultra-small surface mount package
- For general purpose switching applications
- High conductance

SOD523



2. Mechanical Data

- Case:Molded Plastic,SOD-523.
- Epoxy:UL 94V-0 rate flame retardant.
- Terminals:Plated Leads Solderable per MIL-STD-750, Method-2026.
- Marking:T4
- Marking:marked on body.

3. Maximum Ratings

Electrical Characteristics Rating at 25℃ ambient temperature unless otherwise specified.

Characteristic		Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage		V_{RM}	100	V
DC Blocking Voltage		V_R	75	V
Forward Continuous Current		I_F	150	mA
Repetitive peak forward current		I_{FRM}	250	mA
Non-Repetitive Peak Forward Current	@ t=1μs	I_{FSM}	2	A
	@ t=100ms		1	
Power Dissipation		P_D	150	mW
Thermal Resistance from Junction to Ambient Air		$R_{\theta JA}$	833	℃/W
Thermal Resistance from Junction to Ambient Case		$R_{\theta JC}$	561	℃/W
Junction Temperature		T_J	-55 to+150	℃
Storage Temperature Range		T_{stg}	-55 to+150	℃

4. Electrical Characteristics (T_a=25℃ unless otherwise noted)

Parameters	Symbol	Cindition	Min	TYP	Max	Unit
Reverse breakdown voltage	V_{BR}	I_R=1μA	75	-	-	V
Forward Voltage	V_F	I_F = 1mA I_F = 10mA I_F = 50mA I_F = 150mA	-	-	0.715 0.855 1 1.25	mV
Reverse Current	I_R	V_R = 75V	-	-	1	μA
		V_R = 20V			25	nA
		V_R = 75V T_J = 150℃			50	μA
		V_R = 25V T_J = 150℃			30	μA
Capacitance between terminals	C_T	V_R = 0 V, f = 1 MHz			2	pF
Reverse Recovery Time	t_{rr}	I_F=I_R=10mA,I_{rr}=0.1*I_R, R_L=100Ω	-	-	4	ns

5. Rating And Characteristic Curves

Fig.1 Forward Characteristics

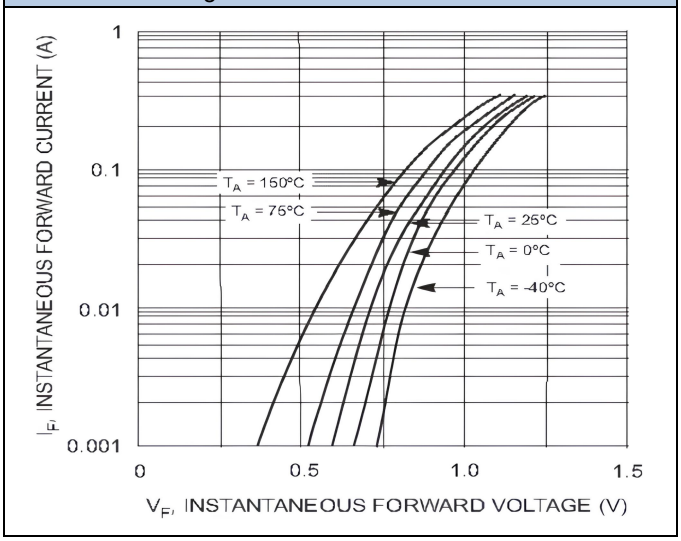


Fig.2 Reverse Characteristics

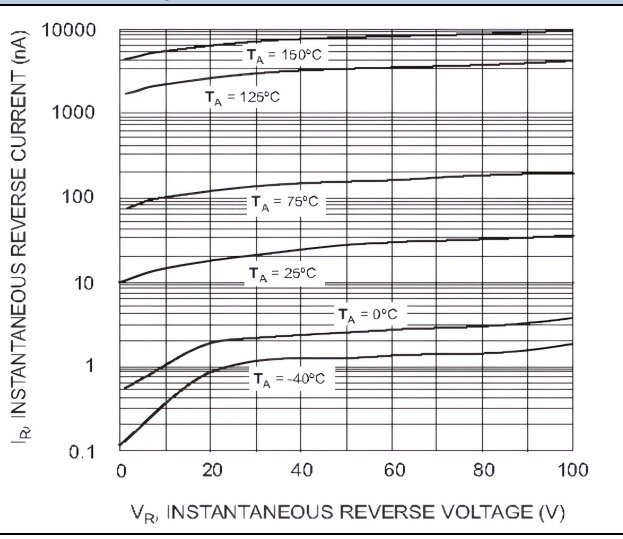


Fig.3 Capacitance Characteristics Per Diode

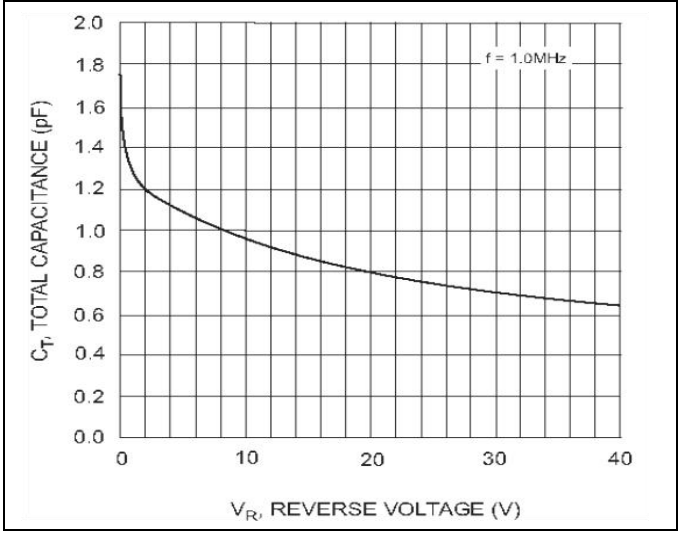
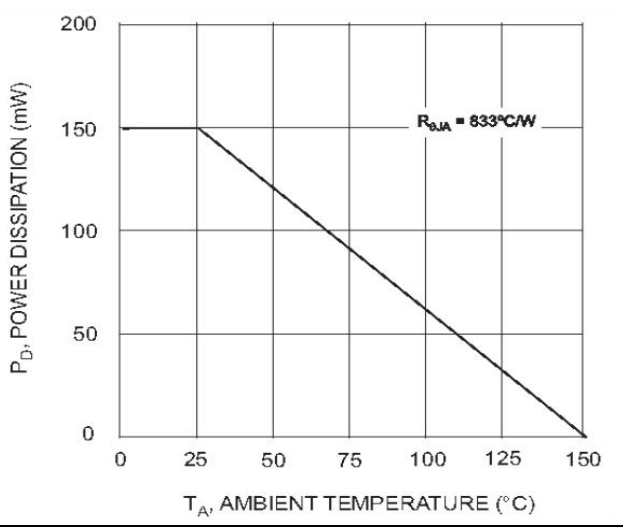
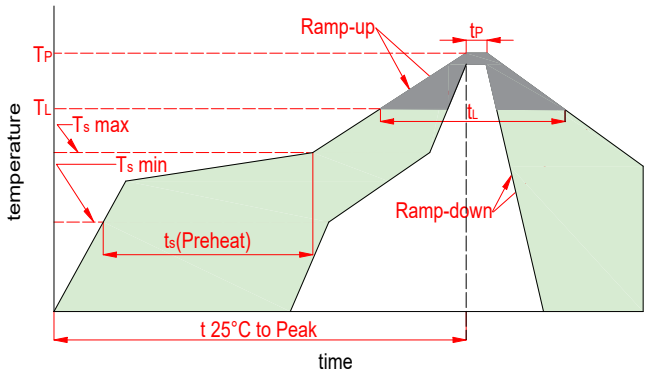


Fig.4 Power Derating Curve

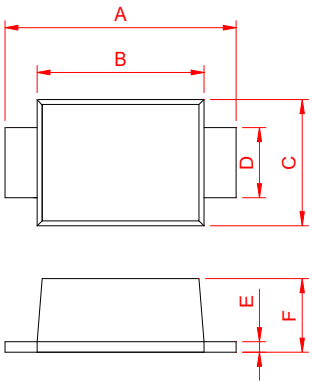


6. Soldering Parameters



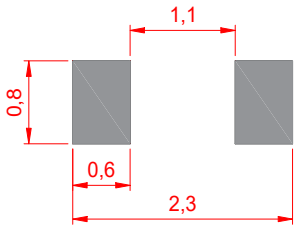
Reflow Condition		Lead-free
Pre Heat	Temp. min(T_s(min))	150℃
	Temp. max(T_s(min))	200℃
	Time(min to max)(t_s)	60~120s
Aver. ramp up rate(Liquidus Temp.)(T_L)to peak		3℃/s max
T_S(max) to T_L-Ramp-up Rate		3℃/s max
Reflow	Temp.(T_L)(Liquidus)	217℃
	Temp.(t_L)(Liquidus)	60~150s
Peak Temp.(T_P)		$260^{+0/-5}$℃
Time within actual peak Temp.(t_p)		30s max
Ramp-down Rate		6℃/s max
Time 25℃ to peak Tempe.(T_p)		8 minutes max
Do not exceed		260℃

7. Dimensions

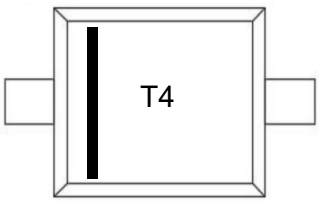


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.059	0.067	1.50	1.70
B	0.043	0.051	1.10	1.30
C	0.030	0.033	0.75	0.85
D	0.010	0.016	0.25	0.40
E	0.003	0.006	0.08	0.15
F	0.020	0.030	0.51	0.77

Mounting PAD Layout



8. Part Marking System



9. Package Information

Package	Type	Tape Width (mm)	Quantity(pcs)
SOD523	1N4148WT	8	3000

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