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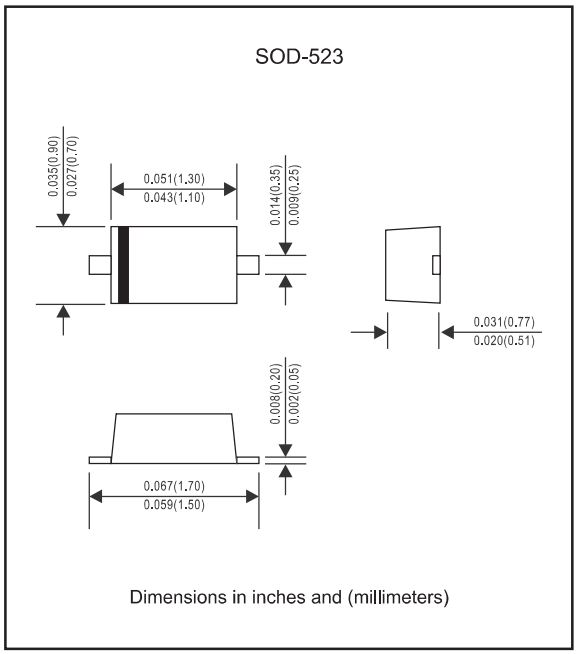
1N4148WT

150mW Surface Mount Switching Diode-100V

Features

- Small package
- Low reverse current
- Fast switching speed
- Surface mount package ideally suited for automatic insertion
- Lead-free parts meet RoHS requirments
- Compliant to Halogen-free.

Package outline



Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-523
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any

Maximum ratings (AT T_A=25°C unless otherwise noted)

Parameter	Symbol	Value	UNIT
Non-repetitive peak reverse voltage	V_{RM}	100	V
Reverse voltage Peak repetitive reverse voltage Working peak reverse voltage	V_R V_{RRM} V_{RWM}	75	V
RMS reverse voltage	V_{RMS}	53	V
Average rectified output current	I_O	150	mA
Forward continuous current	I_{FM}	300	mA
Non-repetitive peak forward surge current@t= 8.3ms	I_{FSM}	2	A
Power dissipation	P_D	150	mW
Thermal resistance from junction to ambient	$R_{\theta JA}$	833	°C/W
Operating junction temperature range	T_J	-55 to +150	°C
Storage temperature range	T_{STG}	-55 to +150	°C

Electrical characteristics (at T_A=25°C unless otherwise noted)

Parameter	Condition	Symbol	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	I_R=1μA	V_B	75			V
Reverse leakage current	V_R=20V V_R=75V	I_R			25 1	nA μA
Forward voltage	I_F=1mA I_F=10mA I_F=50mA I_F=150mA	V_F			0.715 0.855 1.00 1.25	V
Reverse recovery time	I_F= I_R =10mA, I_{rr}=0.1*I_R,R_L=100Ω	t_{rr}			4.0	ns
Total capacitance	V_R=0V, f=1MHZ	C_T			2.0	pF

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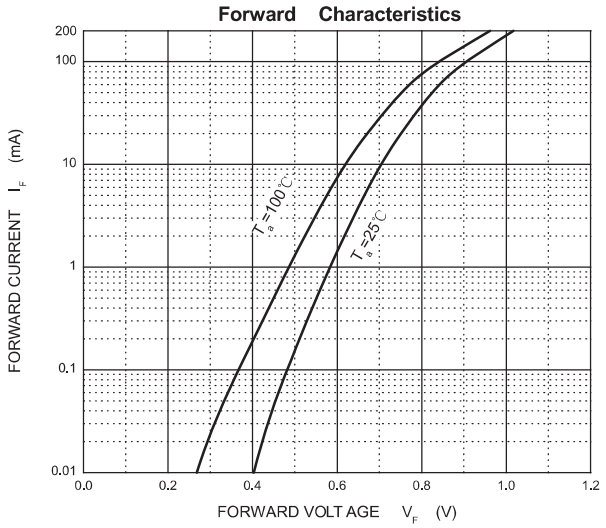
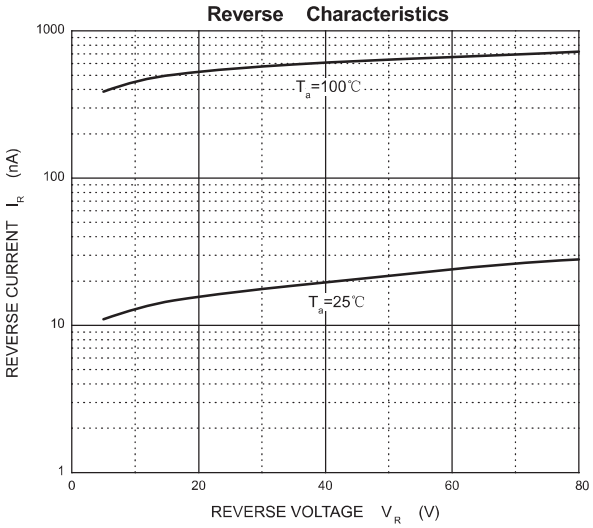
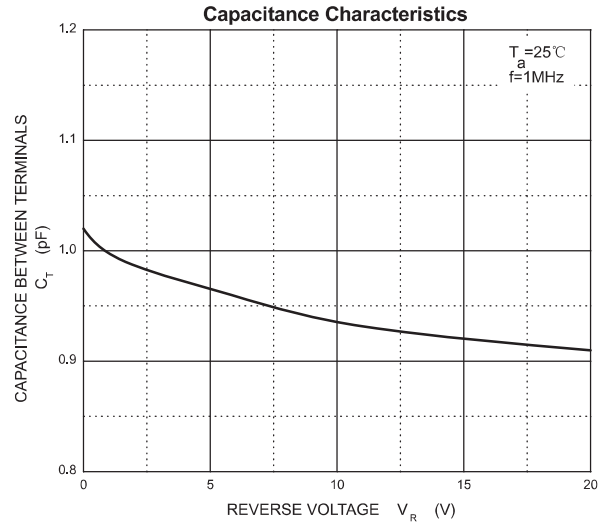
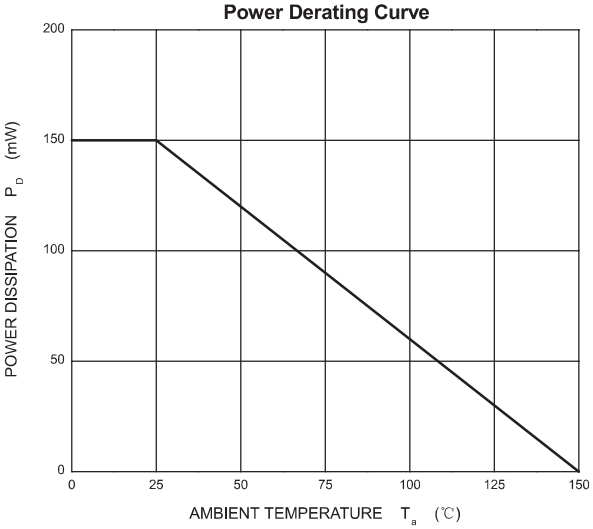
Rating and characteristic curves









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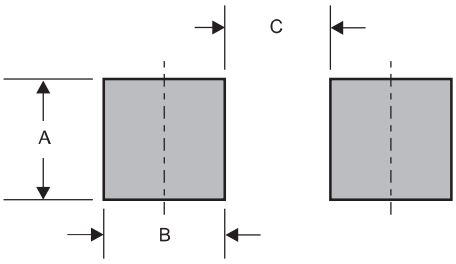
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
1N4148WT	T4

Suggested solder pad layout

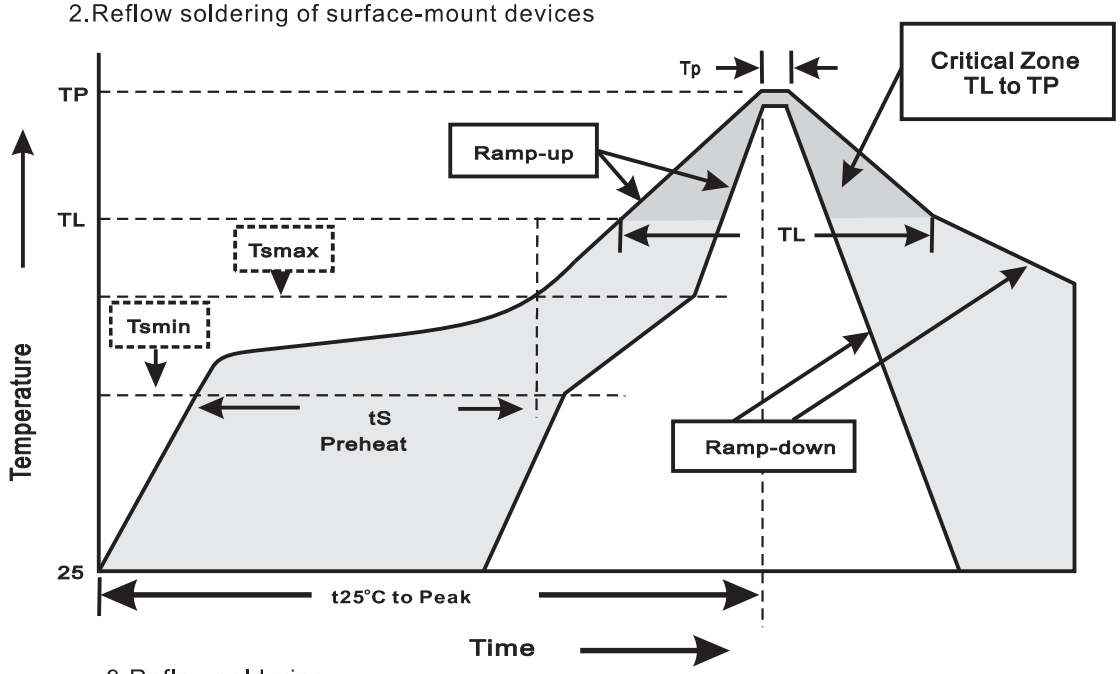


Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-523	0.032 (0.80)	0.024 (0.60)	0.044 (1.10)

Suggested thermal profiles for soldering processes

1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
2.Reflow soldering of surface-mount devices



3.Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(T_L to T_P)	<3°C/sec
Preheat -Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(t_s)	 150°C 200°C 60~120sec
Tsmax to T_L -Ramp-upRate	 <3°C/sec
Time maintained above: -Temperature(T_L) -Time(t_L)	 217°C 60~260sec
Peak Temperature(T_P)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(t_P)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes

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