



# SE05Q8UDD5H

## ESD PROTECTION DIODE

### FEATURES

- 174W 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
- Uni-directional Configurations
- Suffix " H " indicated Halogen-free part, ex.SE05Q8UDD5H

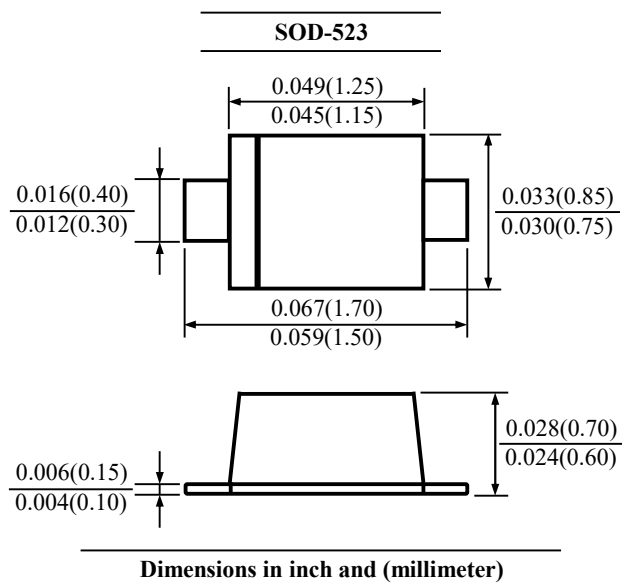
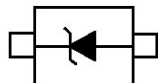
### APPLICATIONS

- Cellular phones
- Portable devices
- Digital cameras

### MECHANICAL DATA

Case : SOD-523

### PIN CONFIGURATION



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

Parameter	Symbol	Value	Units
Peak Power Dissipation ( $t_p=8/20\mu s$ )	$P_{PK}$	174	W
ESD per IEC 61000-4-2 (Air)	$V_{ESD}$	$\pm 30$	kV
ESD per IEC 61000-4-2 (Contact)	$V_{ESD}$	$\pm 30$	kV
ESD Voltage	Per Human Body Model	16	kV
	Per Machine Model	400	V
Power Dissipation on FR-5 Board	$P_D$	200	mW
Operating Junction Temperature Range	$T_J$	-55 to +150	°C
Storage Temperature Range	$T_{STG}$	-55 to +150	°C



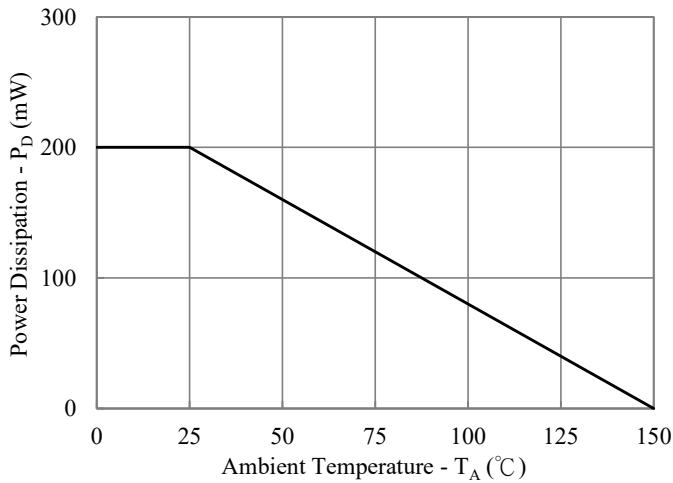
# SE05Q8UDD5H

## ESD PROTECTION DIODE

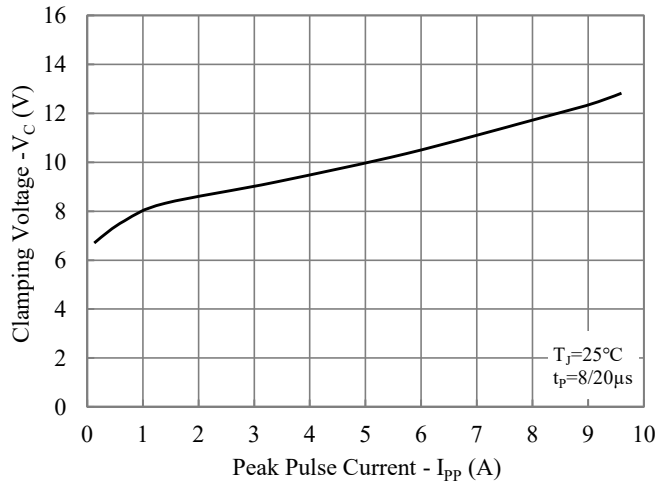
### Electrical Characteristics (Rating at 25°C ambient temperature unless otherwise specified)

Parameter	Test Condition	Symbol	Min	Typ	Max	Units
Reverse Stand-Off Voltage	-	$V_{RWM}$	-	-	5	V
Reverse Current	$V_{RWM}=5V$	$I_R$	-	-	0.05	$\mu A$
Breakdown Voltage	$I_T=1mA$	$V_{BR}$	6.2	-	-	V
Forward Voltage	$I_F=10mA$	$V_F$	-	-	1.1	V
Clamping Voltage	$I_{PP}=5.0A, t_p=8/20\mu s$	$V_C$	-	11.6	-	V
	$I_{PP}=9.4A, t_p=8/20\mu s$		-	-	18.6	
Junction Capacitance	$V_R=0V, f=1MHz$	$C_J$	-	80	-	pF

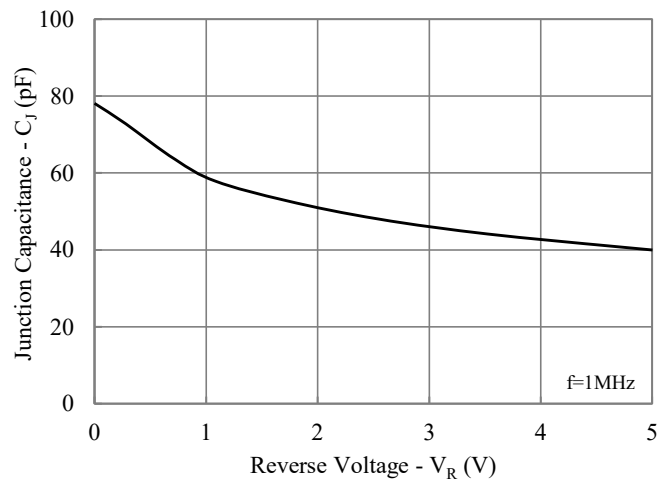
### RATINGS AND CHARACTERISTIC CURVES



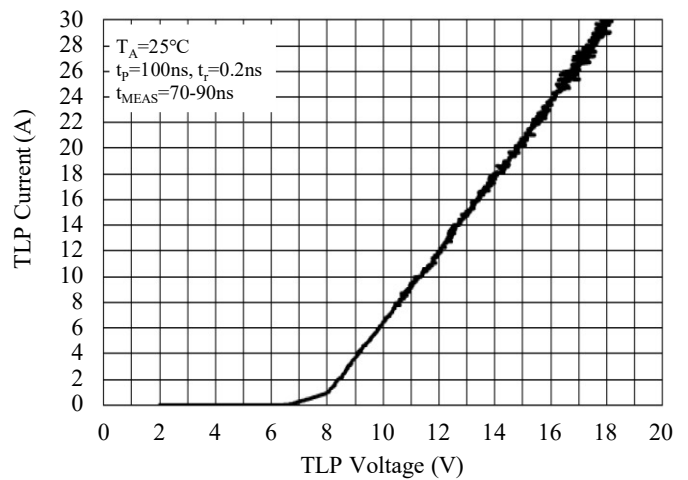
**Fig. 1 Power Dissipation vs. Ambient Temperature**



**Fig. 2 Clamping Voltage vs. Peak Pulse Current**



**Fig. 3 Junction Capacitance vs. Reverse Voltage**



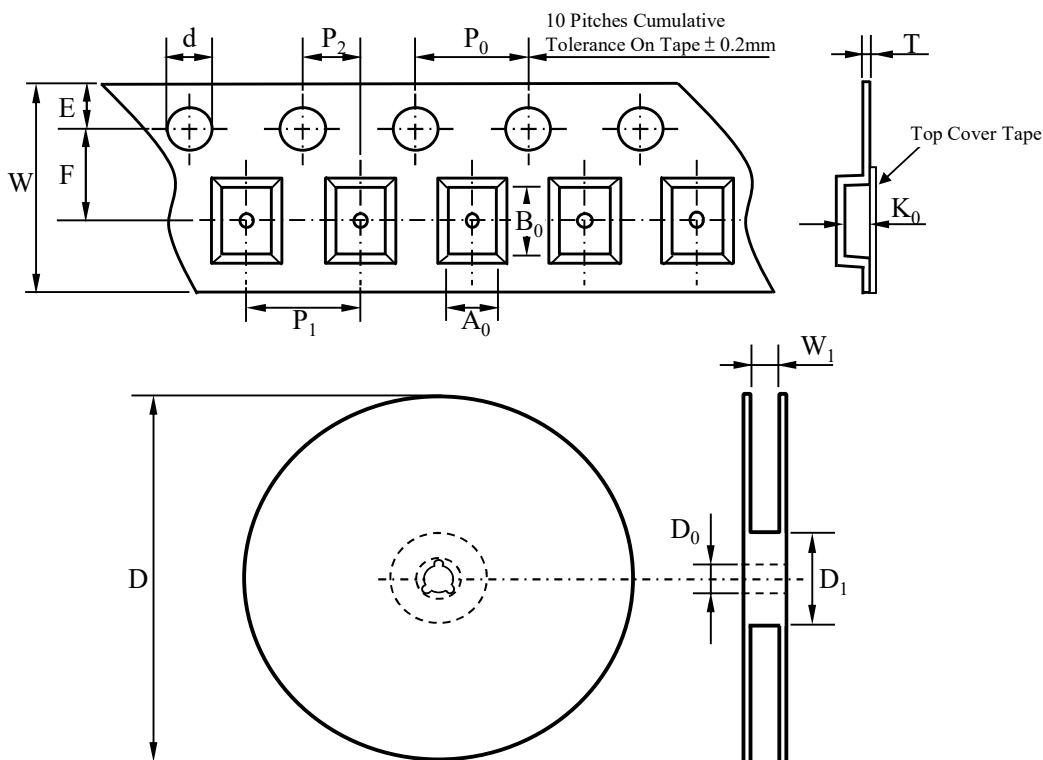
**Fig. 4 TLP Characteristic**



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### TAPE & REEL SPECIFICATION



Item	Symbol	SOD-523
Carrier width	A <sub>0</sub>	*
Carrier length	B <sub>0</sub>	
Carrier depth	K <sub>0</sub>	
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

Note \*: A<sub>0</sub>, B<sub>0</sub>, and K<sub>0</sub> 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

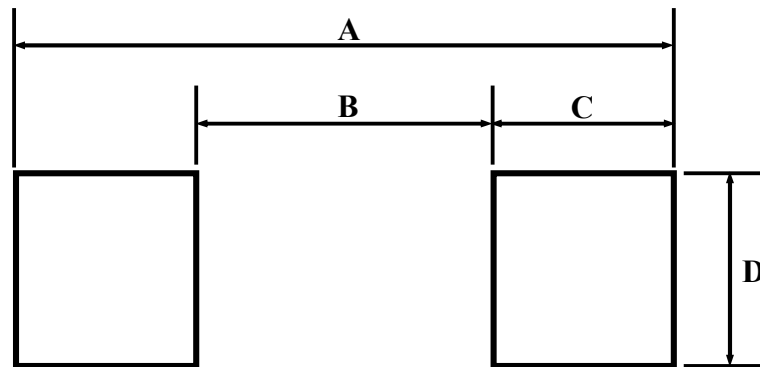
Part Number	Marking Code	Reel Size	Quantity
SE05Q8UDD5H	05	7"	4,000



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## ESD PROTECTION DIODE

### SUGGESTED SOLDER PAD LAYOUT



Unit :mm

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