



# SE05L6BPDA

## ESD Protection Diode

### FEATURES

- Meet IEC61000-4-2 (ESD)±15kV (air),± 15kV (contact)
- Protects one bi-directional I/O line
- Working Voltage : 5V, typical capacitance :0.3pF
- Suffix "H" indicates Halogen-free parts, ex. SE05L6BPDAH

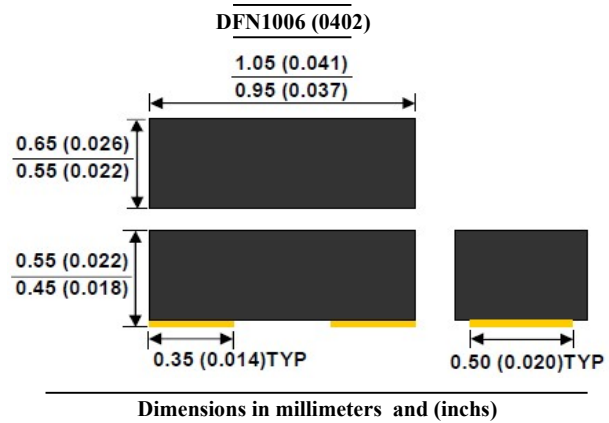
### APPLICATIONS

- 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  
 High temperature soldering guaranteed : 260°C/10second  
 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>  | 30          | W     |
| ESD per IEC 61000-4-2 (Air)           | V <sub>ESD</sub> | ±15         | kV    |
| ESD per IEC 61000-4-2 (Contact)       |                  | ±15         |       |
| Operating Junction Temperature Range  | 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)

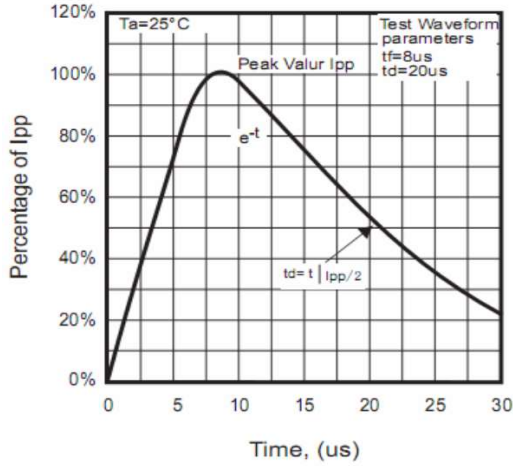
| Parameter                 | Symbol            | Min | Typ. | Max | Units |
|---------------------------|-------------------|-----|------|-----|-------|
| Reverse Stand-Off Voltage | V <sub>RWM</sub>  | -   | -    | 5   | V     |
| Reverse Breakdown Voltage | V <sub>(BR)</sub> | 5.5 | -    | 9   | V     |
| Reverse Leakage Current   | I <sub>R</sub>    | -   | -    | 50  | nA    |
| Clamping Voltage          | V <sub>C</sub>    | -   | -    | 14  | V     |
| Junction Capacitance      | C <sub>J</sub>    | -   | 0.3  | 0.6 | pF    |



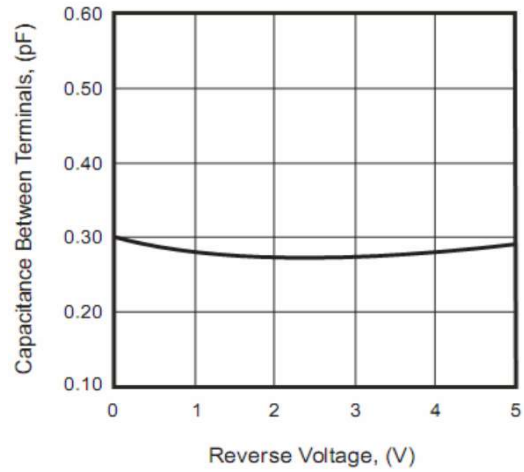
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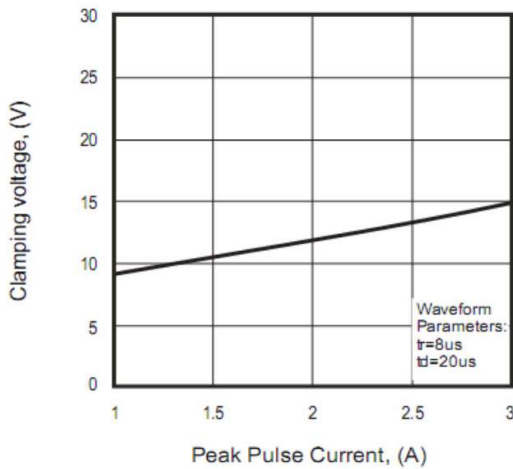
### RATINGS AND CHARACTERISTIC CURVES



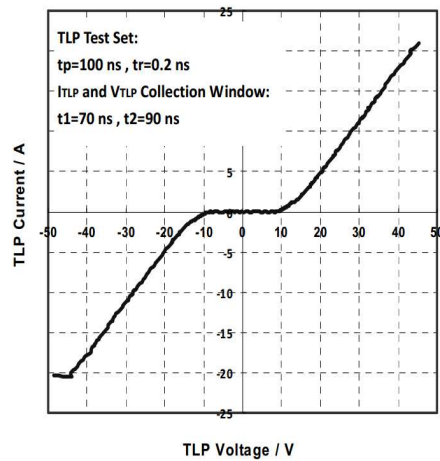
**Fig.1 8/20 μ S Peak Pulse Current Wave From Acc. IEC 61000-4-5**



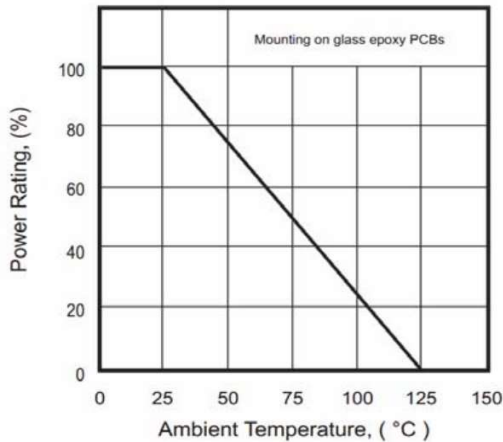
**Fig.2 Typical Capacitance Between Terminals Characteristics**



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



**Fig.4 TLP Measurement**



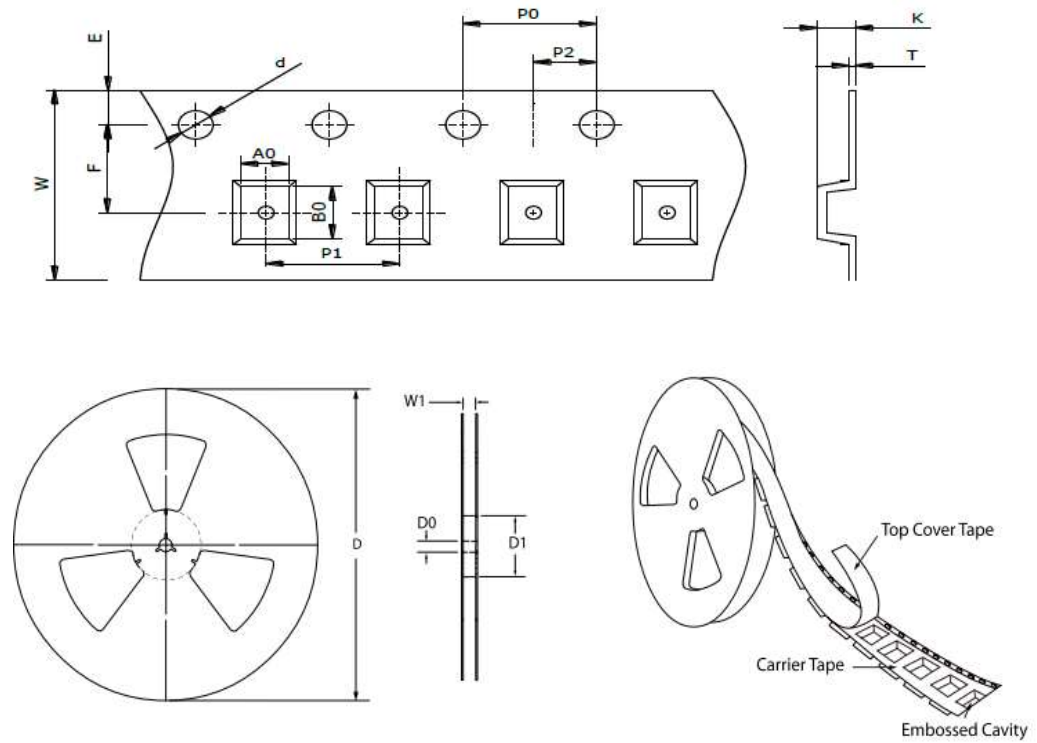
**Fig.5 Power Derating Curve**



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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             | W1             | MAX. 13.50     |

### ORDER INFORMATION

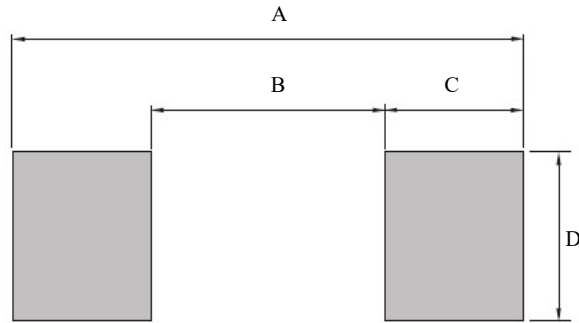
| Package        | Marking Code | Reel Size | Quantity |
|----------------|--------------|-----------|----------|
| DFN1006 (0402) | S            | 7"        | 10,000   |



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### SUGGESTED SOLDER PAD LAYOUT

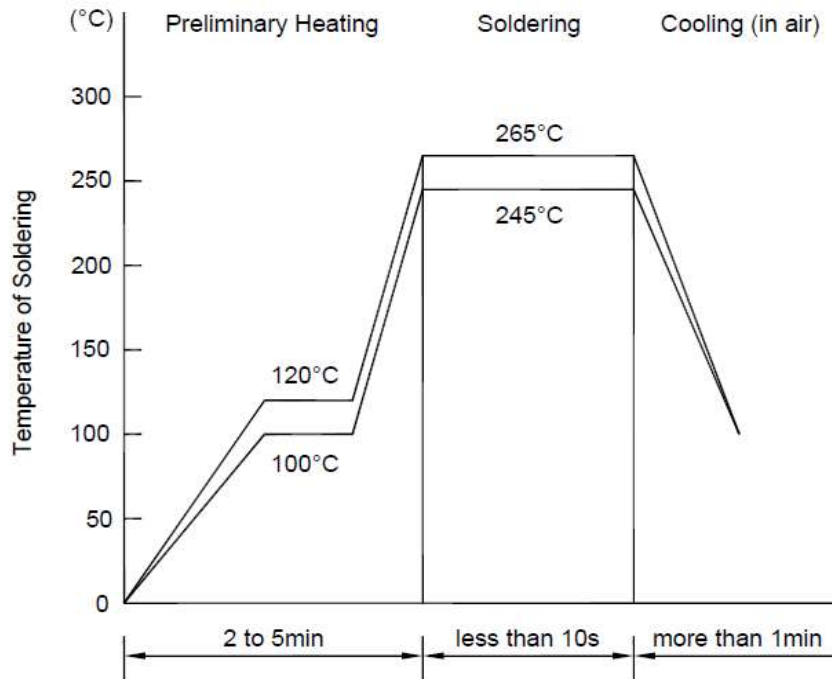


Unit : mm

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

### CONDITION OF SOLDERING

Recommended condition of flow soldering

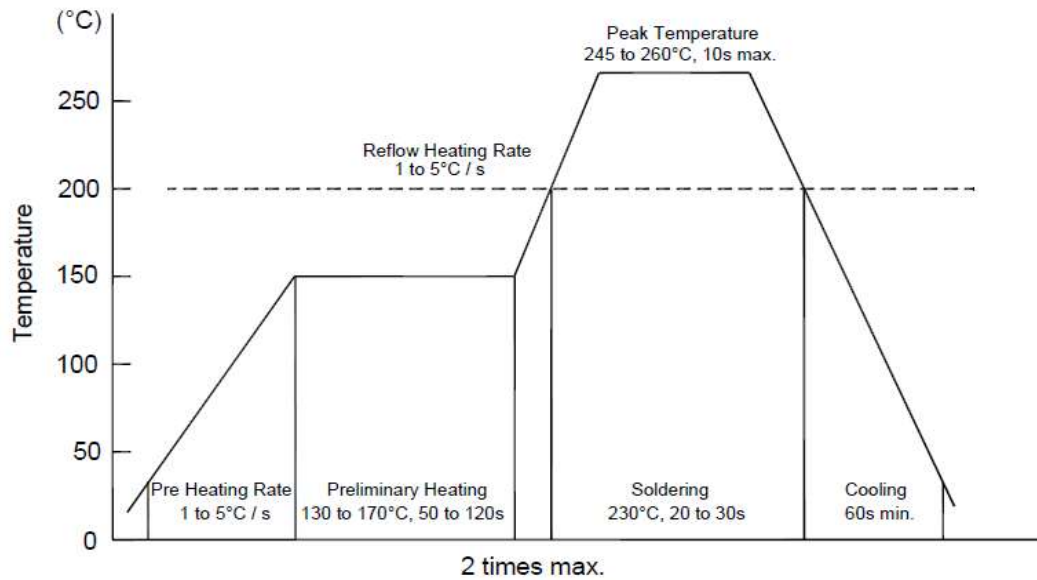




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### Recommended condition of reflow soldering



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