

## DESCRIPTION

The SE10F10B5.0A is Bi-directional transient voltage suppressor (TVS) to protect sensitive electronic components from electrostatic discharge (ESD). It is particularly well-suited for cellular phones, PMP, MID, PDA, digital cameras and other electronic equipments.

The SE10F10B5.0A is safely dissipating ESD strike to meet the ESD immunity testing of IEC61000-4-2 level 4.

The SE10F10B5.0A is available in a DFN1006 package with Pb-free.

## FEATURES

- > 174 Watts Peak Pulse Power per Line ( $t_p=8/20\mu s$ )
- > Protects one bidirectional I/O line
- > Working voltages : 5.0V
- > Low leakage current

## APPLICATIONS

- > Cell Phone Handsets and Accessories
- > Microprocessor based equipment
- > Personal Digital Assistants (PDA's)
- > Notebooks, Desktops, and Servers
- > Portable Instrumentation
- > Peripherals
- > Pagers

## IEC COMPATIBILITY

- > IEC61000-4-2 (ESD)  $\pm 15kV$  (air),  $\pm 8kV$  (contact)
- > IEC61000-4-4 (EFT) 40A (5/50ns)

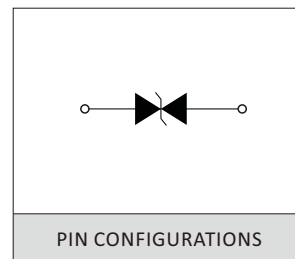
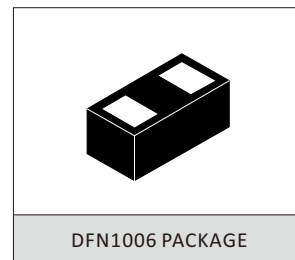
## MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

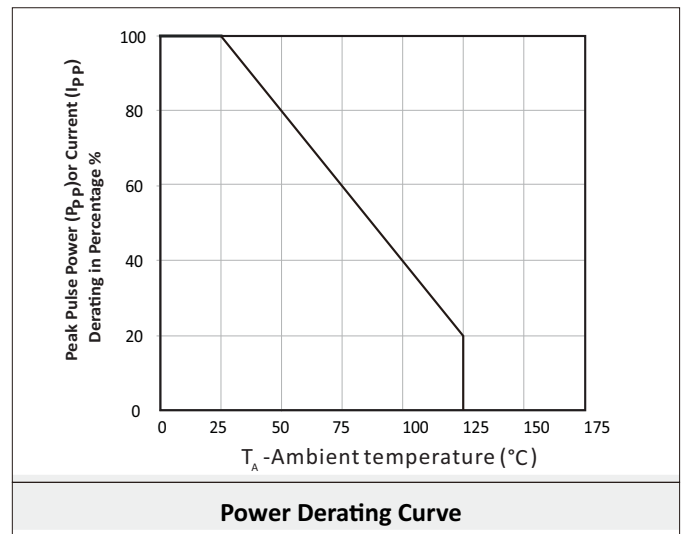
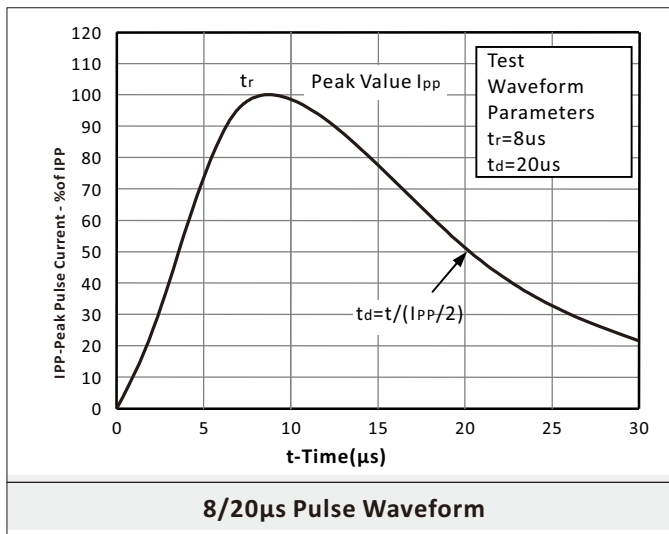
| RATING                                                                                                                                                                                                                 | SYMBOL           | VALUE    | UNITS |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------|-------|
| Peak Pulse Power ( $t_p=8/20\mu s$ waveform).                                                                                                                                                                          | P <sub>PPM</sub> | 174      | Watts |
| Operating Temperature Range.                                                                                                                                                                                           | T <sub>J</sub>   | -55~+125 | °C    |
| Storage Temperature Range.                                                                                                                                                                                             | T <sub>STG</sub> | -55~+150 | °C    |
| Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected. |                  |          |       |

## ELECTRICAL CHARACTERISTICS

| Part Number  | Device Marking Code | Reverse Stand-off Voltage Max.<br>V <sub>RWM</sub> (V) | Breakdown Voltage Min.<br>V <sub>BR</sub> (V) | Test Current<br>I <sub>T</sub> (mA) | Peak Pulse Current Typ.@5A<br>V <sub>C</sub> (V) | Peak Pulse Current<br>V <sub>C</sub> (V)<br>Max. @A | Junction Capacitance Typ.<br>C <sub>T</sub> (PF) | Reverse Leakage Max.<br>I <sub>R</sub> (μA) |
|--------------|---------------------|--------------------------------------------------------|-----------------------------------------------|-------------------------------------|--------------------------------------------------|-----------------------------------------------------|--------------------------------------------------|---------------------------------------------|
| SE10F10B5.0A | C                   | 5.00                                                   | 5.6                                           | 1                                   | 11.6                                             | 18.6 9.4                                            | 15                                               | 0.5                                         |

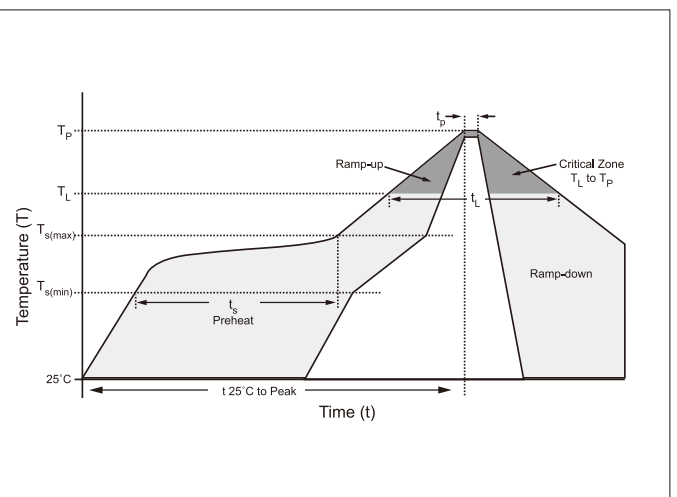


## PRODUCT DIMENSIONS



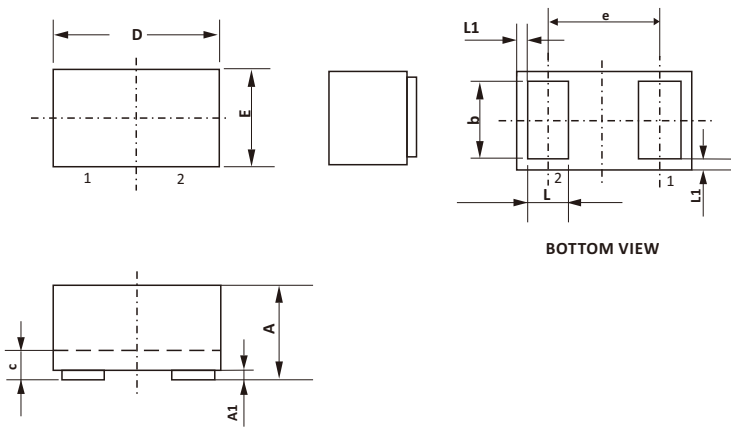
## REFLOW PROFILE

| Reflow Condition                                  |                             | Lead-free assembly |
|---------------------------------------------------|-----------------------------|--------------------|
| Pre Heat                                          | Temperature Min (Ts(min))   | 150°C              |
|                                                   | Temperature Max (Ts(max))   | 200°C              |
|                                                   | Time (min to max) (ts)      | 60 – 180 secs      |
| Average ramp up rate (Liquidus Temp (TL) to peak) |                             | 3°C/second max     |
| Ts(max)to TL - Ramp-up Rate                       |                             | 3°C/second max     |
| Reflow                                            | Temperature (TL) (Liquidus) | 217°C              |
|                                                   | Time (min to max) (tl)      | 60 – 150 seconds   |
| Peak Temperature (Tp)                             |                             | 260°C              |
| Time within 5°C of actual peak Temperature (tp)   |                             | 20 – 40 seconds    |
| Ramp-down Rate                                    |                             | 6°C/second max     |
| Time 25°C to peak Temperature (Tp)                |                             | 8 minutes Max.     |
| Do not exceed                                     |                             | 260°C              |



## DFN1006 PACKAGE DIMENSIONS

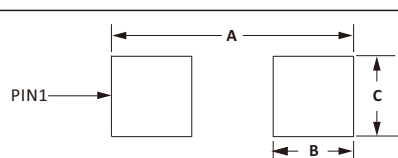
| OUTLINEDIMENSIONS |             |      |          |       |
|-------------------|-------------|------|----------|-------|
| DIM               | MILLIMETERS |      | INCHES   |       |
|                   | MIN         | MAX  | MIN      | MAX   |
| A                 | 0.40        | 0.55 | 0.016    | 0.022 |
| A1                | 0           | 0.05 | 0        | 0.002 |
| b                 | 0.40        | 0.60 | 0.016    | 0.024 |
| c                 | 0.12        | 0.18 | 0.005    | 0.007 |
| D                 | 0.95        | 1.05 | 0.037    | 0.041 |
| e                 | 0.65TYP     |      | 0.026TYP |       |
| E                 | 0.55        | 0.65 | 0.022    | 0.026 |
| L                 | 0.15        | 0.35 | 0.006    | 0.014 |
| L1                | 0.05REF     |      | 0.002REF |       |



The diagram illustrates the DFN1006 package dimensions. It includes a top view showing dimensions D (width), E (height), and L (lead length). A side view shows dimensions A (height) and A1 (lead height). A bottom view shows dimensions L1 (lead width), L (lead length), and e (pitch). The package is labeled with '1' and '2' on the top and bottom views.

## RECOMMENDED PAD LAYOUT DIMENSIONS

| DIM | MILLIMETERS | INCHES |
|-----|-------------|--------|
| A   | 1.20        | 0.047  |
| B   | 0.47        | 0.019  |
| C   | 0.60        | 0.024  |



The diagram shows the recommended pad layout dimensions. It includes a top view showing dimensions A (width), B (width), and C (height). A side view shows dimensions A (height) and A1 (lead height). The package is labeled with 'PIN1' on the top view.

## ORDERING INFORMATION

| Part Number  | Component Package | QTY/Reel | Reel Size |
|--------------|-------------------|----------|-----------|
| SE10F10B5.0A | DFN1006           | 10000PCS | 7"        |



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