

FEATURES

Extremely Fast Switching Speed
Low Forward Voltage

VOLTAGE RANGE

30 Volts

CURRENT

0.1 Ampere

MECHANICAL DATA

Case: SOD-523

Terminals: Solderable per MIL-STD-750, Method 2026



SOD-523



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Maximum Ratings @Ta=25°C

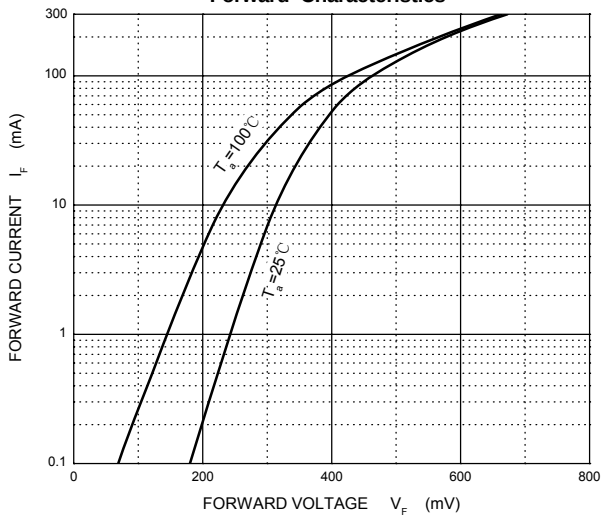
Parameter	Symbol	Limit	Unit
Non-repetitive peak reverse voltage	V_{RM}	30	V
DC blocking voltage	V_R	21	V
Average rectified output current	I_O	100	mA
Forward continuous current	I_F	200	mA
Repetitive peak forward current	I_{FRM}	300	mA
Non-repetitive Peak Forward surge current @t=8.3ms	I_{FSM}	600	mA
Power dissipation	P_d	150	mW
Thermal resistance junction to ambient	$R_{\theta JA}$	667	°C/W
Junction temperature	T_J	125	°C
Storage temperature range	T_{STG}	-55~+150	°C

Electrical Characteristics ($T_J=25^{\circ}\text{C}$ unless otherwise noted)

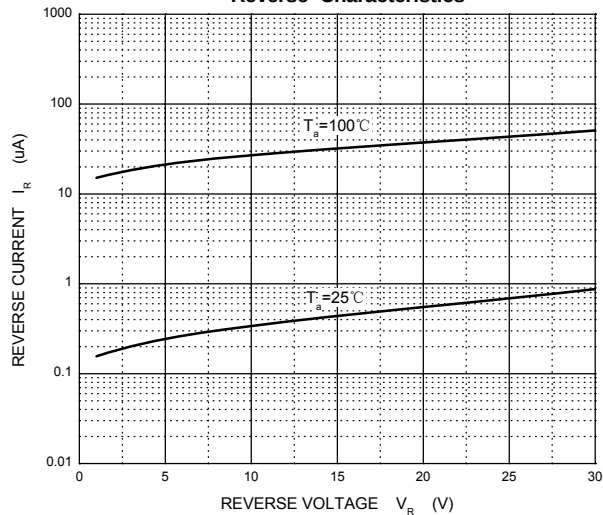
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse breakdown voltage	$V_{(BR)}$	$I_R=100\mu\text{A}$	30			V
Forward voltage	V_{F1}	$I_F=0.1\text{mA}$			240	mV
	V_{F2}	$I_F=1.0\text{mA}$			320	mV
	V_{F3}	$I_F=10\text{mA}$			400	mV
	V_{F4}	$I_F=30\text{mA}$			500	mV
	V_{F5}	$I_F=100\text{mA}$			1000	mV
Reverse current	I_R	$V_R=25\text{V}$			2.0	μA
Reverse recovery time	t_{rr}	$I_F=10\text{mA}$, $I_R=10\text{mA}$ to 1mA , $R_L=100\Omega$			5.0	ns
Capacitance between terminals	C_T	$V_R=1\text{V}$, $f=1\text{MHz}$			10	pF

RATING AND CHARACTERISTIC CURVES

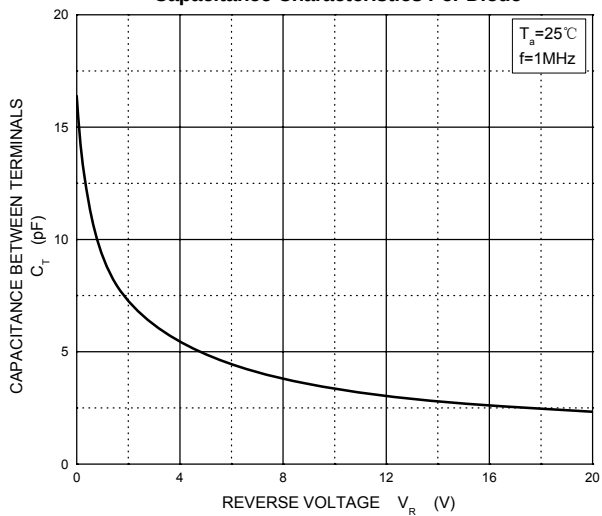
Forward Characteristics



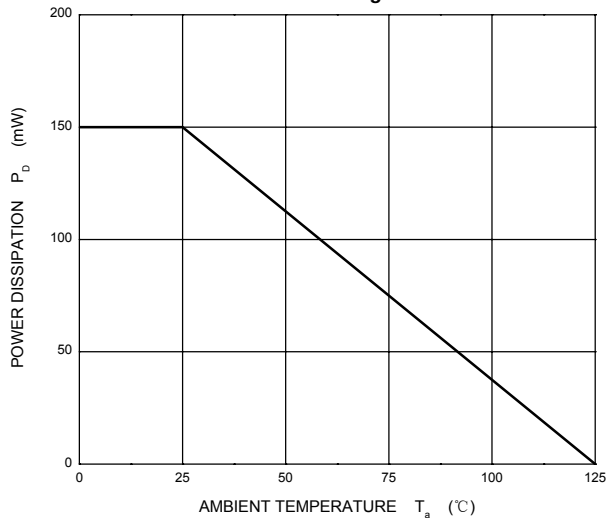
Reverse Characteristics



Capacitance Characteristics Per Diode

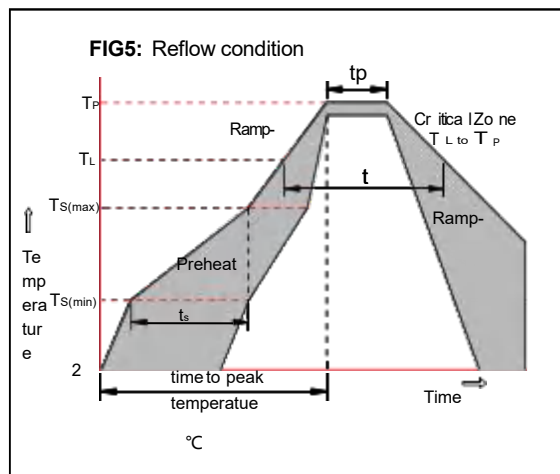


Power Derating Curve



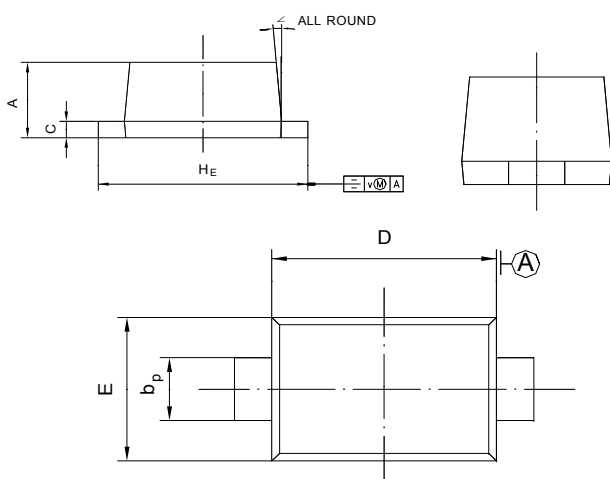
Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C

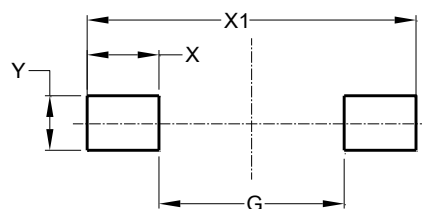


Package Dimensions & Suggested Pad Layout

SOD523

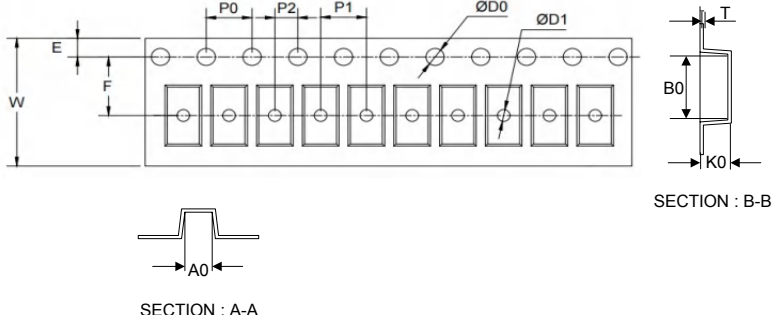
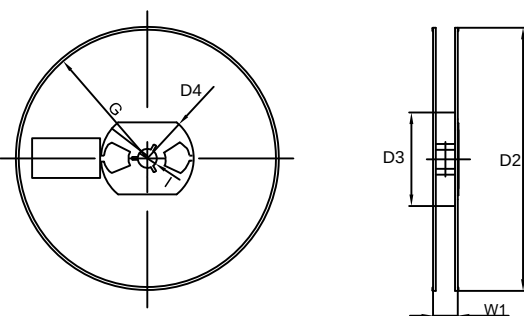


UNIT	A	b _p	C	D	E	H _E	V	∠
mm	0.70 0.50	0.40 0.20	0.14 0.05	1.30 1.10	0.90 0.75	1.70 1.50	0.1	5°



Dimensions	Value (in mm)
G	0.85
X	0.70
X1	2.25
Y	0.80

Tape & reel specification

Tape		Symbol	Dimension (mm)
		P0	4.00±0.20
		P1	2.00±0.20
		P2	2.00±0.20
		D0	1.55±0.20
		D1	0.50±0.20
		E	1.55±0.25
		F	3.60±0.20
		W	8.00±0.20
		A0	1.30±0.20
		B0	2.35±0.20
		K0	0.95±0.20
		T	0.20±0.20
		D2	177.0±5.0
		D3	55Min.
7" Reel		D4	R24.6±2.0
		G	R82.0±2.0
		I	13.0±2.0
		W1	10.20±3.0
		Quantity: 3000PCS	