



# SE05Q2BPDA

## ESD Protection Diode

### FEATURES

- Meet IEC61000-4-2 (ESD)±30kV (air),±30kV (contact)
- Bi-directional ESD protection
- Working Voltage : 5V
- Suffix "H" indicates Halogen-free parts, ex. SE05Q2BPDAH

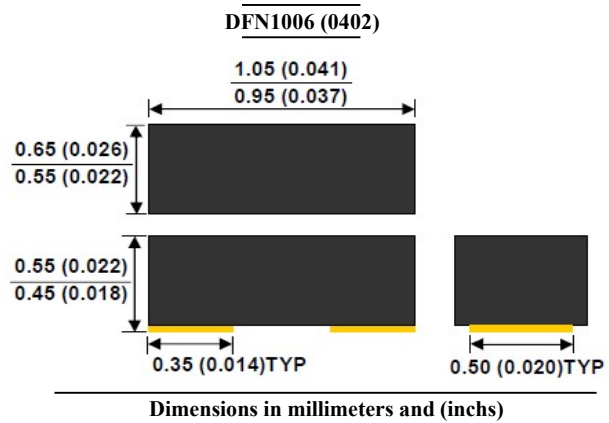
### APPLICATIONS

- 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 plated, solderable per  
 MIL-STD-750, method 2026  
 Meet MSL 1 requirement  
 Epoxy: UL 94V-O rate flame retardant

### 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 <sub>PP</sub>	138	W
Maximum Peak Pulse Current (tp=8/20µs waveform)	I <sub>PP</sub>	7.9	A
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	±30	kV
ESD per IEC 61000-4-2 (Contact)		±30	
Operating Junction Temperature	T <sub>J</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C

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

Parameter	Symbol	Min	Typ.	Max	Units
Reverse Stand-Off Voltage	V <sub>RWM</sub>	-	-	5	V
Reverse Breakdown Voltage	V <sub>(BR)</sub>	6.0	-	8.5	V
Reverse Leakage Current					
Clamping Voltage	V <sub>C</sub>	-	-	9	V
				17.5	
Junction Capacitance	C <sub>J</sub>	-	10	20	pF



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### RATINGS AND CHARACTERISTIC CURVES

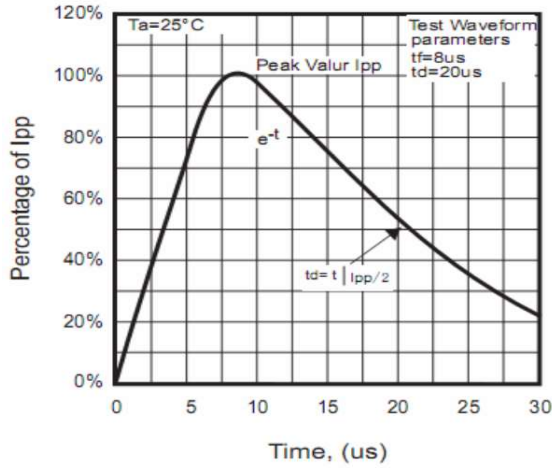


Fig.1 8/20  $\mu s$  Peak Pulse Current Wave From Acc. IEC 61000-4-5

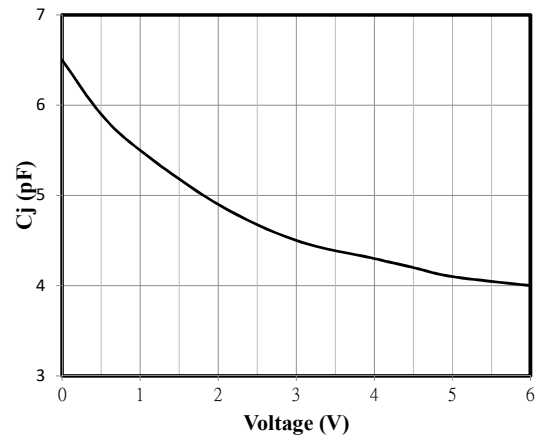


Fig.2 Typical Capacitance Between Terminals Characteristics

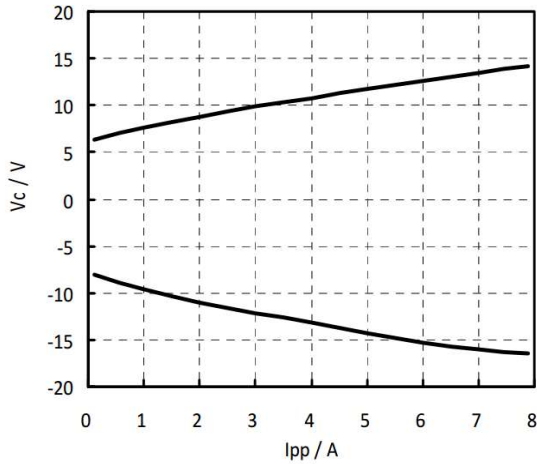


Fig.3 Clamping Voltage vs Peak Pulse Current

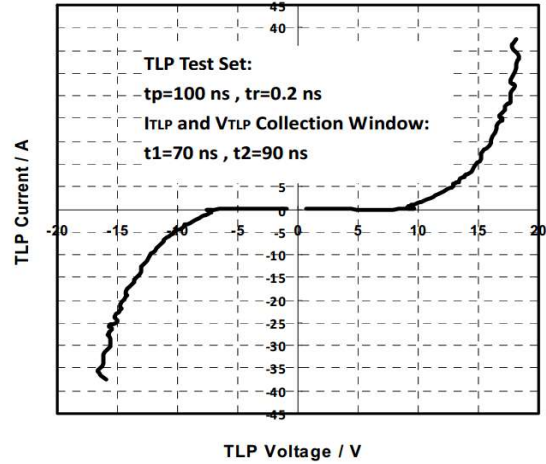


Fig.4 TLP Measurement

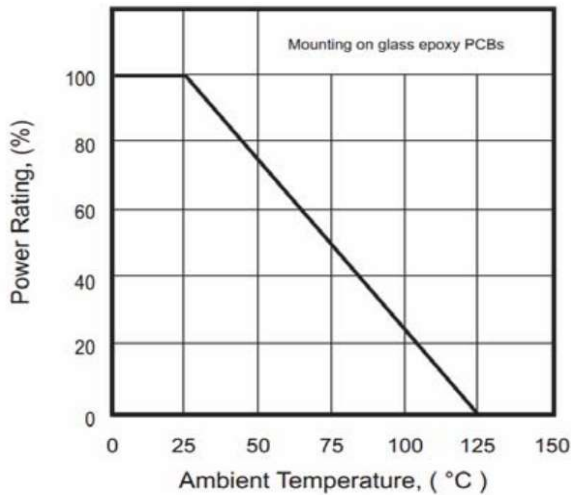


Fig.5 Power Derating Curve

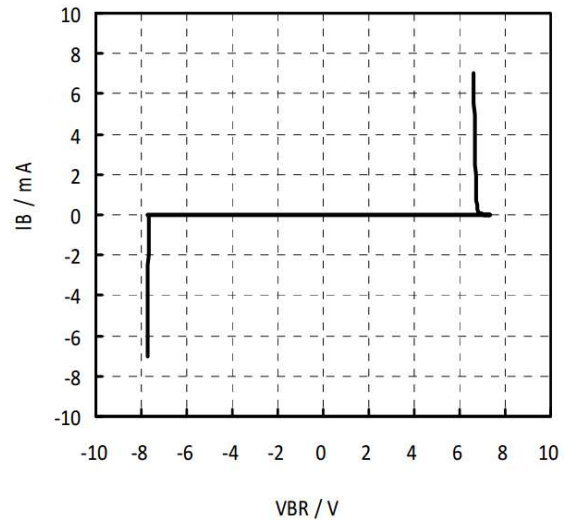


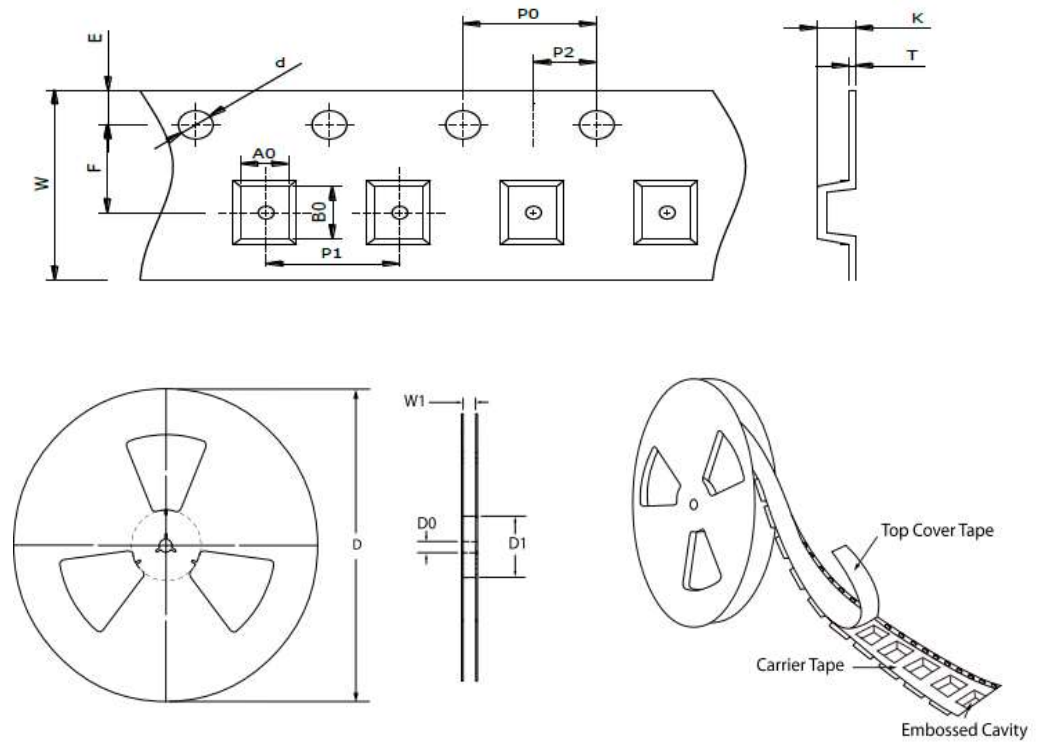
Fig.6 Reverse Characteristics



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### TAPE & REEL SPECIFICATION



Item	Symbol	DFN1006 (0402)
Carrier width	A <sub>0</sub>	0.67 ± 0.10
Carrier length	B <sub>0</sub>	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 <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	0.22 ± 0.05
Tape width	W	8.00 ± 0.20
Reel width	W <sub>1</sub>	MAX. 13.50

### ORDER INFORMATION

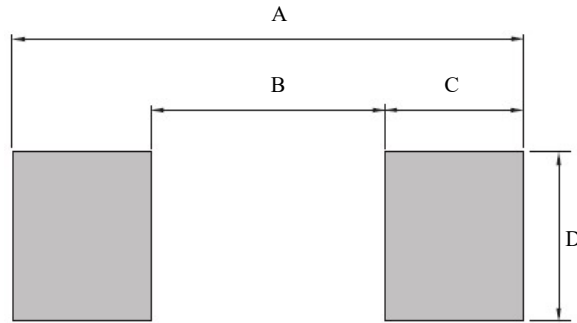
Package	Marking Code	Reel Size	Quantity
DFN1006 (0402)	E5	7"	5,000



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### SUGGESTED SOLDER PAD LAYOUT

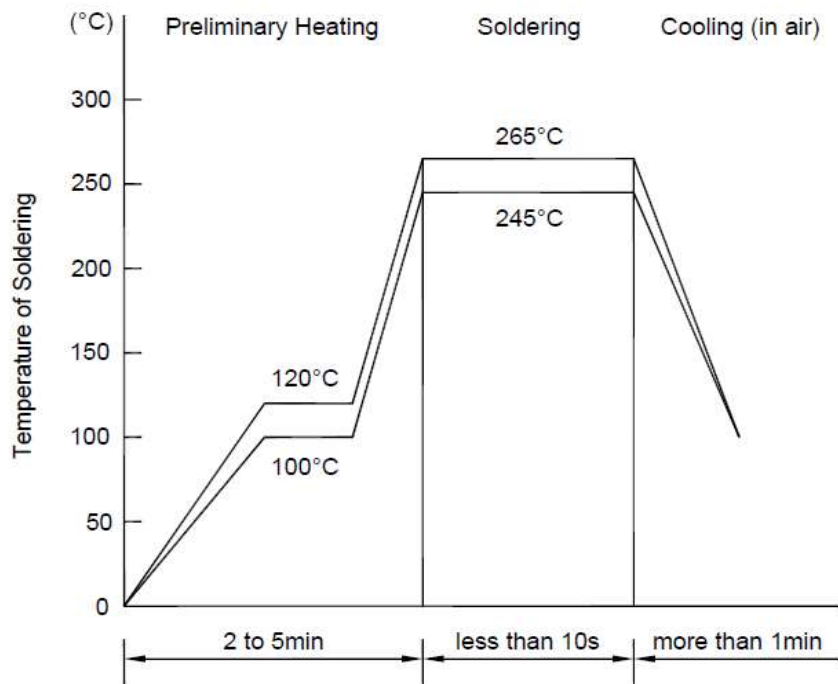


Unit : mm

PACKAGE	A	B	C	D
DFN1006 (0402)	1.30	0.30	0.50	0.70

### CONDITION OF SOLDERING

#### Recommended condition of flow soldering

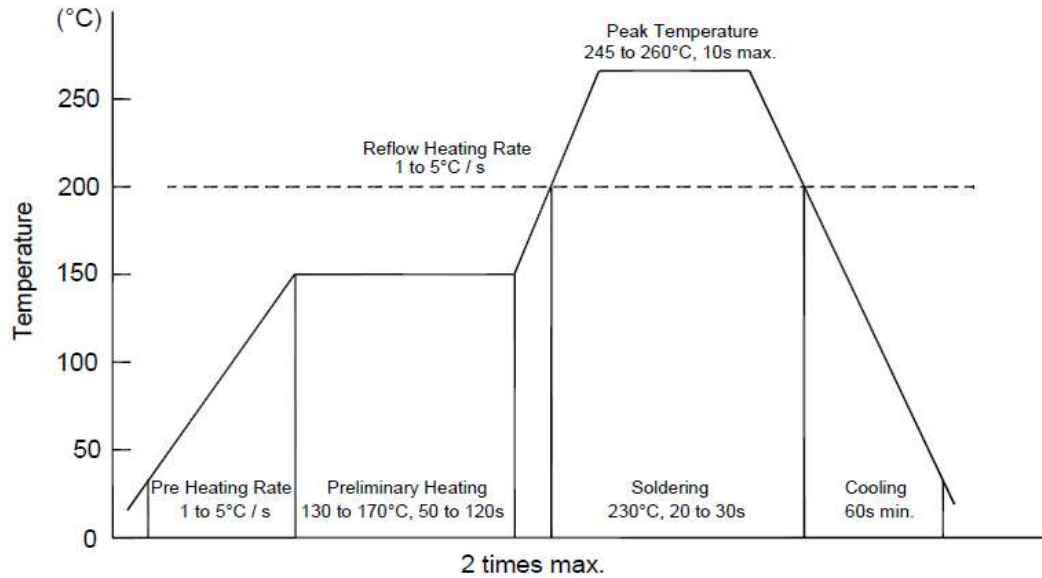




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## ESD Protection Diode

### Recommended condition of reflow soldering



Recommended peak temperature is over 245°C. If peak temperature is below 245°C, you may adjust the following parameters; time length of peak temperature (longer), time length of soldering (longer), thickness of solder paste (thicker)

### Condition of hand soldering

Temperature: 370°C

Time: 3s max.

Times: one time