



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

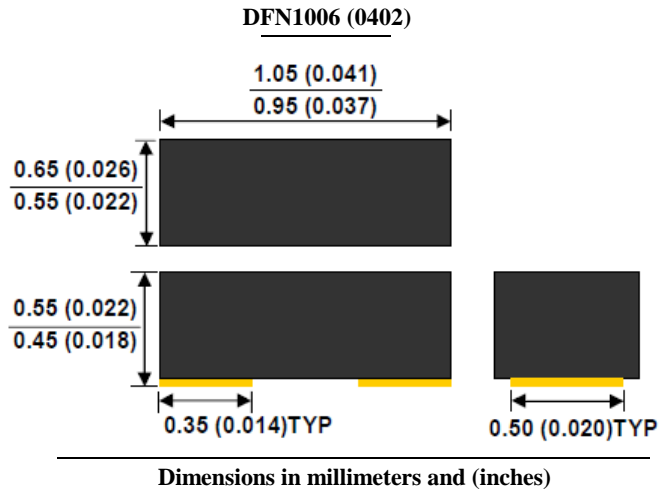
APPLICATIONS

- 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 _{PP} | 138 | W |
| Maximum Peak Pulse Current (tp=8/20μs waveform) | I _{PP} | 7.9 | A |
| ESD per IEC 61000-4-2 (Air) | V _{ESD} | ±30 | kV |
| ESD per IEC 61000-4-2 (Contact) | | ±30 | |
| Operating Junction Temperature | T _J | -55 to +125 | °C |
| Storage Temperature Range | T _{STG} | -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 _{RWM} | - | - | 5 | V |
| Reverse Breakdown Voltage | I _R = 1mA V _(BR) | - | - | 8.5 | V |
| Reverse Leakage Current | V _R = 5V I _R | - | - | 50 | nA |
| Clamping Voltage | I _{pp} = 1A · tp = 8/20μs I _{pp} = 7.9A · tp = 8/20μs | - | - | 9 | V |
| | | | | 17.5 | |
| Junction Capacitance | Between I/O Pin and GND V _R =0V · f=1MHz C _J | - | 10 | 20 | pF |



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RATINGS AND CHARACTERISTIC CURVES

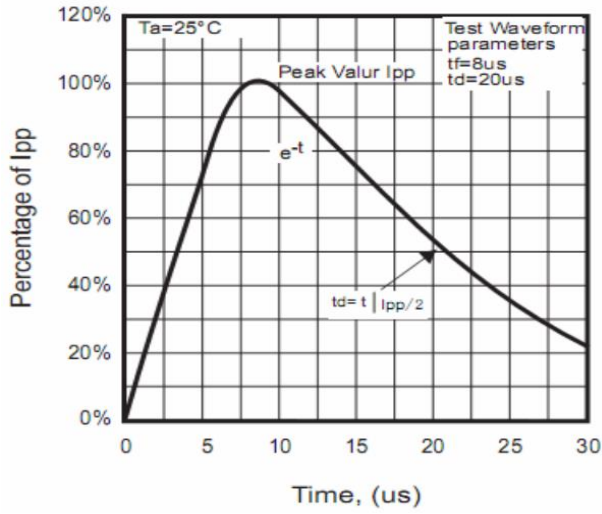


Fig.1 8/20 μ S Peak Pulse Current Wave From Acc. IEC 61000-4-5

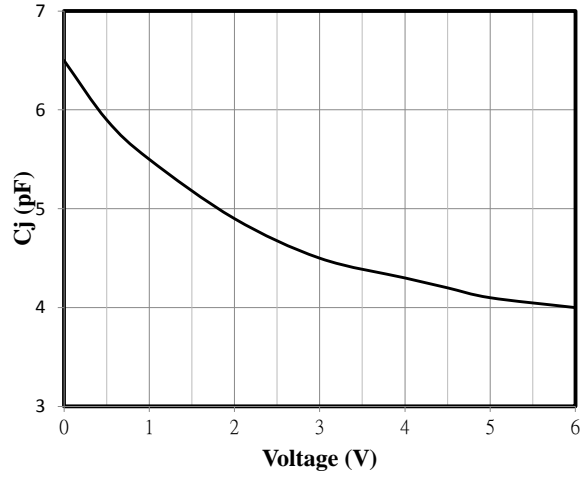


Fig.2 Typical Capacitance Between Terminals Characteristics

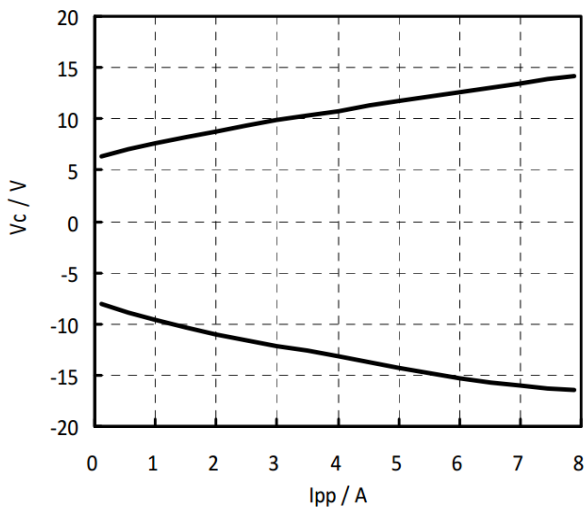


Fig.3 Clamping Voltage vs Peak Pulse Current

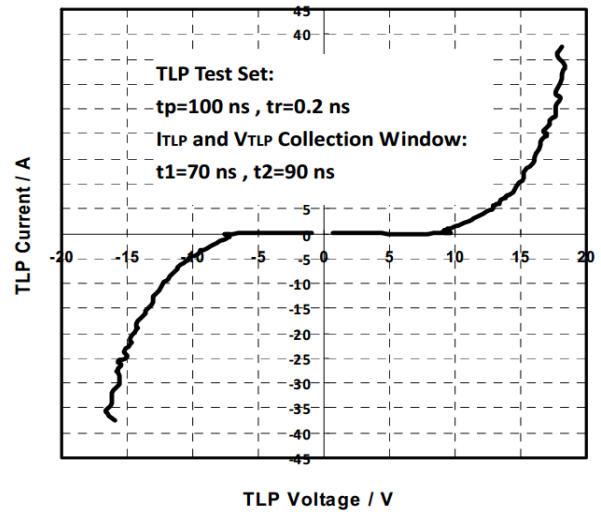


Fig.4 TLP Measurement

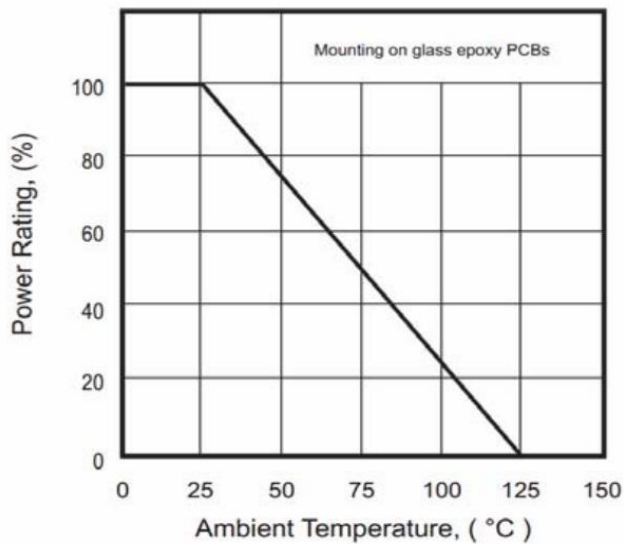


Fig.5 Power Derating Curve

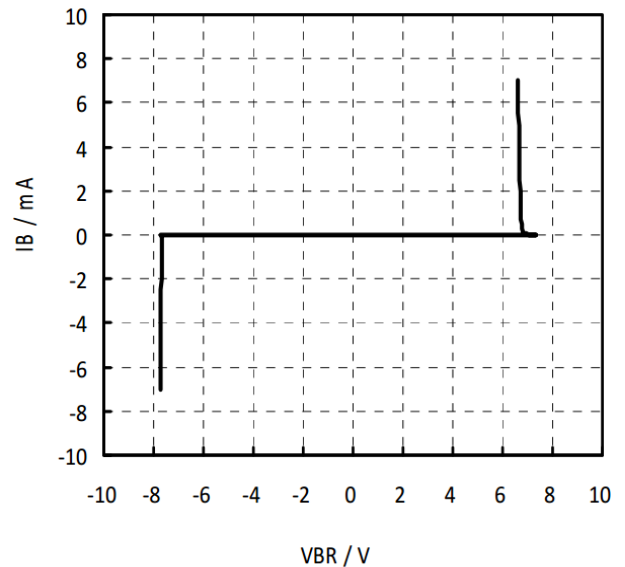


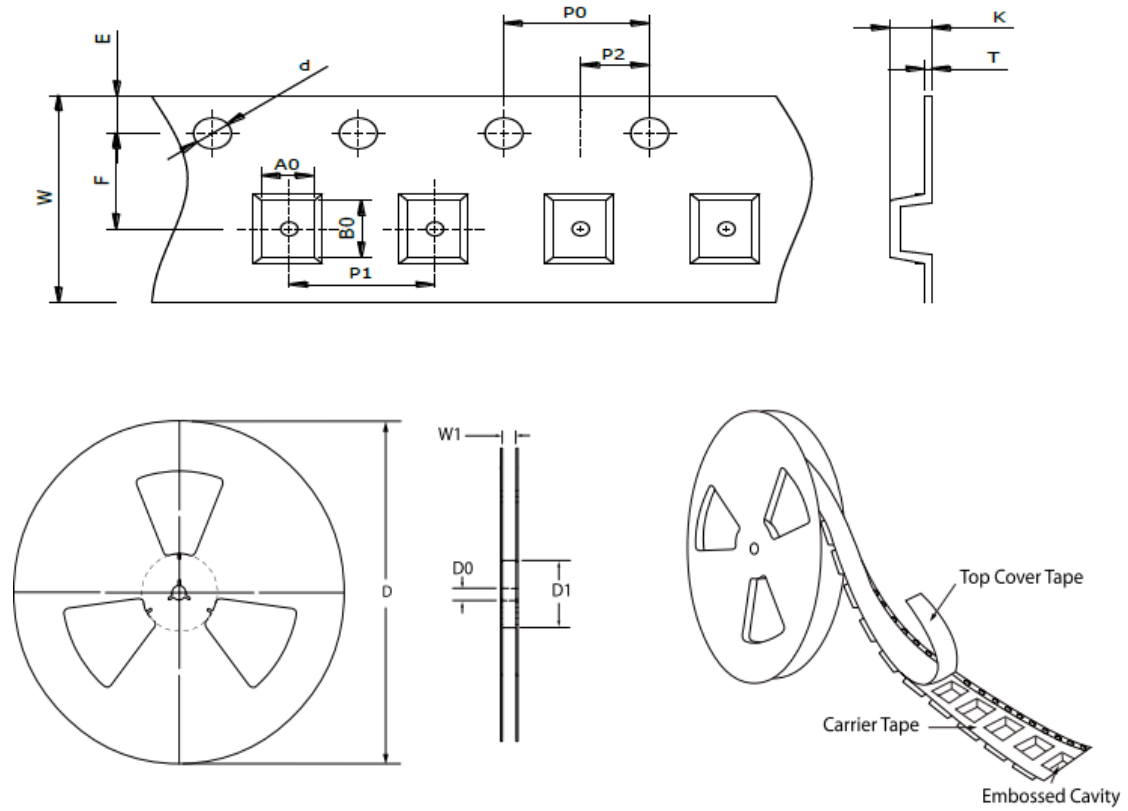
Fig.6 Reverse Characteristics



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TAPE & REEL SPECIFICATION



Unit: mm

| 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" | 5,000 |

MARKING CODE

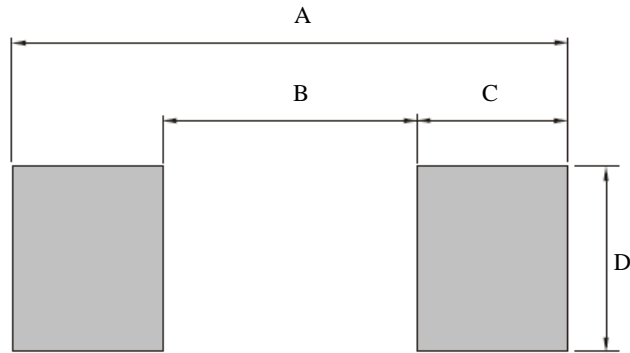
| Part Number | Marking Code |
|-------------|--------------|
| SE05Q2BPDA | E5 |



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SUGGESTED SOLDER PAD LAYOUT



Unit:mm

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