

FEATURES

Metal silicon junction, majority carrier conduction
Guarding for overvoltage protection
Low power loss, high efficiency
High current capability
low forward voltage drop
High surge capability
For use in low voltage, high frequency inverters,
free wheeling, and polarity protection applications

MECHANICAL DATA

Case: SOD-523

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

VOLTAGE RANGE

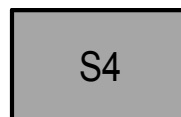
40 Volts

CURRENT

0.35 Ampere



SOD-523



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwise specified.
Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	40	V
Reverse Voltage	V_R	40	V
Average Forward Rectified Current	$I_{F(AV)}$	350	mA
Non-repetitive Peak Forward Surge Current @t=8.3ms	I_{FSM}	2	A
Power Dissipation	P_{tot}	200	mW
Operating and Storage Temperature Range	T_j, T_{stg}	- 65 to + 125	°C

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage at $I_R=10\mu\text{A}$	$V_{(BR)R}$	40	- - -	- - -	V
Reverse Leakage Current at $V_R=30\text{V}$	I_R	- -	- -	5	μA
Forward Voltage at $I_F=20\text{ mA}$ at $I_F=200\text{ mA}$	V_F	- -	- -	0.37 0.6	V
Total Capacitance at $V_R=0\text{ V}$, $f=1\text{ MHz}$	C_T	-	50	-	pF
Reverse Recovery Time at $I_F=I_R=200\text{ mA}$, $I_{rr}=0.1 I_R$, $R_L=100\ \Omega$	t_{rr}	-	10	-	ns

RATING AND CHARACTERISTIC CURVES

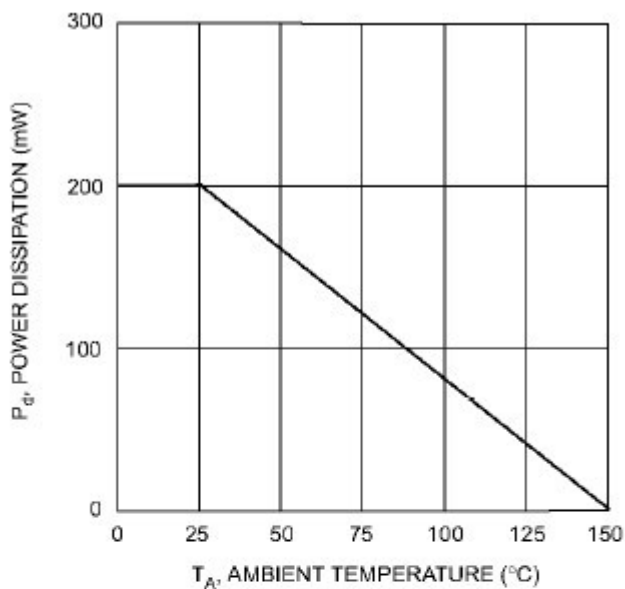


Fig. 1 Power Derating Curve

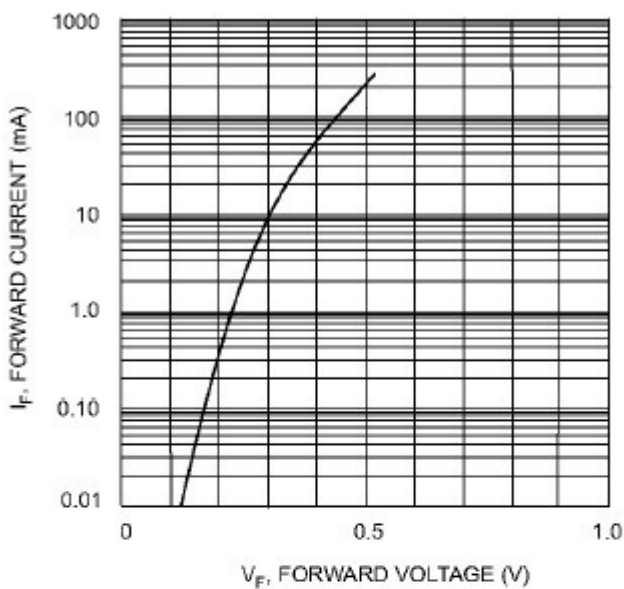


Fig. 2 Typical Forward Characteristics

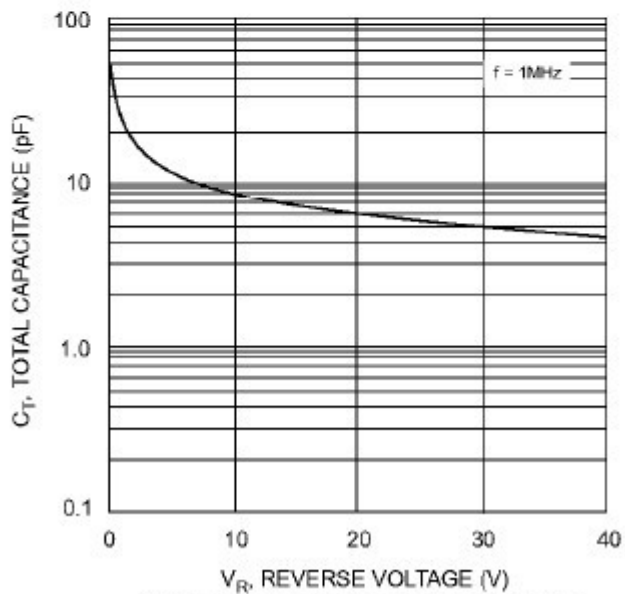
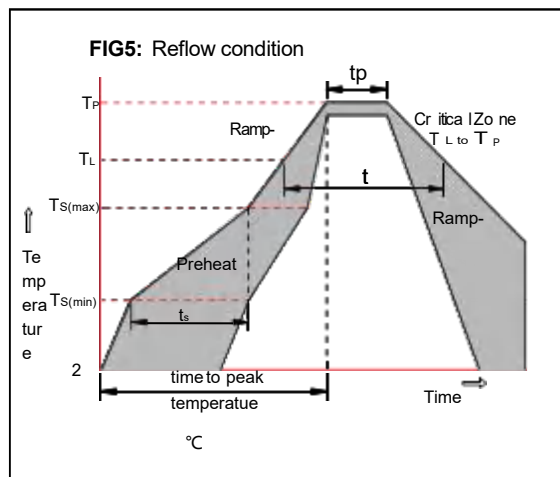


Fig. 3 Total Capacitance vs Reverse Voltage

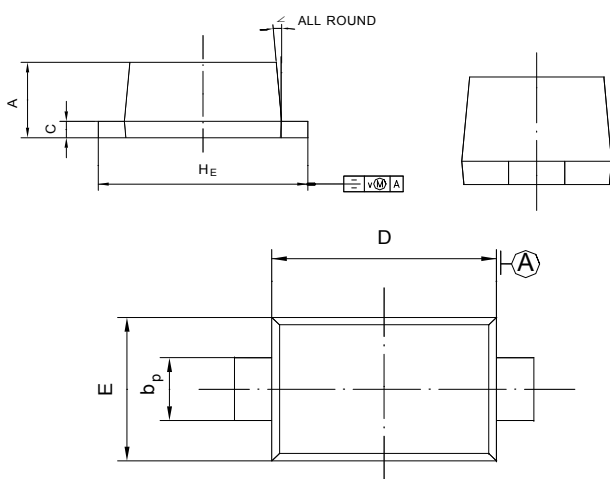
Soldering parameters

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

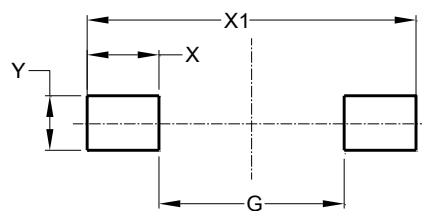


Package Dimensions & Suggested Pad Layout

SOD523



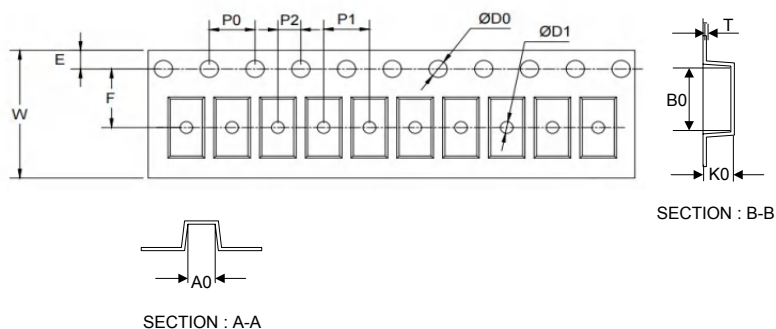
UNIT	A	b _p	C	D	E	H _E	V	∠
mm	0.70 0.50	0.40 0.20	0.14 0.05	1.30 1.10	0.90 0.75	1.70 1.50	0.1	5°



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

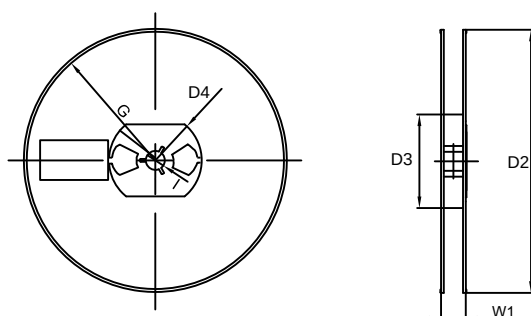
Tape & reel specification

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.
D4	R24.6±2.0
G	R82.0±2.0
I	13.0±2.0
W1	10.20±3.0

7" Reel



Quantity: 3000PCS