

## FEATURES

- | 100 Watts Peak Pulse Power per Line (tp=8/20μs)
- | Protects one bidirectional I/O line
- | Working voltages : 5 V
- | Ultra Low leakage current
- | Meet AEC-Q101 Requirements

## APPLICATIONS

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



DFN1006



Marking

## IEC COMPATIBILITY

- | IEC61000-4-2 (ESD) ±20kV (air), ±20kV (contact)
- | IEC61000-4-4 (EFT) 40A (5/50ns)

## APPROVALS

- |             |                                    |
|-------------|------------------------------------|
| <b>RoHS</b> | Compliance with 2011/65/EU         |
| <b>HF</b>   | Compliance with IEC61249-2-21:2003 |



Schematic Symbol

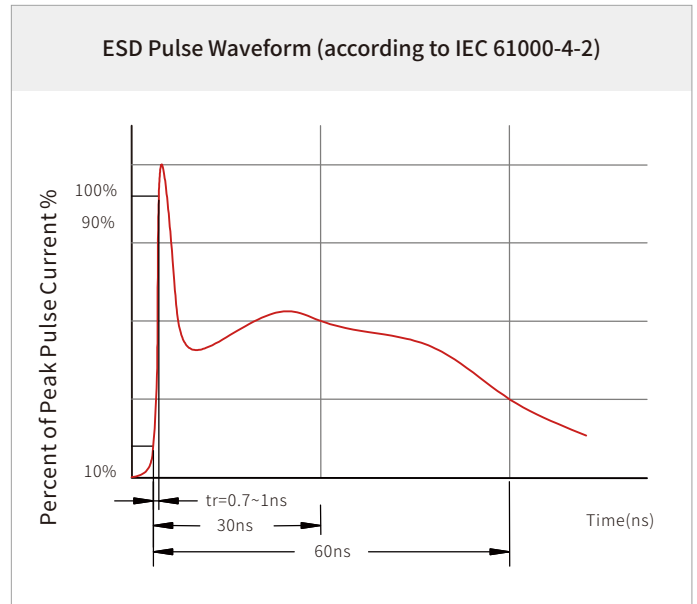
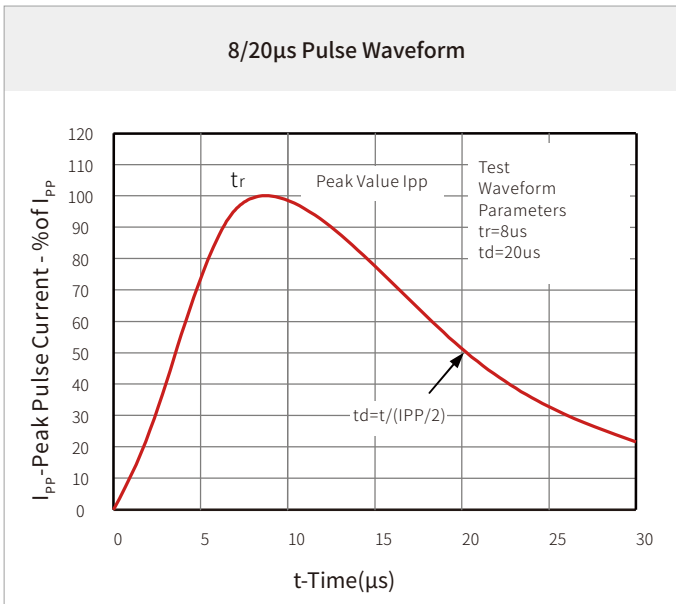
## THERMAL CONSIDERATIONS

| Symbol    | Parameter                             | Value       | Unit  |
|-----------|---------------------------------------|-------------|-------|
| $P_{PP}$  | Peak Pulse Power (tp=8/20μs waveform) | 100         | Watts |
| $T_J$     | Operating Temperature Range           | -55 to +150 | °C    |
| $T_{STG}$ | Storage Temperature Range             | -55 to +150 | °C    |

## ELECTRICAL CHARACTERISTICS

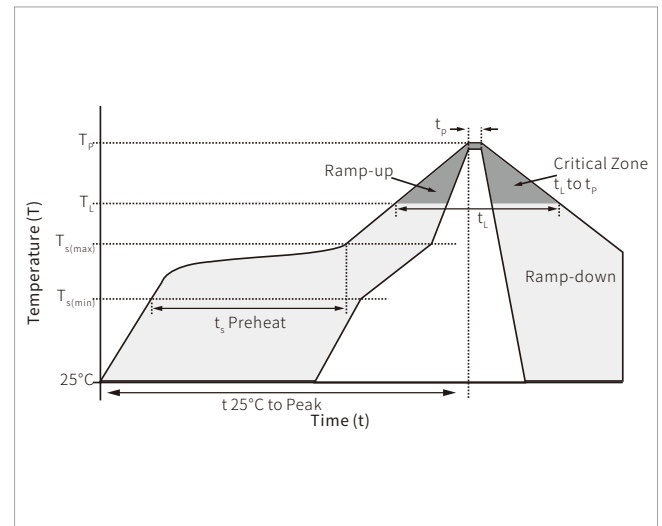
| Symbol    | Parameter                      | Condition                 | Min. | Typ. | Max. | Unit |
|-----------|--------------------------------|---------------------------|------|------|------|------|
| $V_{RWM}$ | Reverse Stand-off Voltage      |                           |      |      | 5    | V    |
| $V_{BR}$  | Reverse Breakdown Voltage      | $I_T=1mA$                 | 6    |      |      | V    |
| $I_R$     | Reverse Leakage Current        | $V_{RWM}=5V$              |      |      | 1    | μA   |
| $V_C$     | Clamping Voltage               | $I_{PP}=1A, tp=8/20\mu s$ |      |      | 13   | V    |
| $V_C$     | Clamping Voltage               | $I_{PP}=4A, tp=8/20\mu s$ |      |      | 25   | V    |
| $I_{PP}$  | Peak Pulse Current             | tp=8/20μs                 |      |      | 4    | A    |
| $C_J$     | Off State Junction Capacitance | $V_R=0V, f=1MHz$          |      | 1    |      | pF   |

## CHARACTERISTIC CURVES

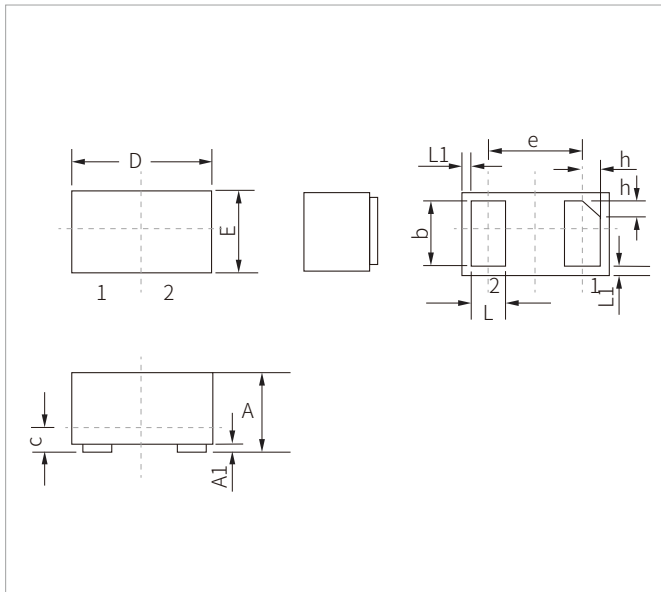


## SOLDERING PARAMETERS

| Reflow Condition                                       |                                  | Lead-free assembly |
|--|----------------------------------|--------------------|
| Pre Heat   | Temperature Max ( $T_{s(min)}$ ) | 150°C              |
|  | Temperature Max ( $T_{s(max)}$ ) | 200°C              |
|  | Time (min to max) ( $t_s$ )      | 60 – 180 secs      |
| Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak) |                                  | 3°C/second max     |
| $T_{s(max)}$ to $T_L$ - Ramp-up Rate                   |                                  | 3°C/second max     |
| Reflow   | Temperature ( $T_L$ ) (Liquidus) | 217°C              |
|  | Time (min to max) ( $t_L$ )      | 60 – 150 seconds   |
| Peak Temperature ( $T_p$ )                             |                                  | 260°C              |
| Time within 5°C of actual peak Temperature ( $t_p$ )   |                                  | 20 – 40 seconds    |
| Ramp-down Rate   |                                  | 6°C/second max     |
| Time 25°C to peak Temperature ( $T_p$ )                |                                  | 8 minutes max.     |
| Do not exceed  |                                  | 260°C              |

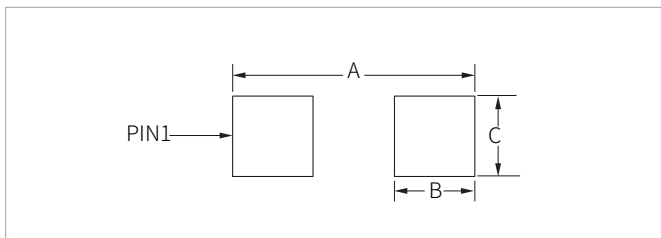


## DFN1006 PACKAGE INFORMATION



| Ref. | Millimeters |      | Inches   |       |
|------|-------------|------|----------|-------|
|      | Min.        | Max. | Min.     | Max.  |
| A    | 0.40        | 0.60 | 0.016    | 0.024 |
| A1   | 0           | 0.05 | 0        | 0.002 |
| b    | 0.40        | 0.55 | 0.016    | 0.022 |
| c    | 0.12        | 0.18 | 0.005    | 0.007 |
| D    | 0.90        | 1.10 | 0.035    | 0.043 |
| e    | 0.65BSC     |      | 0.026BSC |       |
| E    | 0.55        | 0.75 | 0.022    | 0.030 |
| L    | 0.20        | 0.35 | 0.008    | 0.014 |
| L1   | 0.05REF     |      | 0.002REF |       |
| h    | 0.07        | 0.17 | 0.003    | 0.007 |

## RECOMMENDED PAD LAYOUT DIMENSIONS



| Ref. | Millimeters | Inches |
|------|-------------|--------|
| A    | 1.20        | 0.047  |
| B    | 0.47        | 0.019  |
| C    | 0.60        | 0.024  |

## ORDERING INFORMATION

| Part Number     | Component Package | QTY/Reel | Reel Size |
|-----------------|-------------------|----------|-----------|
| TPSE10F10B5.0MA | DFN1006           | 10000PCS | 7"        |

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