

FEATURES

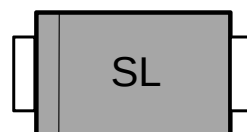
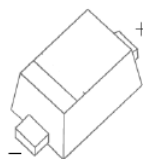
Low Forward Voltage Drop
SOD523 Micro SMD package
RoHS compliant / Green EMC
Matte Tin (Sn) Lead finish
Cathode Band / Device marking
Surface Mount Package Ideally Suited
for Automatic Insertion

VOLTAGE RANGE

40 Volts

CURRENT

1 A



SOD-523

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Value	Units
V_{RRM}	Repetitive Peak Reverse Voltage	40	V
$I_{F(AV)}$	Average Forward Rectified Current	1	A
I_{FSM}	Non-Repetitive Peak Forward Surge Current (@t=8..3ms)	6	A
T_J	Operating Junction Temperature	125	°C
T_{STG}	Storage Temperature Range	-50 to +125	°C

Characteristics at Ta = 25°C

Symbol	Parameter	Conditions	Min	Max	Units
V_F	Forward Voltage	$I_F = 0.3A$		0.5	V
		$I_F = 1A$		0.68	V
I_R	Reverse current	$V_R = 40V$		100	μA
V_{BR}	Reverse breakdown voltage	$I_R = 0.5mA$	40		V
C_T	Capacitance	$V_R = 0V, f = 1MHz$		100	pF

RATING AND CHARACTERISTIC CURVES

Fig. 1 - Forward Current Derating Curve

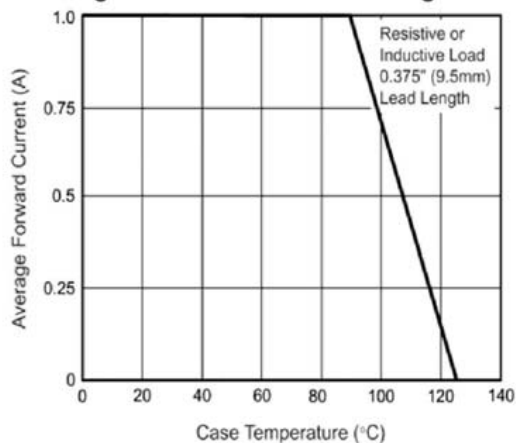


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

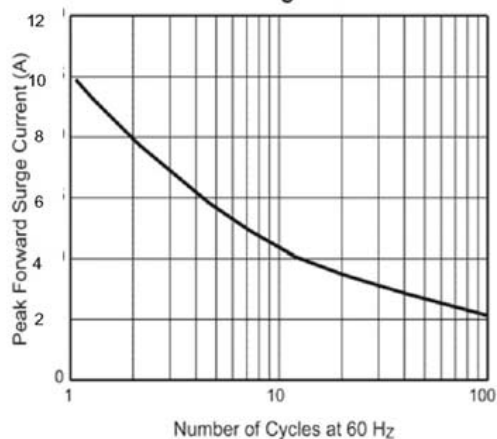


Fig. 3 - Typical Instantaneous Forward Characteristics

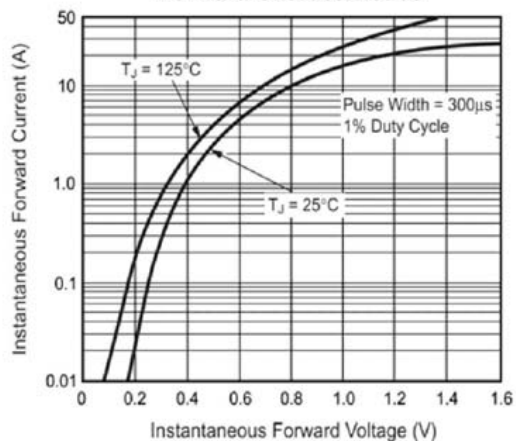


Fig. 4 - Typical Reverse Characteristics

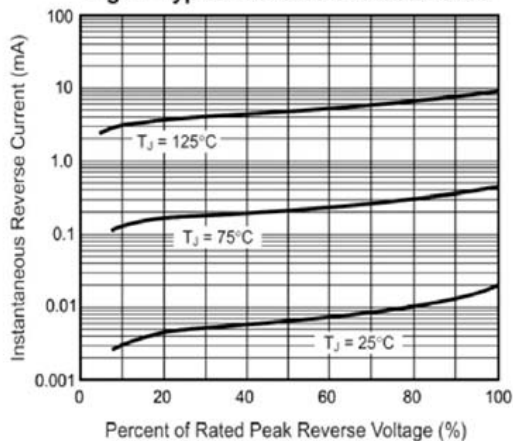


Fig. 5 - Typical Junction Capacitance

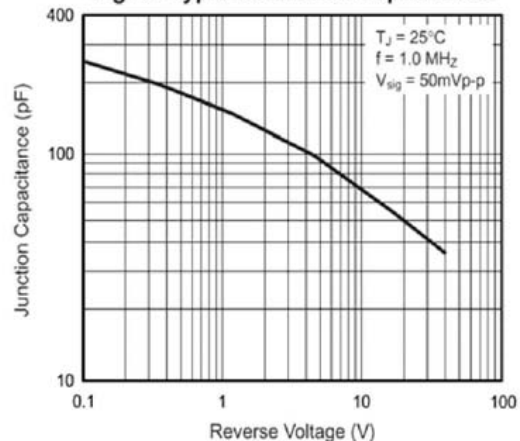
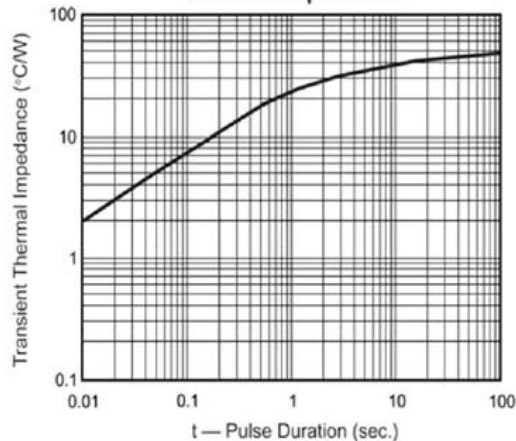
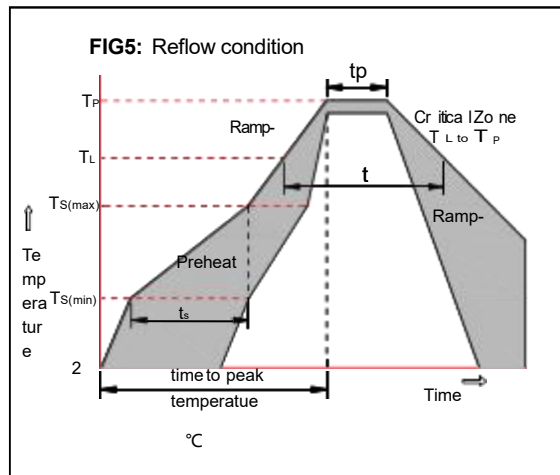


Fig. 6 - Typical Transient Thermal Impedance



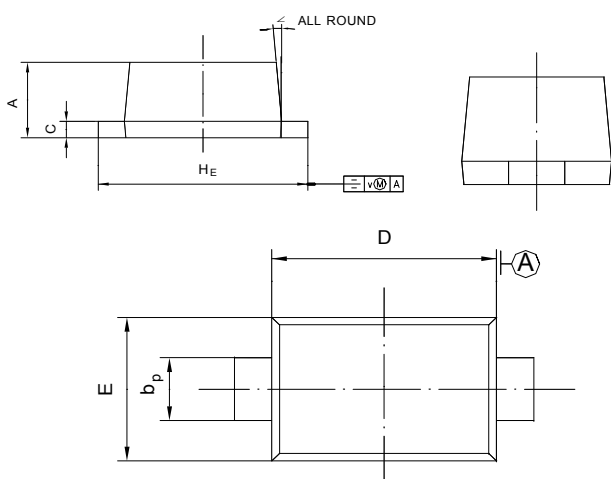
Soldering parameters

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

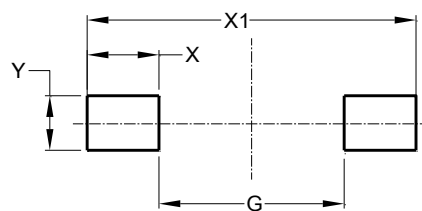


Package Dimensions & Suggested Pad Layout

SOD523



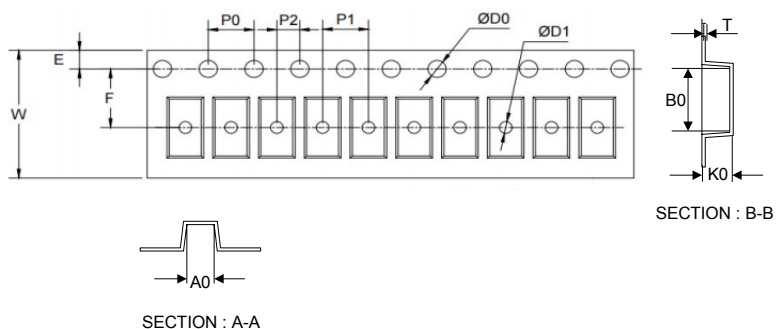
UNIT	A	b _p	C	D	E	H _E	V	∠
mm	0.70 0.50	0.40 0.20	0.14 0.05	1.30 1.10	0.90 0.75	1.70 1.50	0.1	5°



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
Quantity: 3000PCS	

7" Reel

