



SE05Q2BDD5H

ESD PROTECTION DIODE

FEATURES

- 84W Peak Pulse Power per Line ($t_p=8/20\mu s$)
- IEC61000-4-2(ESD) $\pm 30KV$ (air), $\pm 30KV$ (Contact)
- Protect One Power or I/O Port
- Low Clamping Voltage
- Low Leakage current
- Bi-directional Configurations
- Suffix " H " indicated Halogen-free part, ex.SE05Q2BDD5H

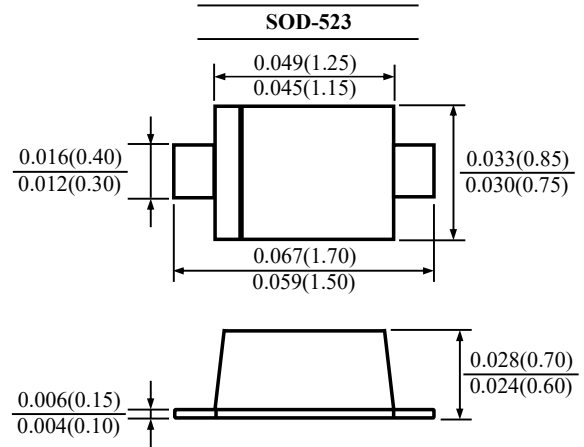
APPLICATIONS

- Cellular handsets and accessories
- Portable instrumentation
- Peripherals
- Serial and Parallel Ports
- Notebooks, Desktops, Servers

MECHANICAL DATA

Case : SOD-523

PIN CONFIGURATION



Dimensions in inches and (millimeters)

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

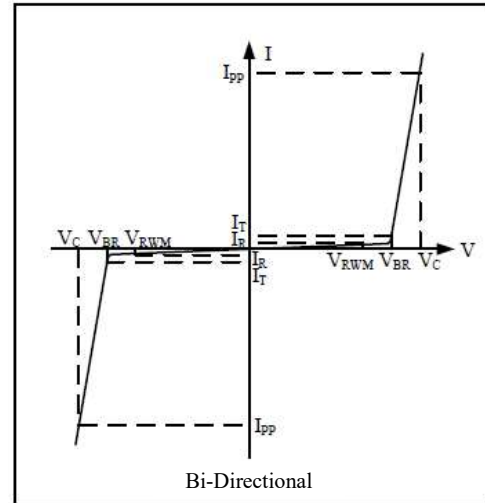
Parameter	Symbol	Value	Units
Peak Pulse Power ($t_p=8/20\mu s$)	P_{PP}	84	W
Peak Pulse Current ($t_p=8/20\mu s$)	I_{PP}	6	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 30	KV
ESD per IEC 61000-4-2 (Contact)		± 30	
ESD Voltage	V_{ESD}	30	KV
		500	V
Operating Junction Temperature Range	T_J	-55 to +125	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C



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Symbol	Parameter
V_{RWM}	Nominal Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Reverse Breakdown Voltage @ I_T
I_T	Test Current for Reverse Breakdown
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Maximum Peak Pulse Current
V_R	Reverse Voltage
C_j	Capacitance



Electrical Characteristics Per line @ 25°C Unless Otherwise Specified

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Units
Reverse Working Voltage	-	V_{RWM}	-	-	5.0	V
Reverse Breakdown Voltage	$I_R=1\text{mA}$	V_{BR}	6.0	-	8.0	V
Reverse Leakage Current	$V_R=5\text{V}$	I_R	-	-	0.1	μA
Clamping Voltage	$I_{PP}=1\text{A}, t_p=8/20\mu\text{s}$	V_C	-	-	9.0	V
	$I_{PP}=3\text{A}, t_p=8/20\mu\text{s}$		-	-	10.7	
	$I_{PP}=5\text{A}, t_p=8/20\mu\text{s}$		-	-	13.5	
	$I_{PP}=6\text{A}, t_p=8/20\mu\text{s}$		-	-	14.0	
ESD Clamping Voltage	$I_{TLP}=4\text{A}, t_p=0.2/100\text{ns}$ (TLP)	V_C	-	7.9	-	V
	$I_{TLP}=16\text{A}, t_p=0.2/100\text{ns}$ (TLP)		-	10.9	-	
Dynamic Resistance (Note 1)	-	R_{DYN}	-	0.25	-	Ω
Junction Capacitance	$V_R=0\text{V}, f=1\text{MHz}$	C_J	-	-	20	pF

Note :

1. Dynamic Resistance calculated from $I_{TLP}=4\text{A}$ to $I_{TLP}=16\text{A}$.



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RATINGS AND CHARACTERISTIC CURVES

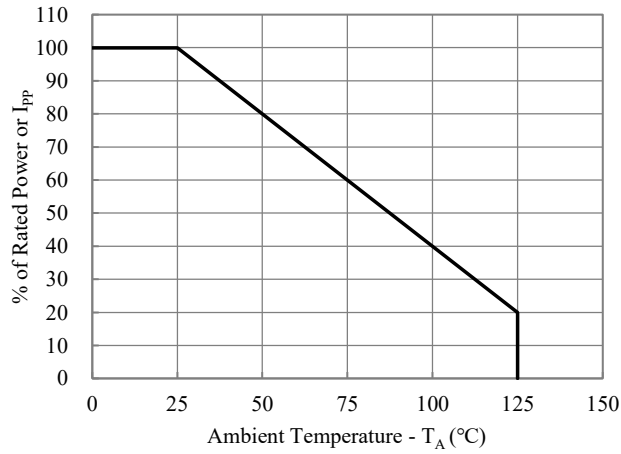


Fig. 1 Power Derating Curve

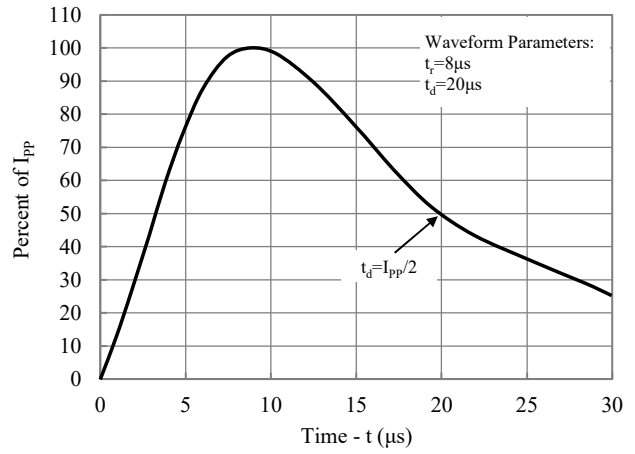


Fig. 2 Pulse Waveform

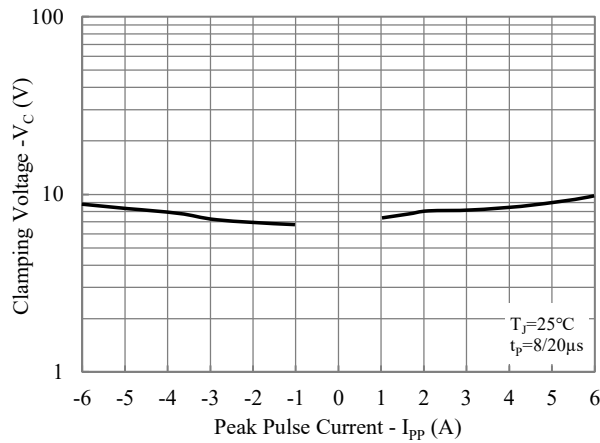


Fig. 3 Clamping Voltage vs. Peak Pulse Current

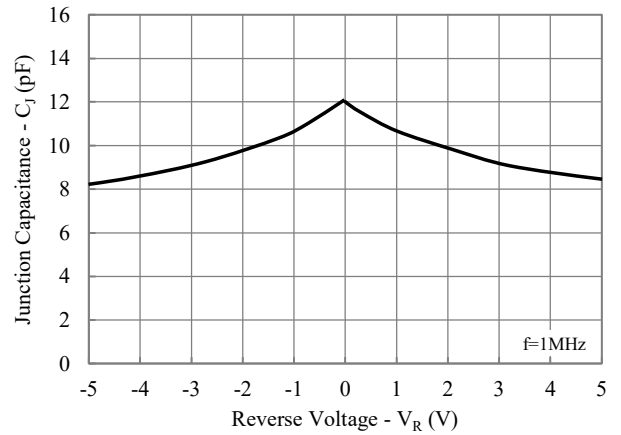


Fig. 4 Junction Capacitance vs. Reverse Voltage

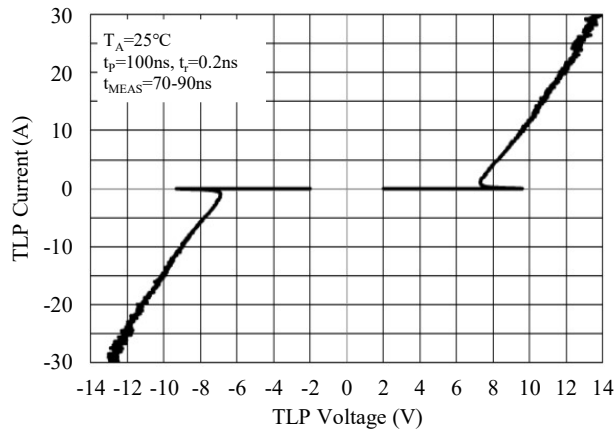


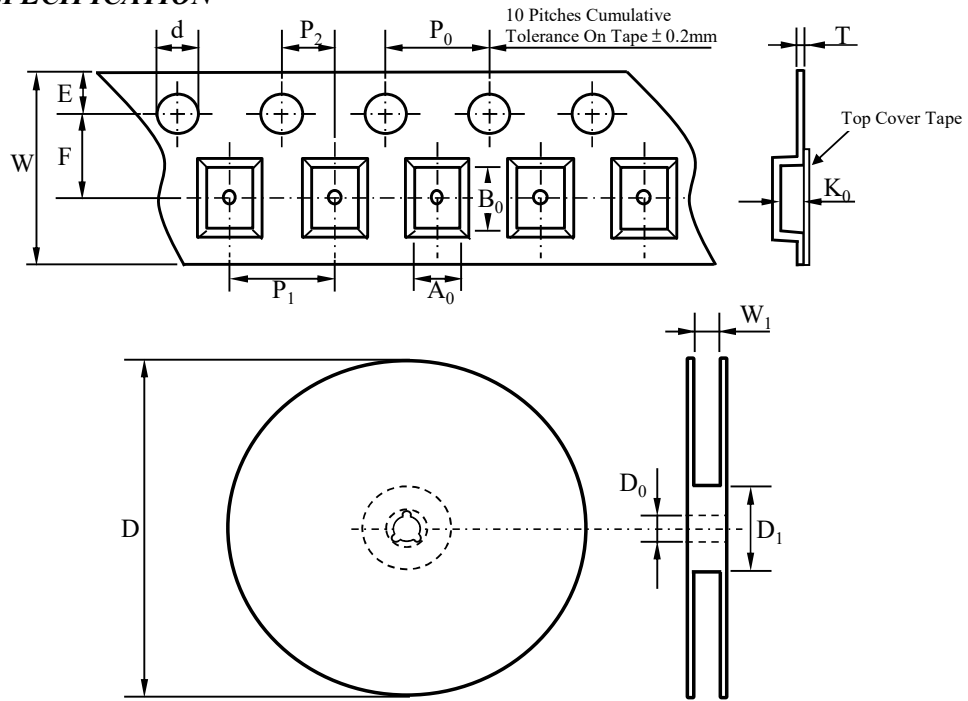
Fig. 5 TLP Characteristic



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TAPE & REEL SPECIFICATION



Item	Symbol	SOD-523
Carrier width	A_0	*
Carrier length	B_0	
Carrier depth	K_0	
Sprocket hole	d	1.50 ± 0.10
Reel outside diameter	D	178.00 ± 2.00
Feed hole width	D_0	13.00 ± 0.20
Reel inner diameter	D_1	MIN. 54.00
Sprocket hole position	E	1.75 ± 0.10
Punch hole position	F	3.50 ± 0.10
Sprocket hole pitch	P_0	4.00 ± 0.10
Punch hole pitch	P_1	4.00 ± 0.10
Embossment center	P_2	2.00 ± 0.10
Overall tape thickness	T	0.25 ± 0.05
Tape width	W	8.00 ± 0.20
Reel width	W_1	MAX. 13.50

Note *: A_0 , B_0 , and K_0 are determined by component size. The clearance between the components and the cavity must be within 0.05 mm min. to 0.5 mm max.

ORDER INFORMATION

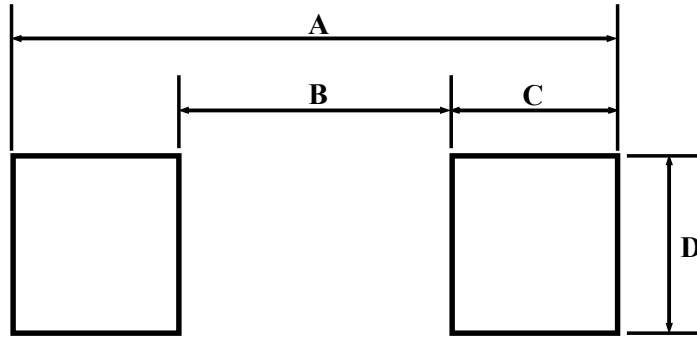
Package	Reel Size	Quantity
SOD-523	7"	4,000



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SUGGESTED SOLDER PAD LAYOUT



Unit :mm

PACKAGE	A	B	C	D
SOD-523	2.30	1.10	0.60	0.80