

SOD-523 Plastic-Encapsulate ESD Protection Diodes

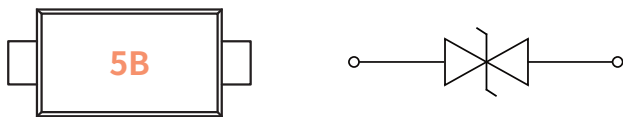
Features

- Low leakage current
- SOD-523 surface mount package
- IEC 61000-4-2 (ESD Air): ±20kV
- IEC 61000-4-2 (ESD Contact): ±15kV
- IEC 61000-4-5 (Lightning 8/20μs): 4A

Applications

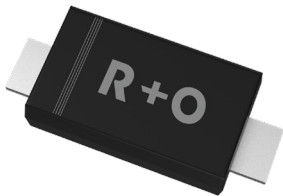
- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation, Digital Cameras
- Peripherals, Audio Players, Industrial Equipment

Function Diagram



Reverse Working Voltage
5.0V Max.
Ultra Small capacitance
0.3pF(Typ.)

SOD-523

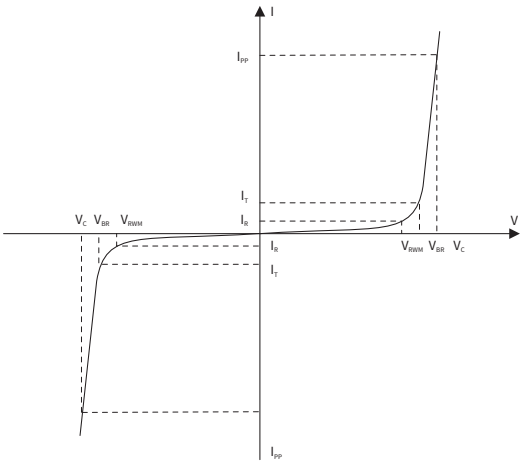


Maximum Ratings (Ta=25°C Unless otherwise specified)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
VESD	Electrostatic Discharge Voltage	ESD per IEC 61000-4-2(Air)	±20	KV
		ESD per IEC 61000-4-2(Contact)	±15	KV
P _{PP}	Peak Pulse Power	tp = 8/20 μs	80	W
I _{PP}	Rated Peak Pulse Current	tp = 8/20 μs	4	A
T _J	Operating JunctionTemperature Range	—	-55 to +125	°C
T _{STG}	Operating JunctionTemperature Range	—	-55 to +150	°C

Electrical Parameter

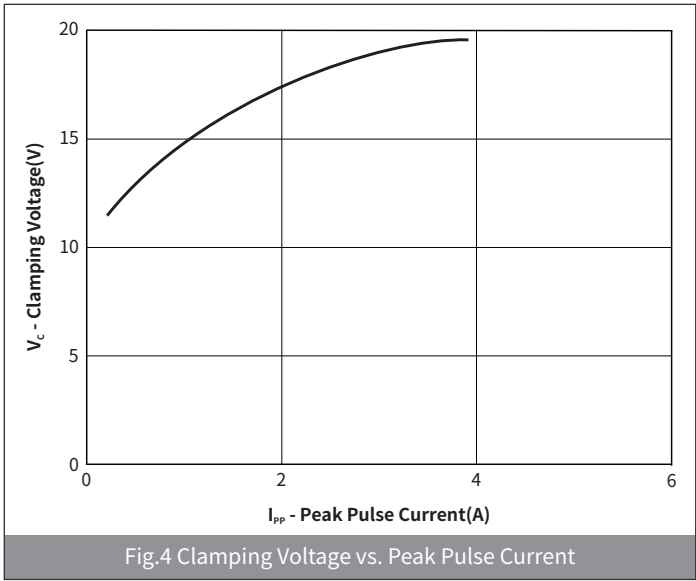
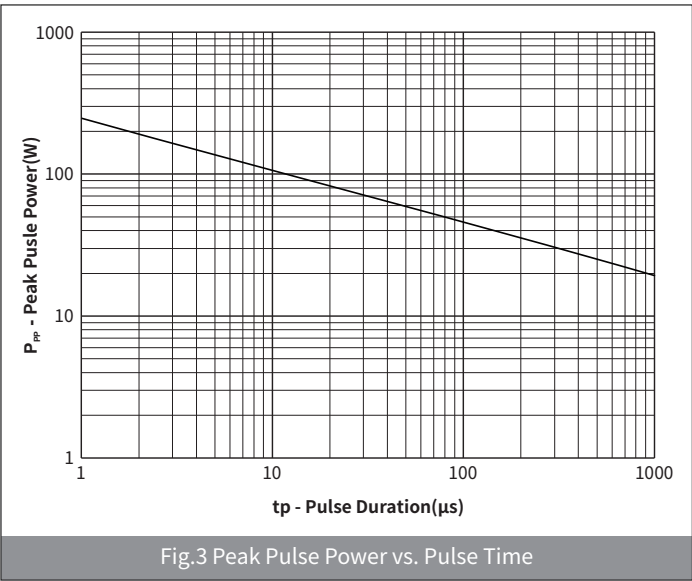
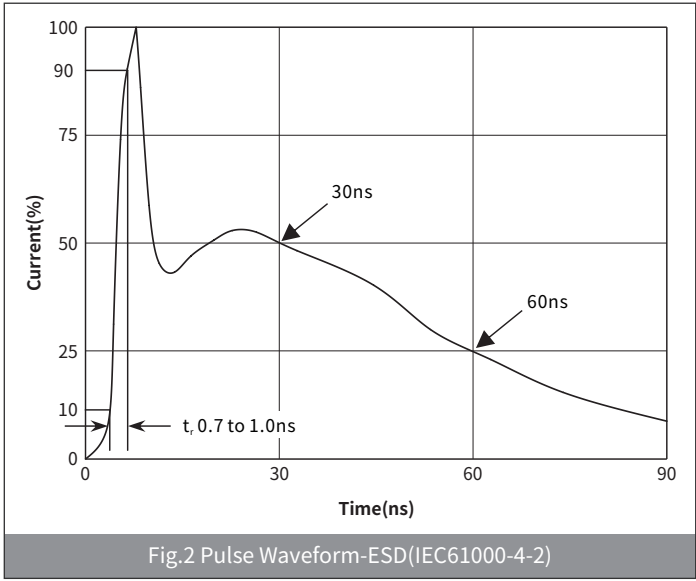
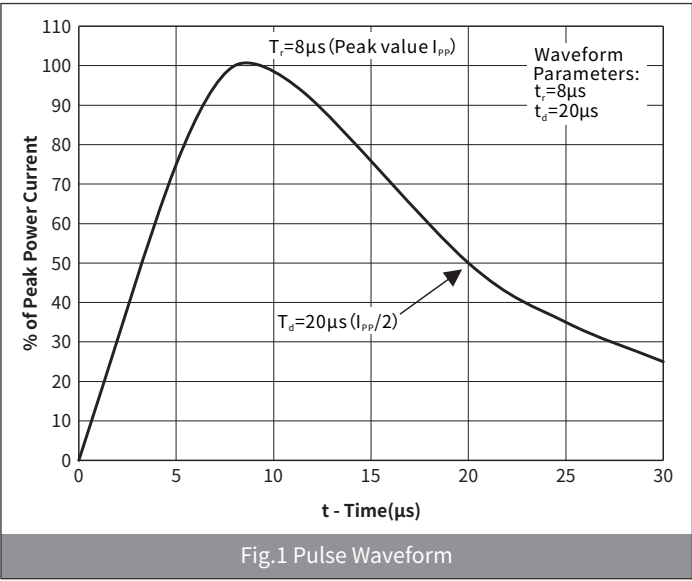
SYMBOL	PARAMETER
V _C	Clamping Voltage @ I _{PP}
V _{BR}	Breakdown Voltage @ I _T
I _{PP}	Peak Pulse Current
I _T	Test Current
I _R	Reverse Leakage Current @ VRWM
V _{RWM}	Peak Reverse Working Voltage
P _{PP}	Peak Pulse Power Dissipation
C _J	Junction Capacitance @ V _R =0V,f=1MHz
I _F	Forward Current
V _F	Forward Voltage @I _F



● **Electrical Characteristics** (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	CONDITION	Min	Typ	Max	UNIT
Peak Reverse Working Voltage	V_{RWM}	$T_a=25^{\circ}\text{C}$	—	—	5.0	V
Breakdown Voltage	V_{BR}	$I_R=1\text{mA}, T_a=25^{\circ}\text{C}$	6.0	7.5	9.5	V
Reverse Leakage Current	I_R	$V_R=5.0\text{V}, T_a=25^{\circ}\text{C}$	—	—	0.2	μA
Clamping Voltage	V_C	$I_{PP}=1\text{A}, t_p=8/20\mu\text{s}$	—	—	12	V
Clamping Voltage	V_C	$I_{PP}=4\text{A}, t_p=8/20\mu\text{s}$	—	—	20	V
Junction Capacitance	C_J	$V_R=0\text{V}, f=1\text{MHz}$	—	0.3	0.6	pF

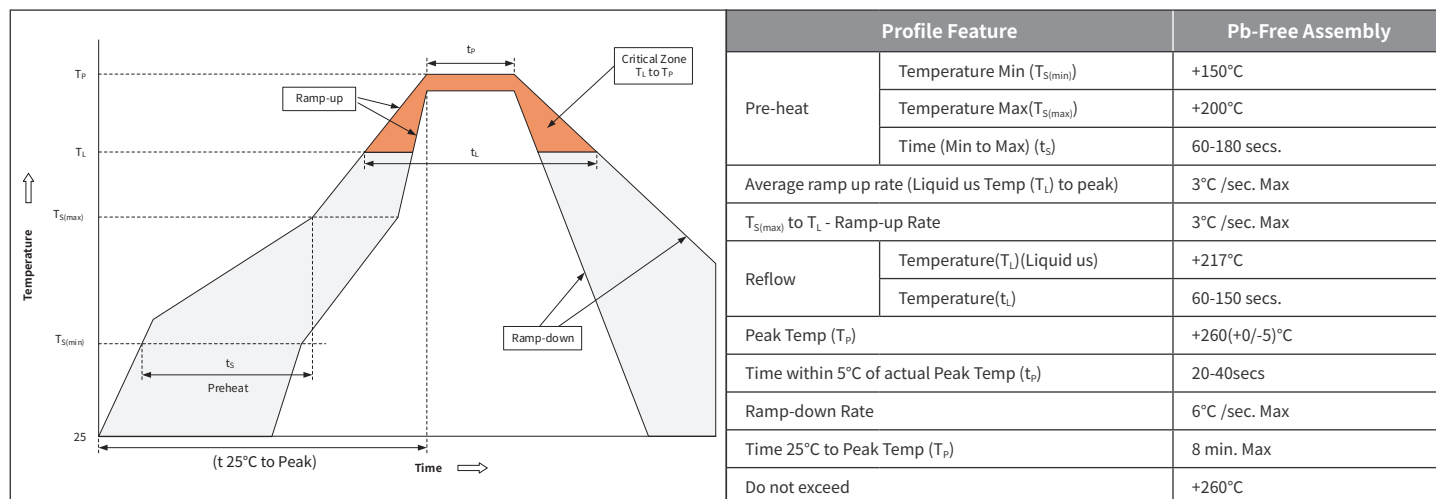
● **Ratings And Characteristics Curves** (Ta=25°C Unless otherwise specified)



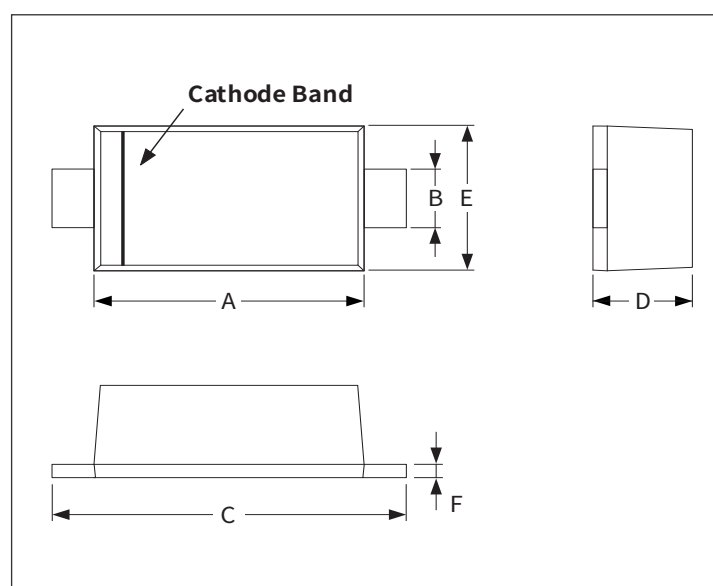
Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOD-523	R1	0.002	3000	45000	180000	7"

Recommended Soldering Conditions



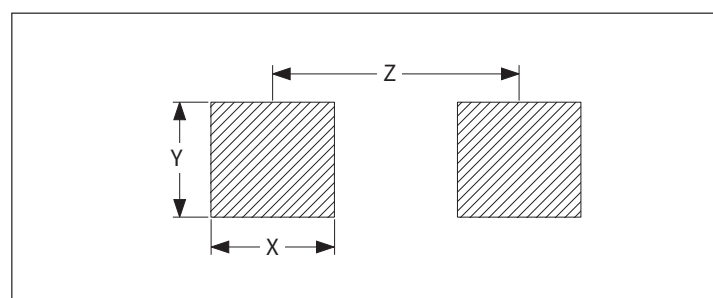
Package Outline Dimensions (SOD-523)



The diagram shows the package outline dimensions for SOD-523. Dimensions are labeled A, B, C, D, E, and F. A Cathode Band is indicated on the top surface. The table provides the dimensions in Millimeters and Inches.

Symbol	Dimensions			
	Millimeters		Inches	
	Min	Max	Min	Max
A	1.10	1.30	0.043	0.051
B	0.500	0.700	0.020	0.028
C	0.250	0.350	0.010	0.014
D	0.080	0.150	0.003	0.006
E	0.750	0.850	0.030	0.033
F	1.100	1.300	0.043	0.051

Suggested Pad Layout



The diagram shows the suggested pad layout for the SOD-523 package. Dimensions are labeled X, Y, and Z. The table provides the dimensions in Millimeters and Inches.

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
X	0.55	0.65	0.022	0.026
Y	1.05	1.15	0.041	0.045
Z	0.75	0.85	0.030	0.033