



# SE03Q3UDD5

## ESD PROTECTION DIODE

### FEATURES

- 40W Peak Pulse Power per Line ( $t_p=8/20\mu s$ )
- IEC61000-4-2(ESD) 20kV(air), 15kV(Contact)
- IEC61000-4-2 Level 4 ESD Protection
- Protect One Power or I/O Port
- Low Clamping Voltage
- Low Leakage current
- Uni-directional Configurations
- Suffix " H " indicated Halogen-free part, ex.SE03Q3UDD5H

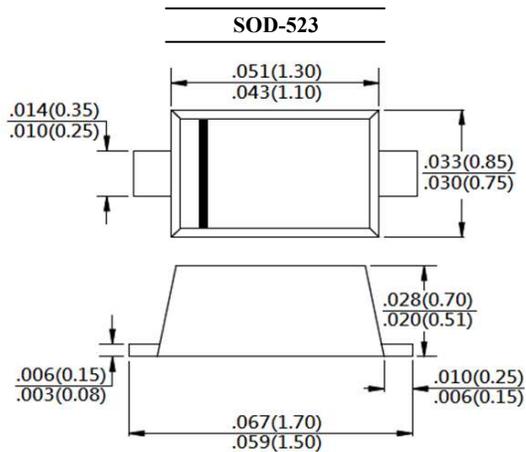
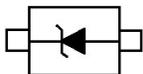
### APPLICATIONS

- 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 ( $t_p = 8/20\mu s$ )	$P_{PP}$	40	W
ESD per IEC 61000-4-2 (Air)	$V_{ESD}$	20	kV
ESD per IEC 61000-4-2 (Contact)		15	
Operating Junction Temperature Range	$T_J$	-55 to +125	°C
Storage Temperature Range	$T_{STG}$	-55 to +150	°C



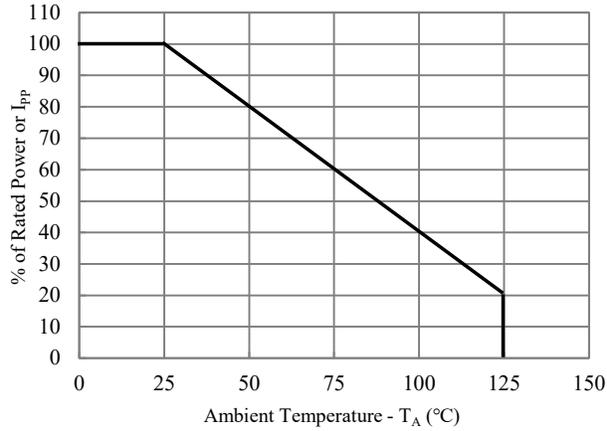
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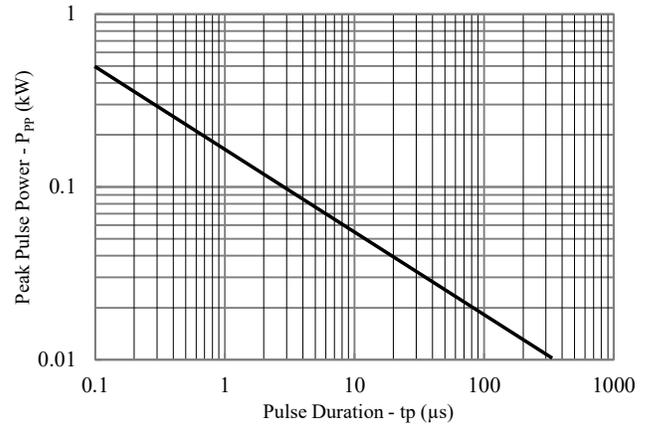
### *Electrical Characteristics (Rating at 25°C ambient temperature unless otherwise specified)*

Parameter	Test Condition	Symbol	Min	Max	Units
Reverse Stand-Off Voltage	-	$V_{RWM}$	-	3.3	V
Punch-Through Voltage	$I_{PT}=2\mu A$	$V_{PT}$	3.5	-	V
Snap-Back Voltage	$I_{SB}=50mA$	$V_{SB}$	2.8	-	V
Reverse Leakage Current	$V_{RWM}=3.3V$	$I_R$	-	50	nA
Clamping Voltage	$I_{pp}=1A, t_p=8/20\mu s$	$V_C$	-	5.5	V
	$I_{pp}=5A, t_p=8/20\mu s$		-	8.0	
Junction Capacitance	$V_R=0V, f=1MHz$	$C_J$	-	30	pF

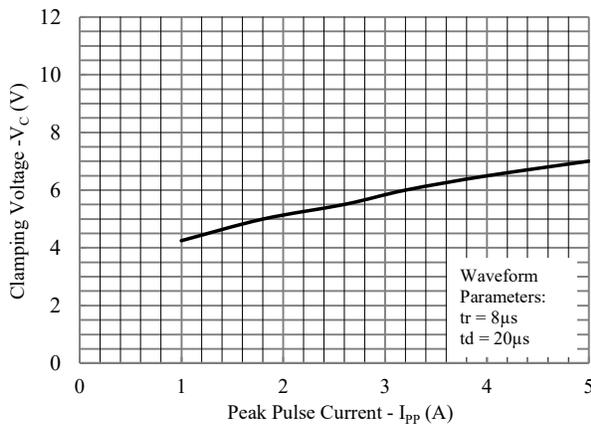
### RATINGS AND CHARACTERISTIC CURVES



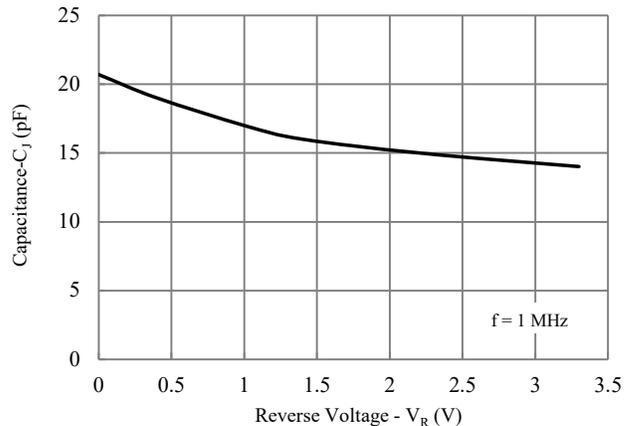
**Fig.1-Power Derating Curve**



**Fig.2-Non-Repetitive Peak Pulse Power vs. Pulse Time**



**Fig.3-Clamping Voltage vs. Peak Pulse Current**



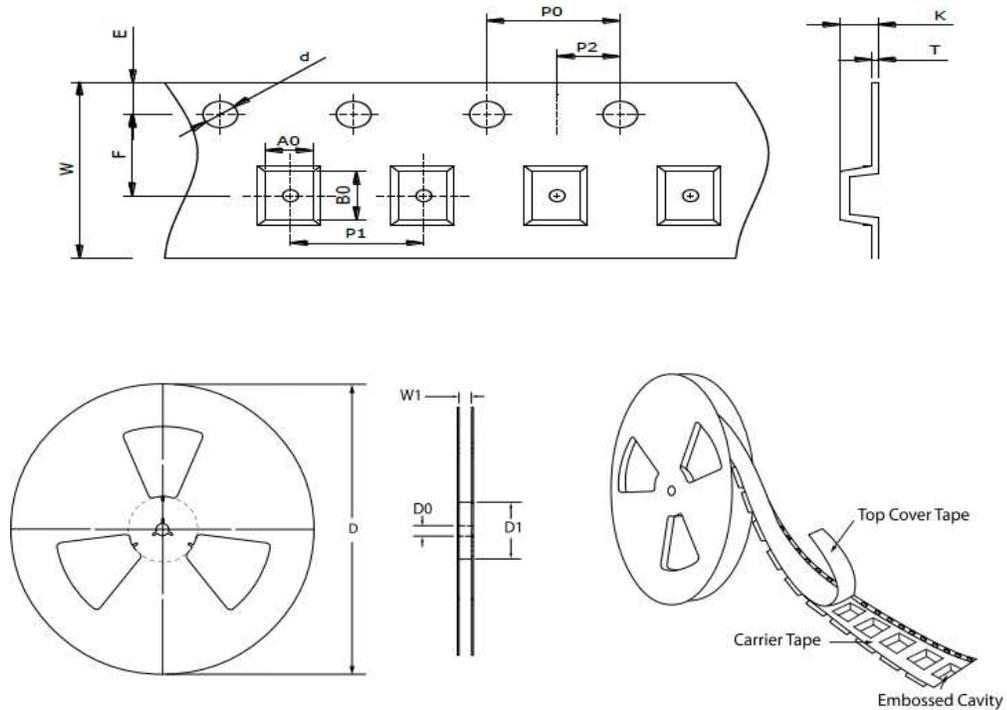
**Fig.4-Capacitance vs. Reverse Voltage**



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### TAPE & REEL SPECIFICATION



Item	Symbol	SOD-523
Carrier width	A <sub>0</sub>	0.80 ± 0.10
Carrier length	B <sub>0</sub>	1.95 ± 0.10
Carrier depth	K	0.50 ± 0.10
Sprocket hole	d	1.50 ± 0.10
Reel outside diameter	D	178.00 ± 2.00
Feed hole width	D <sub>0</sub>	13.00 ± 0.20
Reel inner diameter	D <sub>1</sub>	MIN. 54.00
Sprocket hole position	E	1.75 ± 0.10
Punch hole position	F	3.50 ± 0.10
Sprocket hole pitch	P <sub>0</sub>	4.00 ± 0.10
Punch hole pitch	P <sub>1</sub>	4.00 ± 0.10
Embossment center	P <sub>2</sub>	2.00 ± 0.10
Overall tape thickness	T	0.25 ± 0.05
Tape width	W	8.00 ± 0.20
Reel width	W <sub>1</sub>	MAX. 13.50

### ORDER INFORMATION

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

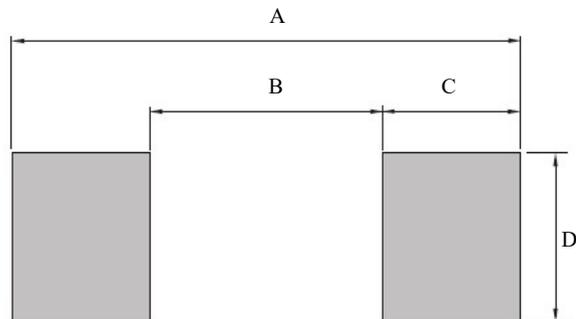


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### SUGGESTED SOLDER PAD LAYOUT



Unit : mm

PACKAGE	A	B	C	D
SOD-523	2.02	0.82	0.60	0.70