

FEATURES

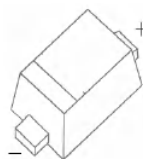
High breakdown voltage
Low turn-on voltage
Guard ring construction for transient protection

VOLTAGE RANGE

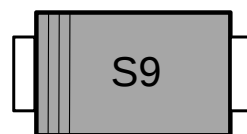
100 Volts

CURRENT

150mA



SOD-523



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Limit	Unit
Peak repetitive peak reverse voltage	V_{RRM}	100	V
Working peak reverse voltage	V_{RWM}		
Forward continuous current	I_F	150	mA
Repetitive peak forward current (Note 1) @ $t_p < 1.0s$, Duty Cycle < 50%	I_{FRM}	350	mA
Non-repetitive Peak Forward surge current @ $t = 8.3ms$	I_{FSM}	750	mA
Power dissipation	P_D	500	mW
Thermal resistance junction to ambient air	$R_{\theta JA}$	200	°C/W
Junction temperature	T_j	125	°C
Storage temperature	T_{STG}	-55~+150	°C

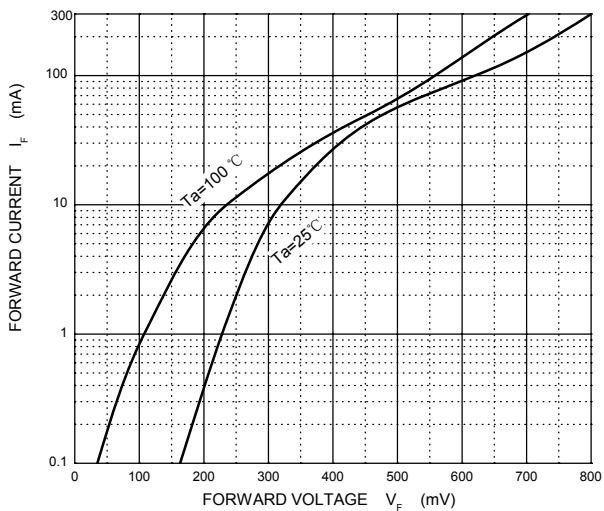
Characteristics at Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse breakdown voltage(Note 2)	V_R	$I_R = 100\mu A$	100			V
Reverse voltage leakage current	I_R	$V_{R1} = 1.5V$			0.3	μA
		$V_{R2} = 10V$			0.5	
		$V_{R3} = 50V$			1	
		$V_{R4} = 75V$			2	
Forward voltage(Note 2)	V_F	$I_{F1} = 0.1mA$			0.30	V
		$I_{F2} = 10mA$			0.45	
		$I_{F3} = 250mA$			1	
Diode capacitance	C_T	$V_R = 0, f = 1MHz$		20		pF
		$V_R = 1V, f = 1MHz$		12		

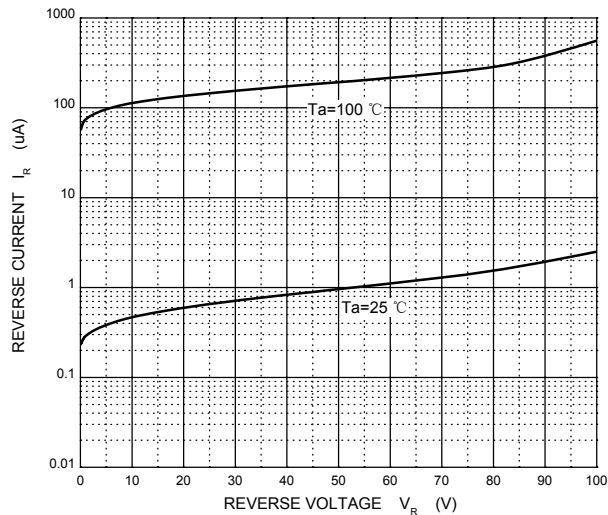
Notes: 1. Part mounted on FR-4 board with recommended pad layout.
2. Short duration pulse test used to minimize self-heating effect.

RATING AND CHARACTERISTIC CURVES

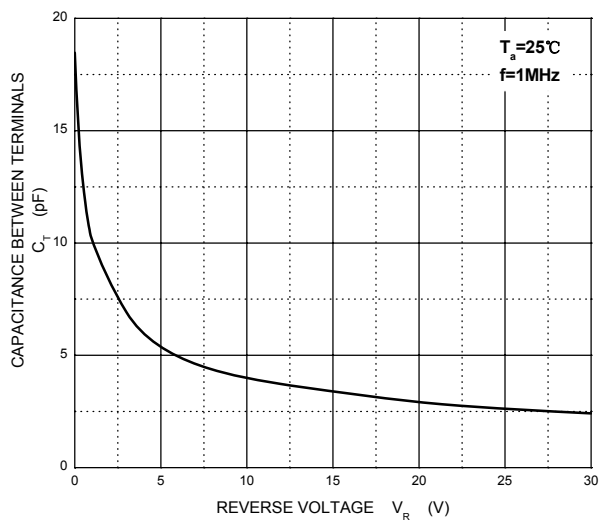
Forward Characteristics



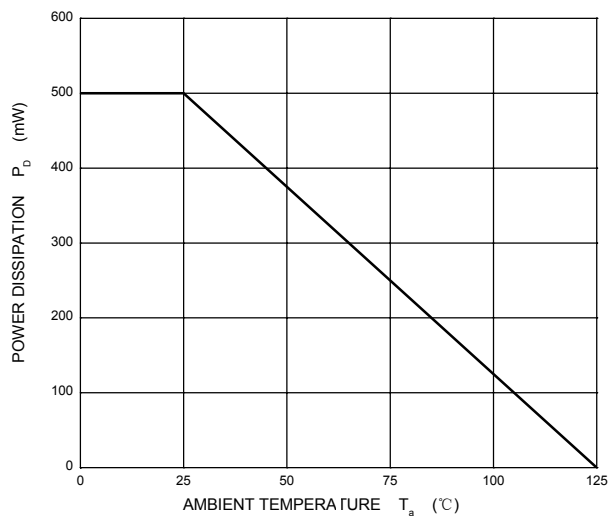
Reverse Characteristics



Capacitance Characteristics

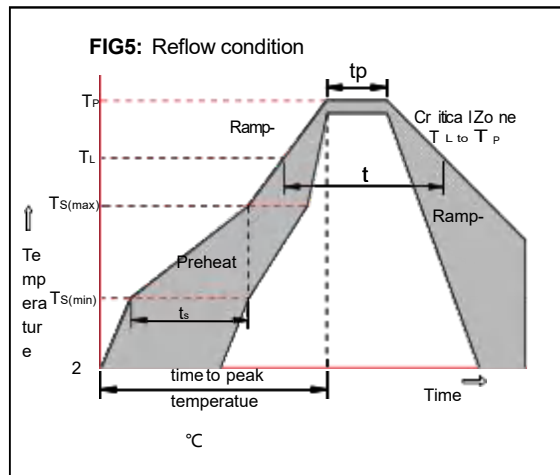


Power Derating Curve



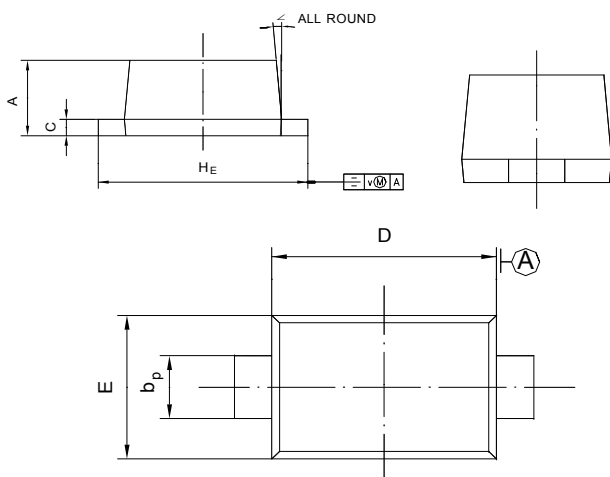
Soldering parameters

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

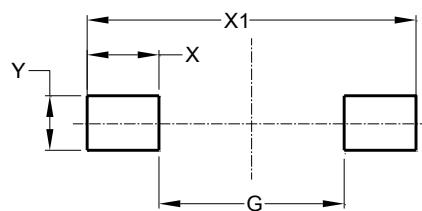


Package Dimensions & Suggested Pad Layout

SOD523



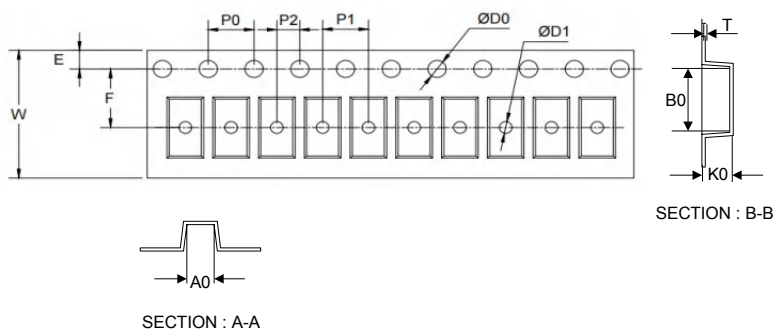
UNIT	A	b _p	C	D	E	H _E	V	∠
mm	0.70 0.50	0.40 0.20	0.14 0.05	1.30 1.10	0.90 0.75	1.70 1.50	0.1	5°



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.
D4	R24.6±2.0
G	R82.0±2.0
I	13.0±2.0
W1	10.20±3.0
Quantity: 3000PCS	

7" Reel

