




SPECIFICATION SHEET

SPECIFICATION SHEET NO.	N0929-SOD523148WTST4
DATE	Sept. 29, 2021
REVISION	A0
DESCRIPTION	<p>SMD Fast Switching diodes, SOD-523 series, 2 pads, Type 1N4148WT Reverse Voltage 75V Max. Forward Current 0.30A Max. Operating Temp. Range -55°C ~+150°C, Package in Tape/Reel, 3000pcs/Reel RoHS/RoHS III compliant</p>
CUSTOMER	
CUSTOMER PART NUMBER	
CROSS REF. PART NUMBER	
ORIGINAL PART NUMBER	MDD 1N4148WT
PART CODE	SOD523148WTST4

VENDOR APPROVE			
Issued/Checked/Approved			
DATE: Sept. 29, 2021			

CUSTOMER APPROVE	
DATE:	

SMD FAST SWITCHING DIODES SOD523 SERIES



MAIN FEATURE

- Fast switching speed
- Small package
- Low Reverse Current
- RoHS Compliant and HF Free

APPLICATION

- For general purpose switching applications

RFQ

[Request For Quotation](#)

PART CODE GUIDE

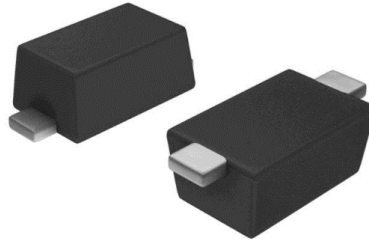
SOD523	148WT	S	T4
1	2	3	4

- 1) **SOD523**: SMD Small Signal Fast Switching diodes, 2 pads, SOD-523 series code
- 2) **148W**: Type Code for original part number 1N4148WT
- 3) **S**: Package code, Tape/reel, 3000pcs/reel.
- 4) **T4**: Marking code for “T4” on the case surface, Different Marking for different specification.

SMD FAST SWITCHING DIODES SOD523 SERIES

DIMENSION (Unit: Inch/mm)

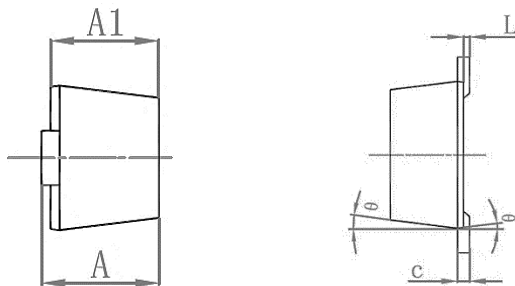
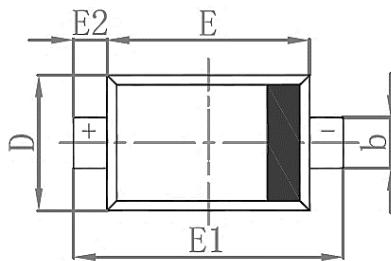
Image for reference



Marking: T4

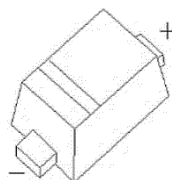
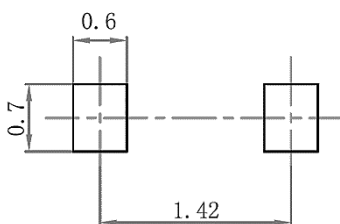


SOD-523



Symbol	Value (mm)		
	Min.	Typ.	Max.
A	0.51		0.770
A1	0.50		0.70
b	0.250		0.350
c	0.080		0.150
D	0.750		0.850
E	1.10		1.30
E1	1.50		1.70
E2	0.20		
L	0.010		0.070
K	7°		

Recommend Pad Layout



Circuit Diagram



SMD FAST SWITCHING DIODES SOD523 SERIES
MECHANICAL DATA

Case	Terminals	Polarity	Mounting Position	Weight per piece
JEDEC SOD-523 molded plastic body	Solder plated, Solderable per MIL-STD-750, Method 2026	Polarity symbol marking on case	Any	0.00019 Ounce, 0.00591 grams

ABSOLUTE MAX. RATING AT 25 °C

Parameter	SYMBOLS	VALUE			UNITS
		Min.	Typical	Max.	
Non-Repetitive Peak reverse Voltage	V_{RM}		100		Volts
Reverse Voltage	V_R		75		Volts
Peak Repetitive Reverse Voltage	V_{RRM}				
Working Peak Reverse Voltage	V_{RWM}				
RMS Reverse Voltage	$V_{(R)RMS}$		53		Volts
Average Rectified Output Current	I_O		150		mA
Forward Continuous current	I_{FM}		300		mA
Non-repetitive Peak Forward Surge Current @8.3µs	I_{FSM}		2.0		A
Power Dissipation	P_{tot}		150		mW
Thermal resistance junction to ambient	R_{QJA}		833		°C/W
Operating Junction temperature range	T_J	-55		+150	°C
Storage temperature range	T_{STG}	-55		+150	°C

SMD FAST SWITCHING DIODES SOD523 SERIES

CHARACTERISTICS at Ta= 25 °C

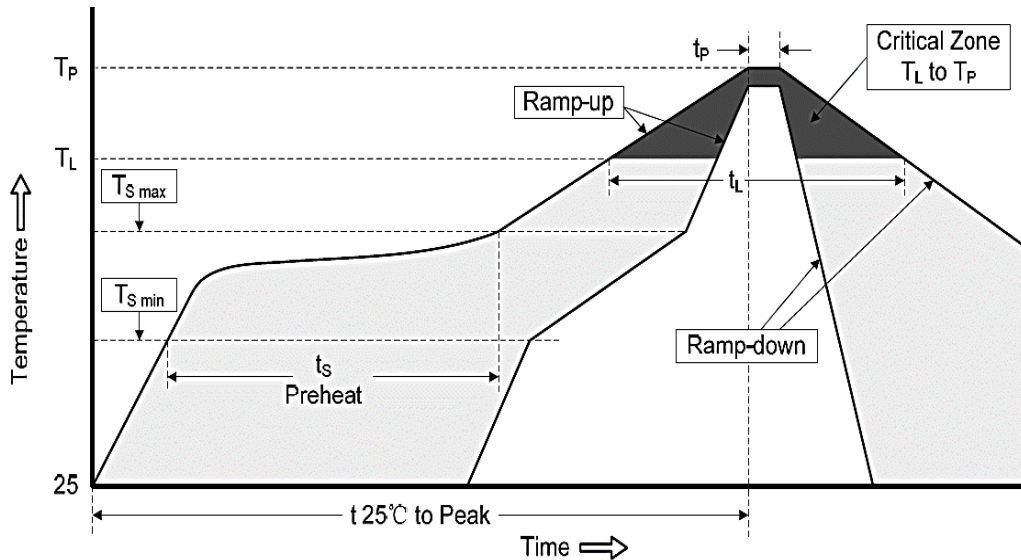
Parameter	SYMBOLS	VALUE			UNIT	Condition
		Min.	Typ.	Max.		
Reverse Voltage	V (BR)	75			V	@ I _R = 1 μA
Reverse Current	I _R			1	μA	@ V _R =75V
				25	nA	@ V _R = 20 V
Forward Voltage	V _F			0.715	V	@ I _F =1 mA
				0.855		@ I _F =10 mA
				1		@ I _F =50 mA
				1.25		@ I _F =150 mA
Junction Capacitance	C _{tot}			2	pF	V _R = 0 V, f=1 MHz
Reverse recovery time	t _{rr}			4	ns	I _F =I _R =10 mA, I _{rr} =0.1*I _R , R _L =100 Ω

SMD FAST SWITCHING DIODES SOD523 SERIES
RELIABILITY

Number	Experiment Items	Experiment Method And Conditions	Reference Documents
1	Solder Resistance Test	Test 260°C± 5°C for 10 ± 2 sec. Immerse body into solder 1/16" ± 1/32"	MIL-STD-750D METHOD-2031.2
2	Solderability Test	230°C ±5°C for 5 sec.	MIL-STD-750D METHOD-2026.1 0
3	Pull Test	1 kg in axial lead direction for 10 sec.	MIL-STD-750D METHOD-2036.4
4	Bend Test	0.5Kg Weight Applied To Each Lead, Bending Arcs 90 °C ± 5 °C For 3 Times	MIL-STD-750D METHOD-2036.4
5	High Temperature Reverse Bias Test	TA=100°C for 1000 Hours at VR=80% Rated VR	MIL-STD-750D METHOD-1038.4
6	Forward Operation Life Test	TA=25°C Rated Average Rectified Current	MIL-STD-750D METHOD-1027.3
7	Intermittent Operation Life Test	On state: 5 min with rated IRMS Power Off state: 5 min with Cool Forced Air. On and off for 1000 cycles.	MIL-STD-750D METHOD-1036.3
8	Pressure Cooker Test	15 PSIG, TA=121°C, 4 hours	MIL-S-19500 APPENOIXC
9	Temperature Cycling Test	-55°C~+125°C; 30 Minutes For Dwelled Time 5 minutes for transferred time. Total: 10 cycles.	MIL-STD-750D METHOD-1051.7
10	Thermal Shock Test	0°C for 5 minutes., 100°C for 5minutes, Total: 10 cycles	MIL-STD-750D METHOD-1056.7
11	Forward Surge Test	8.3ms Single Sale Sine-wave One Surge.	MIL-STD-750D METHOD-4066.4
12	Humidity Test	TA=65°C, RH=98% for 1000 hours.	MIL-STD-750D METHOD-1021.3
13	High Temperature Storage life Test	150°C for 1000 Hours	MIL-STD-750D METHOD-1031.5

SMD FAST SWITCHING DIODES SOD523 SERIES

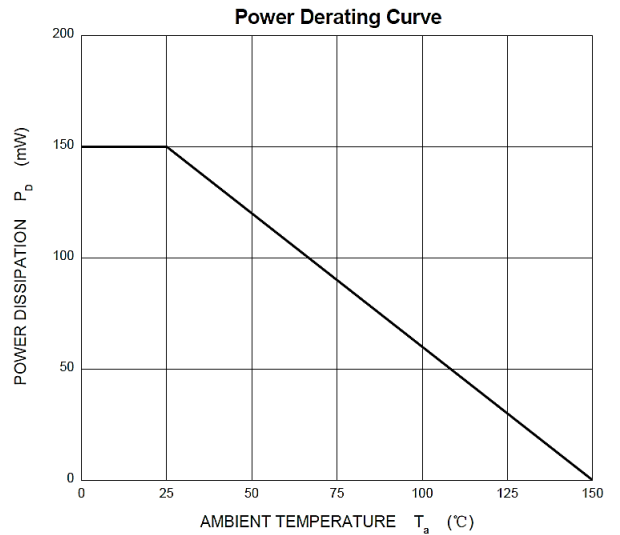
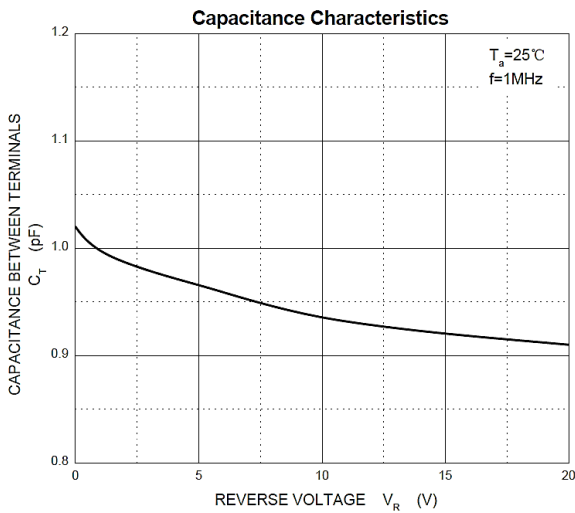
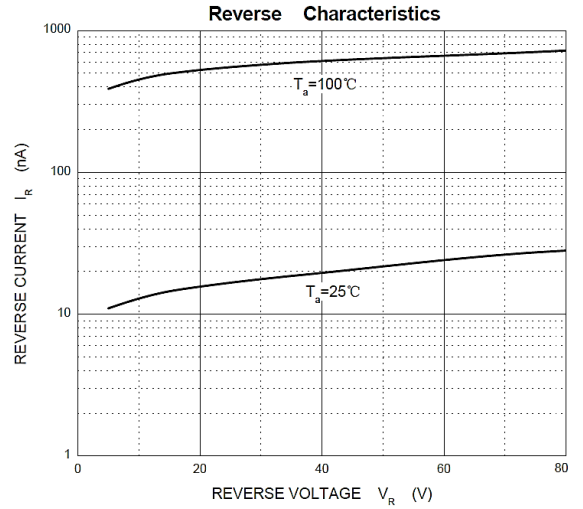
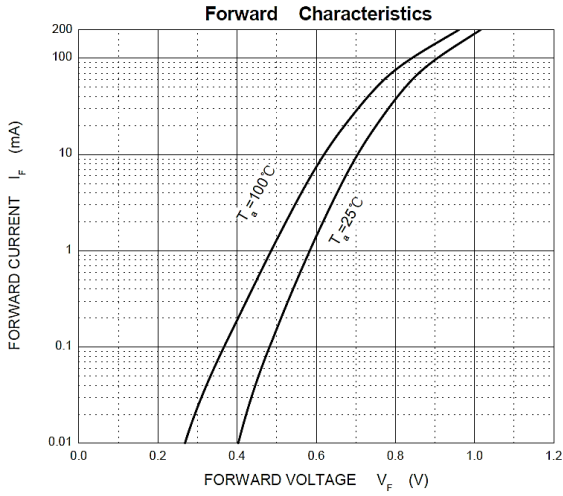
SUGGESTED REFLOW PROFILE (For Reference Only)



Profile Feature		Pb-Free Assembly
Average Ramp-up Rate (Ts Max to Tp)		3°C/second Max
Preheat	Temperature Min (Ts Min.)	150°C
	Temperature Max (Ts Max.)	200°C
	Time (ts Min. to ts Max.)	60 ~ 180 seconds
Time maintained above	Temperature (Tl)	217°C
	Time (ti)	60 ~ 150 seconds
Peak/Classification Temperature (Tp)		260 °C
Time within 5°C of actual Peak Temperature (tp)		20 ~ 40 seconds
Ramp-down rate		6 °C /Second Max.
Time 25 °C to Peak Temperature		8 minutes Max.
Suggest reflow times		3 Times Max.

SMD FAST SWITCHING DIODES SOD523 SERIES

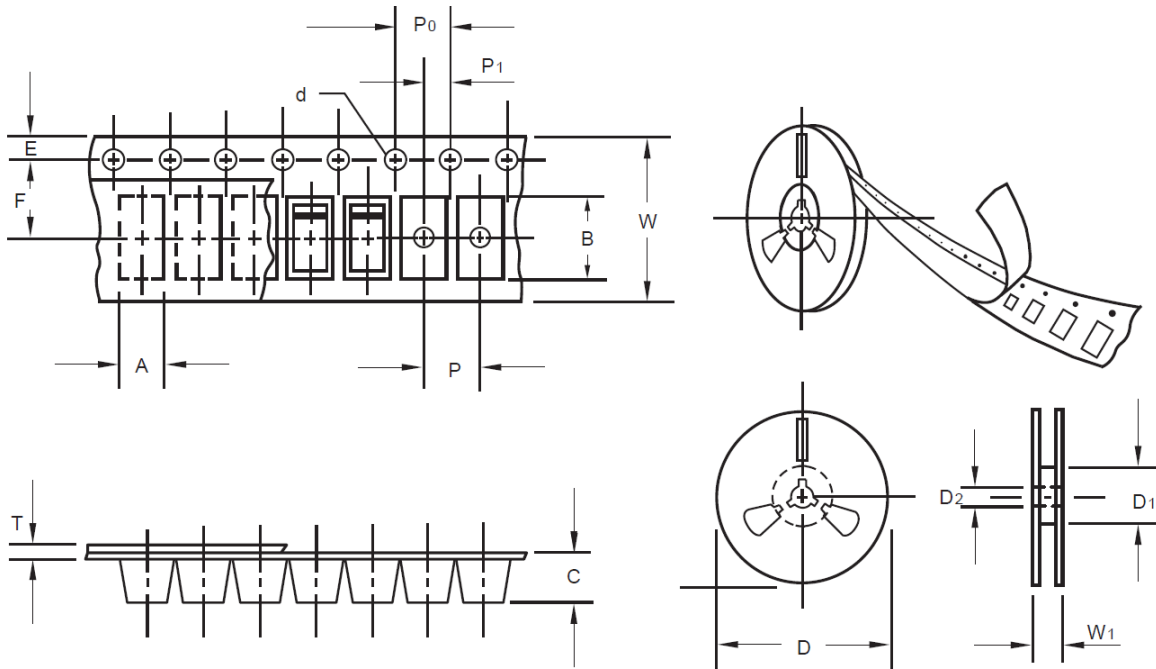
RATINGS AND CHARACTERISTIC CURVES (For Reference Only)



SMD FAST SWITCHING DIODES SOD523 SERIES

TAPE/REEL (Unit: mm)

All Devices are packed in accordance with EIA standard RS-481-A and specifications.



Item	Symbol	Tolerance	SOD-523
Carrier width	A	0.1	2.10
Carrier Length	B	0.1	4.00
Carrier Depth	C	0.1	1.60
Sprocket hole	d	0.05	1.55
13"Reel outside diameter	-	-	-
13"Reel inner diameter	-	-	-
7"Reel outside diameter	D	2.0	178.00
7"Reel inner diameter	D1	Min.	50.00
Feed hole diameter	D2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P0	0.1	4.00
Embossment center	P1	0.1	2.00
Overall tape thickness	T	0.1	0.25
Tape width	W	0.3	8.15
Reel width	W1	1.0	10.50

SMD FAST SWITCHING DIODES SOD523 SERIES

SPQ PACKAGE for Reference

Item	Unit	Value
Case Code		SOD-523
Reel Size	Inch	7
Reel Size	mm	178
Tape Space	mm	/
SPQ /Reel	pcs	3000
Weigh /SPQ	LBs	0.154
Weigh /SPQ	KGs	0.07
Qty. Per Box	pcs	6,000
Inner Box	Inch	L8.0*W8.0*H1.5

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