



# SE05Q2BDD5

## ESD PROTECTION DIODE

### FEATURES

- 84W Peak Pulse Power per Line (tp=8/20μs)
- IEC61000-4-2(ESD) 30kV(air), 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

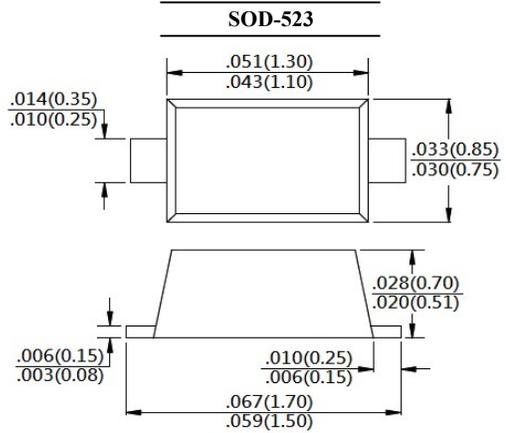
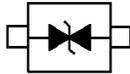
### APPLICATIONS

- 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)

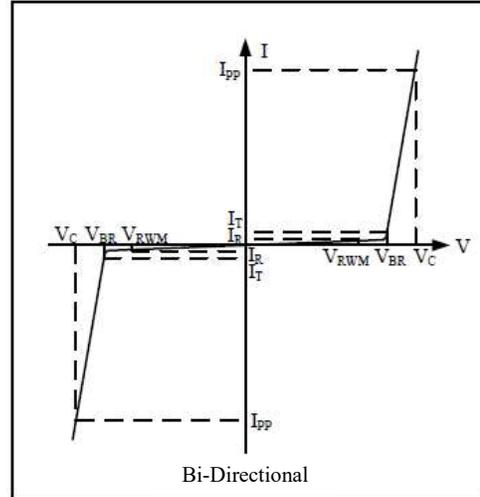
Parameter	Symbol	Value	Units
Peak Pulse Power (tp = 8/20μs)	P <sub>PP</sub>	84	W
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	30	kV
ESD per IEC 61000-4-2 (Contact)		30	
Operating Junction Temperature Range	T <sub>J</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C



# SE05Q2BDD5

## ESD PROTECTION DIODE

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

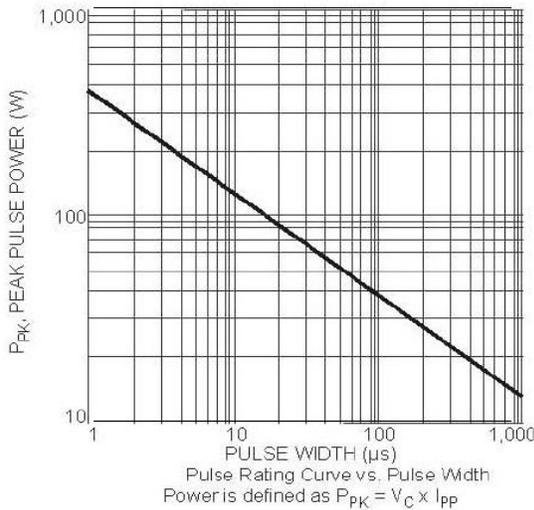
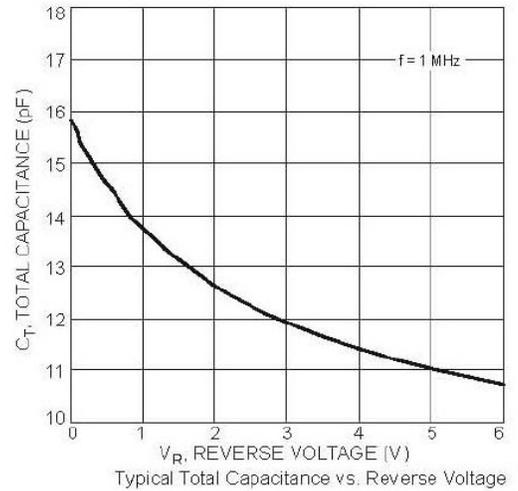
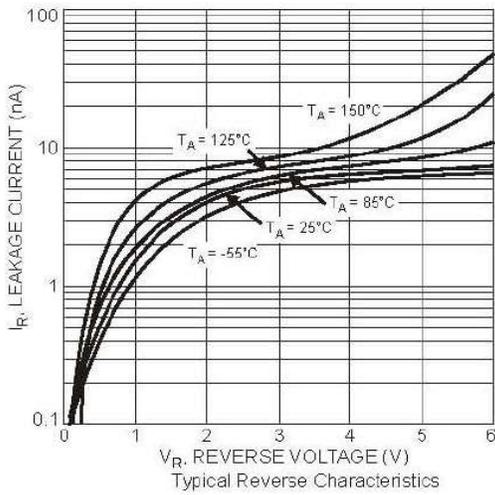
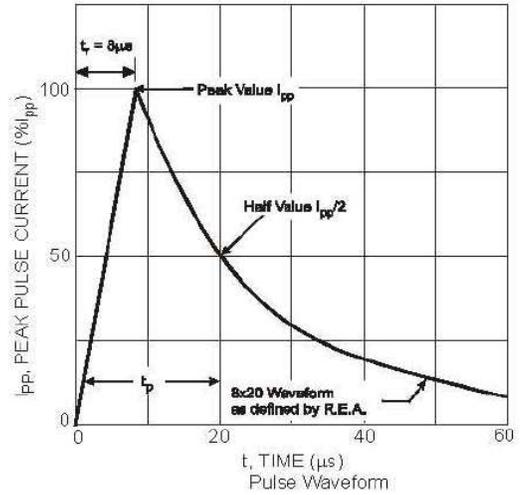
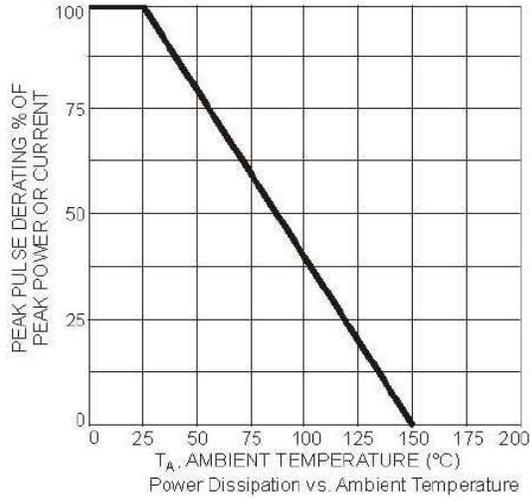
Parameter	Conditions	Symbol	Min.	Typ.	Max.	Units
Reverse Working Voltage	-	$V_{RWM}$	-	-	5.0	V
Reverse Breakdown Voltage	$I_T = 1\text{mA}$	$V_{BR}$	6.0	-	8.0	V
Reverse Leakage Current	$V_R = 5\text{V}$	$I_R$	-	-	0.1	$\mu\text{A}$
Clamping Voltage	$I_{PP} = 1\text{A}, t_p = 8/20\mu\text{s}$	$V_C$	-	-	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	
Junction Capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$	$C_j$	-	16	20	pF



# SE05Q2BDD5

## ESD PROTECTION DIODE

### RATINGS AND CHARACTERISTIC CURVES

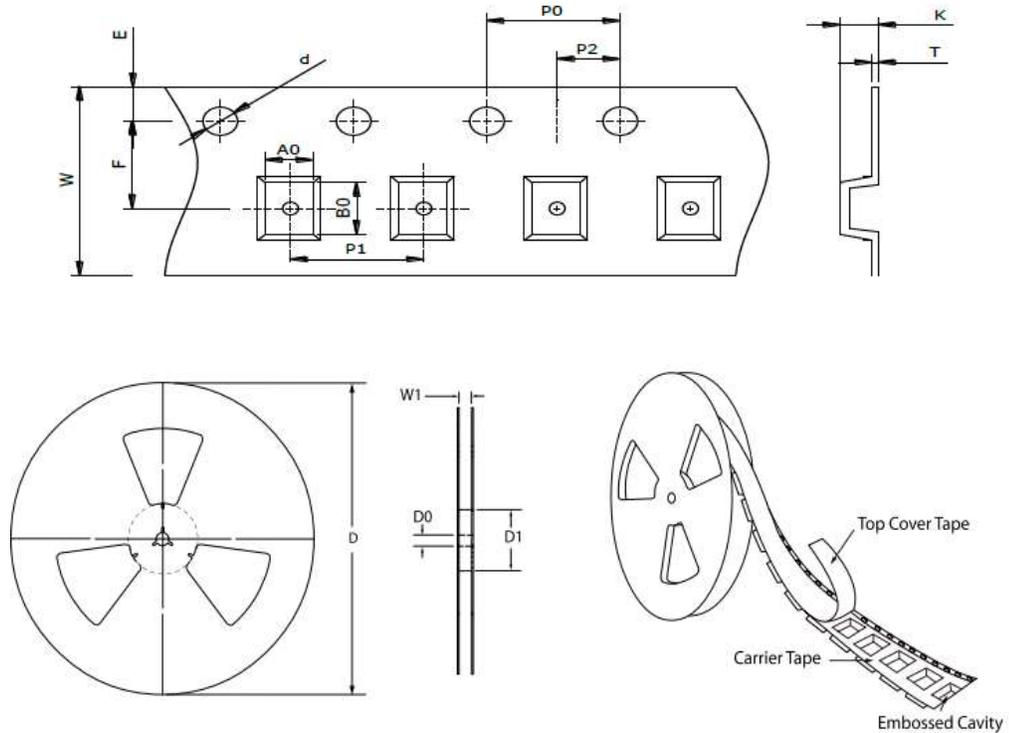




# SE05Q2BDD5

## ESD PROTECTION DIODE

### 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	W1	MAX. 13.50

### ORDER INFORMATION

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

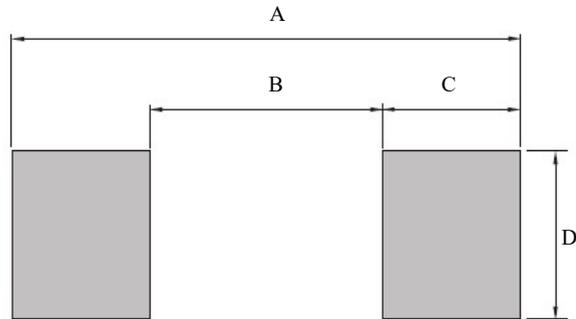


# SE05Q2BDD5

## ESD PROTECTION DIODE

---

### SUGGESTED SOLDER PAD LAYOUT



Unit : mm

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