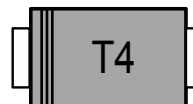


FEATURES

Fast switching speed
Ultra-small surface mount package
For general purpose switching applications
High conductance

MECHANICAL DATA

SOD-523 Small Outline Plastic Package
Polarity: Color band denotes cathode end
Epoxy UL: 94V-0
Mounting Position: Any



VOLTAGE RANGE

100.0 Volts

CURRENT

0.15 Ampere

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
Non-Repetitive Peak Reverse Voltage	V_{RM}	100	V
Reverse Voltage	V_R	75	V
Average Rectified Forward Current	$I_{F(AV)}$	125	mA
Forward Continuous Current	I_{FM}	250	mA
Non-repetitive Peak Forward Surge Current at $t = 1 \mu s$ at $t = 100 ms$	I_{FSM}	2 1	A
Power Dissipation	P_{tot}	150	mW
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	833	°C/W
Operating Temperature Range	T_j	- 65 to + 150	°C
Storage Temperature Range	T_{stg}	- 65 to + 150	°C

Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified).

Parameter	Symbol	Min.	Max.	Unit
Reverse Breakdown Voltage at $I_R = 1 \mu A$	$V_{(BR)R}$	75	-	V
Forward Voltage at $I_F = 1 mA$ at $I_F = 10 mA$ at $I_F = 50 mA$ at $I_F = 150 mA$	V_F	- - - -	0.715 0.855 1 1.25	V
Peak Reverse Current at $V_R = 75 V$ at $V_R = 20 V$ at $V_R = 75 V, T_J = 150 ^\circ C$ at $V_R = 25 V, T_J = 150 ^\circ C$	I_R	- - - -	1 25 50 30	μA nA μA μA
Total Capacitance at $V_R = 0 V, f = 1 MHz$	C_T	-	2	pF
Reverse Recovery Time at $I_{rr} = 0.1 \times I_R, I_F = I_R = 10 mA, R_L = 100 \Omega$	t_{rr}	-	4	ns

RATING AND CHARACTERISTIC CURVES

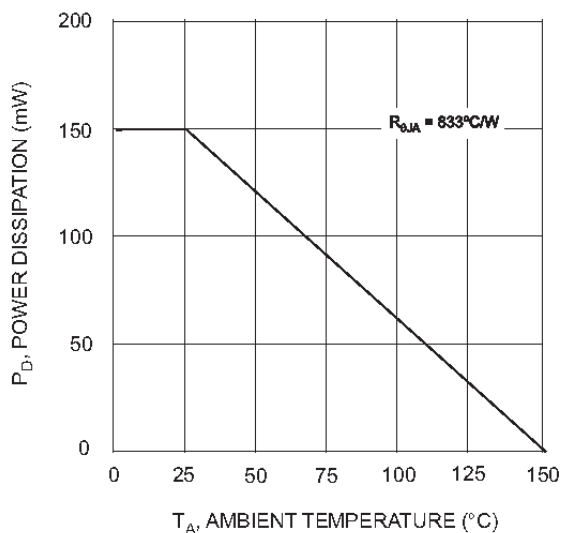


Fig. 1 Derating Curve

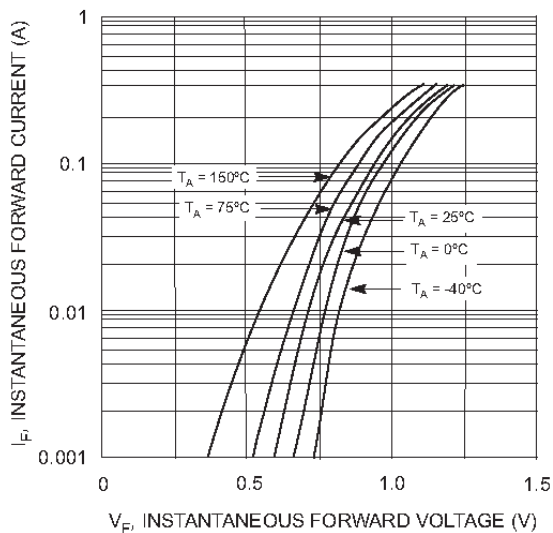


Fig. 2 Forward Characteristics

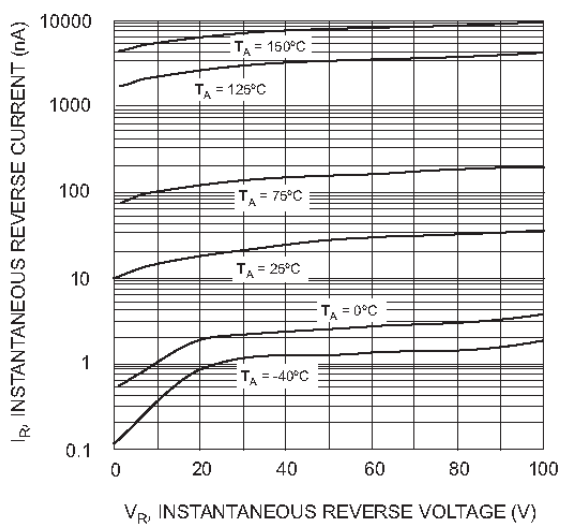


Fig. 3 Typical Reverse Characteristics

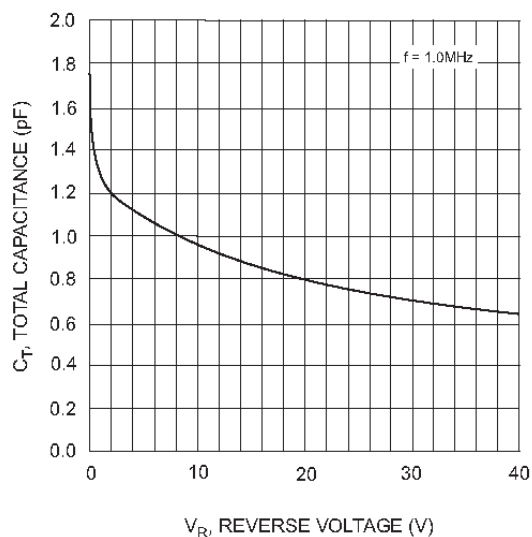
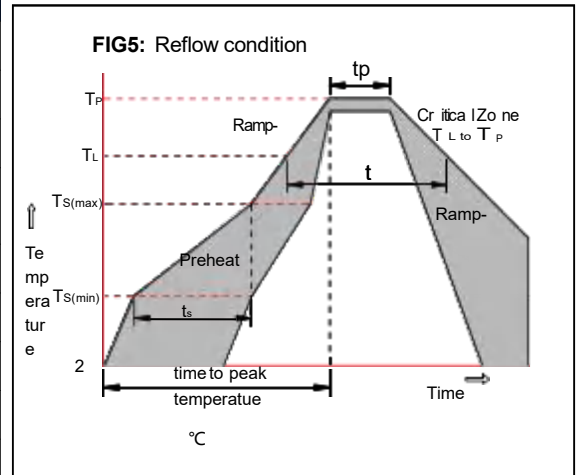


Fig. 4 Typical Capacitance vs. Reverse Voltage

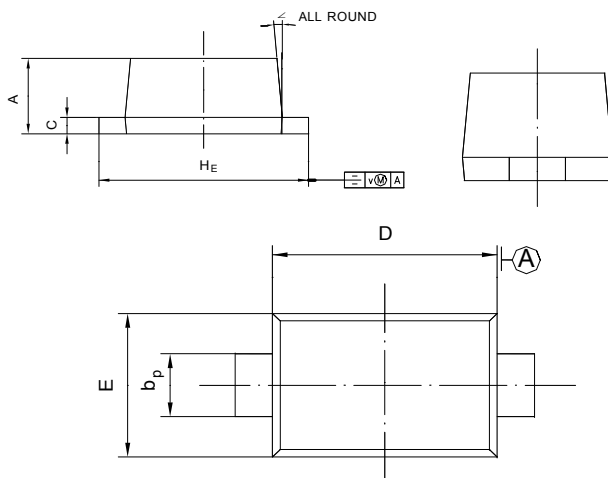
Soldering parameters

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

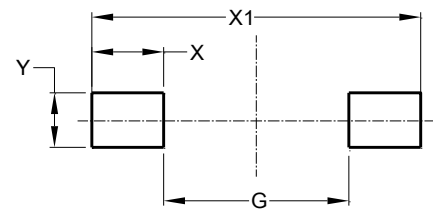


Package Dimensions & Suggested Pad Layout

SOD523

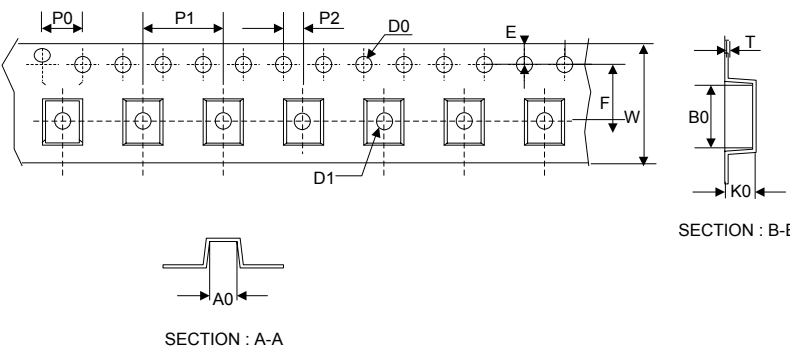
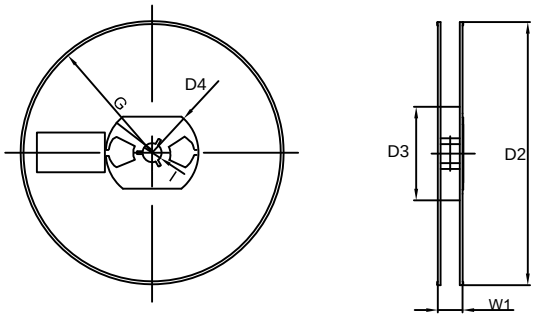


UNIT	A	b _p	C	D	E	H _E	V	∠
mm	0.70 0.50	0.40 0.20	0.14 0.05	1.30 1.10	0.90 0.75	1.70 1.50	0.1	5°



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
7" Reel		G	R82.0±2.0
		I	13.0±2.0
		W1	10.20±3.0
		Quantity: 3000PCS	