



SE05S3BPDA

ESD Protection Diode

FEATURES

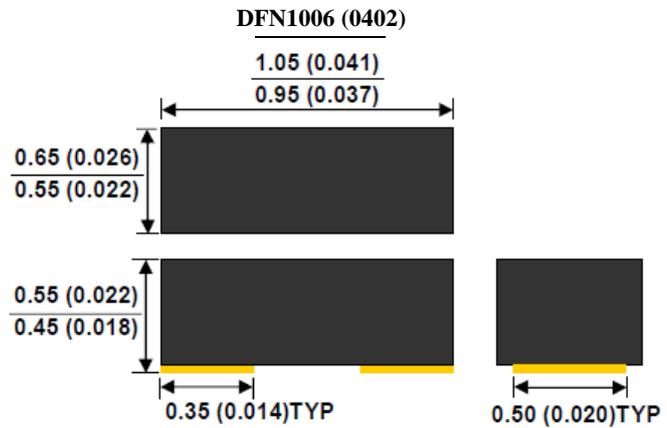
- Meet IEC61000-4-2 (ESD)±15kV (air),±8kV (contact)
- Protects one bi-directional I/O line
- Working Voltage : 5V, typical capacitance :3.0pF
- Suffix "H" indicates Halogen-free parts, ex. SE05S3BPDAH

APPLICATIONS

- Cell Phone Handsets and Accessories
- Notebooks, Desktops, and Servers
- PCI express, SATA, USB 2.0,DVI, Display port
- Portable Instrumentation

MECHANICAL DATA

Case : DFN1006(0402) mold package
 Terminal : Au/Sn plated, solderable per
 MIL-STD-750, method 2026
 High temperature soldering guaranteed : 260°C/10second



Dimensions in millimeters and (inches)

PIN CONFIGURATION



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

Parameter	Symbol	Value	Units
Peak Pulse Power (tp=8/20µs waveform)	P _{PP}	35	W
ESD per IEC 61000-4-2 (Air)	V _{ESD}	±15	kV
ESD per IEC 61000-4-2 (Contact)		±8	
Operating Junction Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C



SE05S3BPDA

ESD Protection Diode

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

Parameter	Symbol	Min	Typ.	Max	Units
Reverse Stand-Off Voltage	V_{RWM}	-	-	5	V
Reverse Breakdown Voltage	$I_R = 1\text{mA}$ $V_{(BR)}$	-	-	9.4	V
Reverse Leakage Current	$V_R = 5\text{V}$ I_R	-	-	100	nA
Clamping Voltage	$I_{pp} = 1\text{A}$, $t_p = 8/20\mu\text{s}$	-	-	12	V
	$I_{pp} = 2\text{A}$, $t_p = 8/20\mu\text{s}$	-	-	17	
Junction Capacitance	Between I/O Pin and GND $V_R=0\text{V}$, $f=1\text{MHz}$ C_J	-	3.0	-	pF

RATINGS AND CHARACTERISTIC CURVES

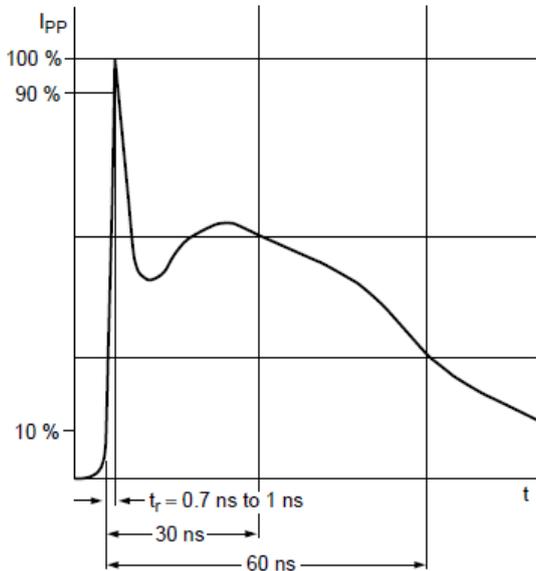


Fig 1. ESD pulse waveform according to IEC61000-4-2

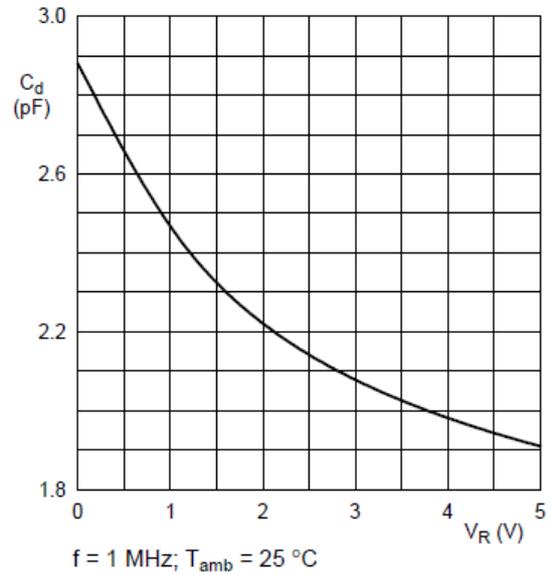
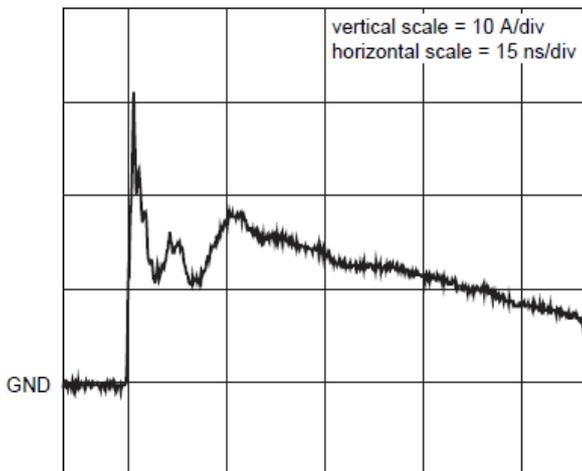
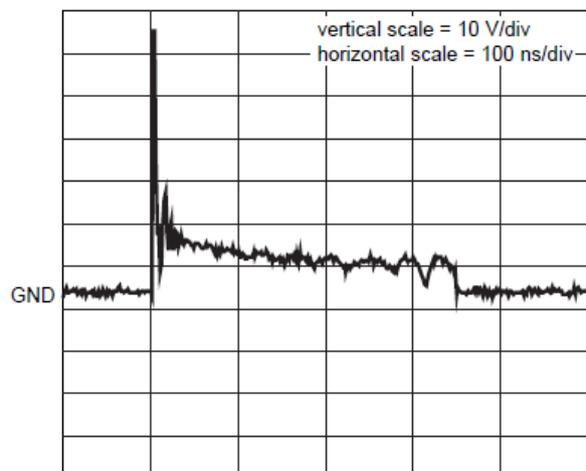


Fig 2. Diode capacitance as a function of reverse voltage



unclamped +8 kV ESD pulse waveform
(IEC 61000-4-2 network)

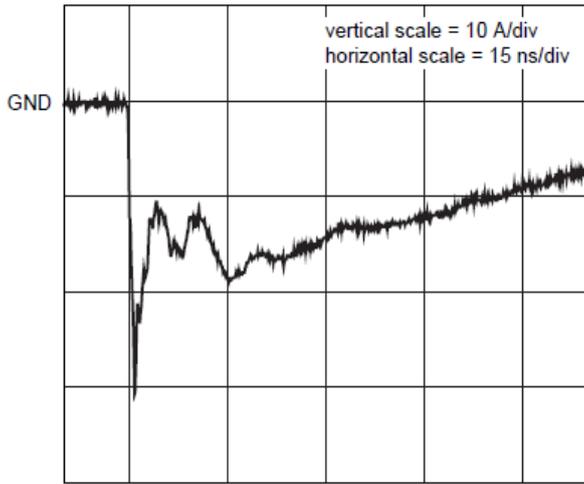


clamped +8 kV ESD pulse waveform
(IEC 61000-4-2 network) pin 1 to 2

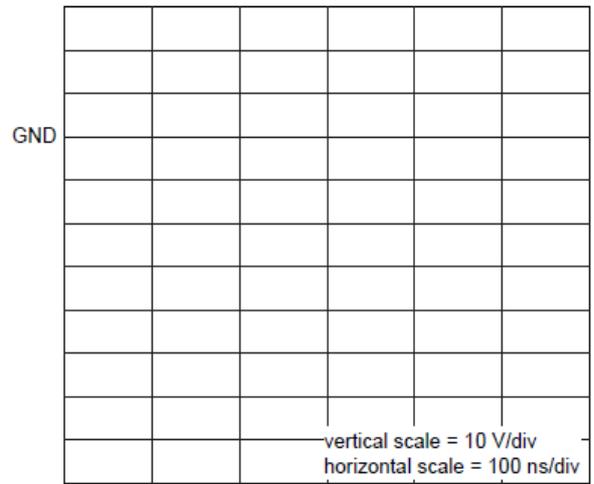


SE05S3BPDA

ESD Protection Diode



unclamped -8 kV ESD pulse waveform
(IEC 61000-4-2 network)



clamped -8 kV ESD pulse waveform
(IEC 61000-4-2 network) pin 1 to 2

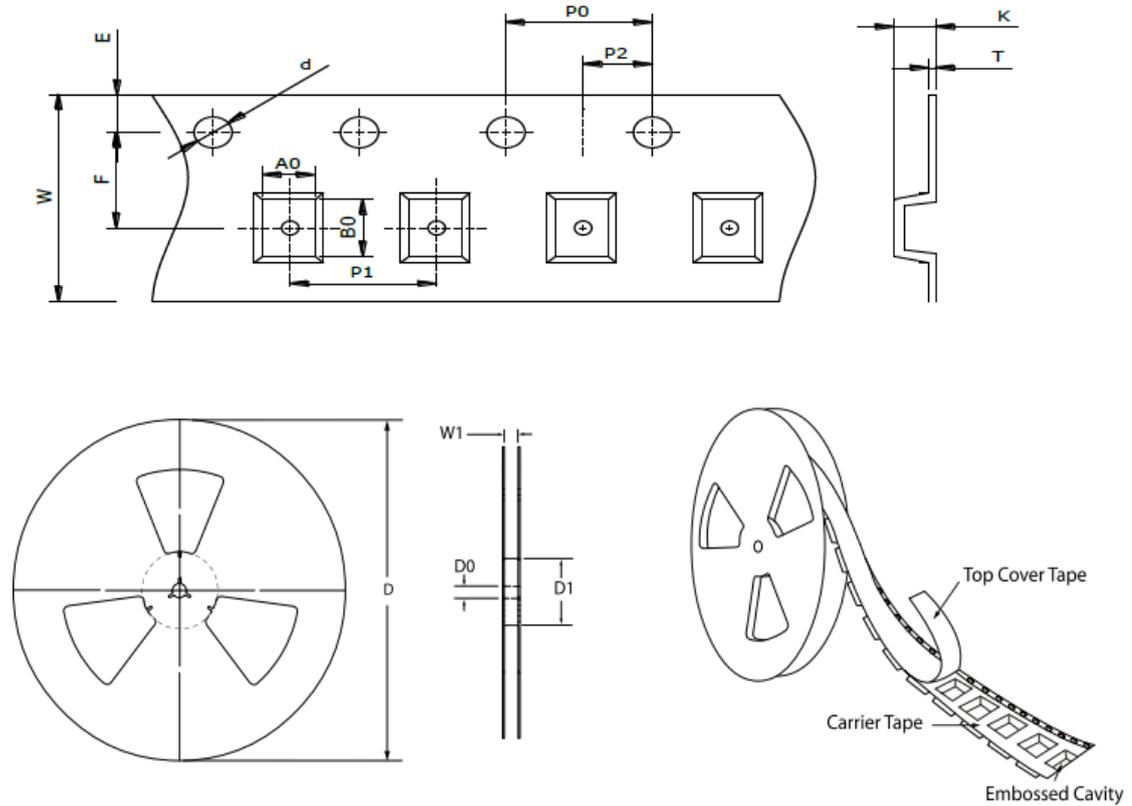
Fig 3. ESD clamping test setup and waveforms



SE05S3BPDA

ESD Protection Diode

TAPE & REEL SPECIFICATION



Item	Symbol	DFN1006 (0402)
Carrier width	A ₀	0.67 ± 0.10
Carrier length	B ₀	1.12 ± 0.10
Carrier depth	K	0.60 ± 0.10
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	0.22 ± 0.05
Tape width	W	8.00 ± 0.20
Reel width	W ₁	MAX. 13.50

ORDER INFORMATION

Package	Reel Size	Quantity
DFN1006 (0402)	7"	10,000

MARKING CODE

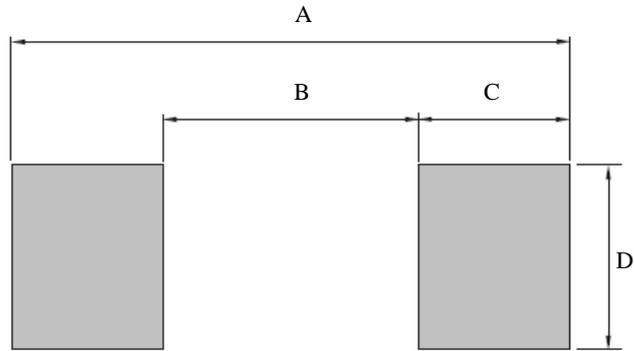
Part Number	Marking Code
SE05S3BPDA	M



SE05S3BPDA

ESD Protection Diode

SUGGESTED SOLDER PAD LAYOUT



PACKAGE	A	B	C	D
DFN1006(0402)	1.25	0.25	0.50	0.70

Unit:mm