

## FEATURES

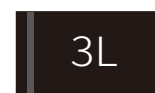
- | 100W Peak Pulse Power per Line (tp=8/20μs)
- | Protects One unidirectional I/O line
- | Working voltages : 3.3 V
- | Low clamping voltage
- | Meet AEC-Q101 Requirements

## APPLICATIONS

- | Cell Phone Handsets and Accessories
- | Display ports
- | MMDDI ports
- | USB Ports
- | Portable Instrumentatio
- | Digital Visual Interface(DVI)
- | PCI Express and Serial SATA Ports



DFN1006



Marking

## IEC COMPATIBILITY

- | IEC61000-4-2 (ESD) ±25kV (air), ±10kV (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

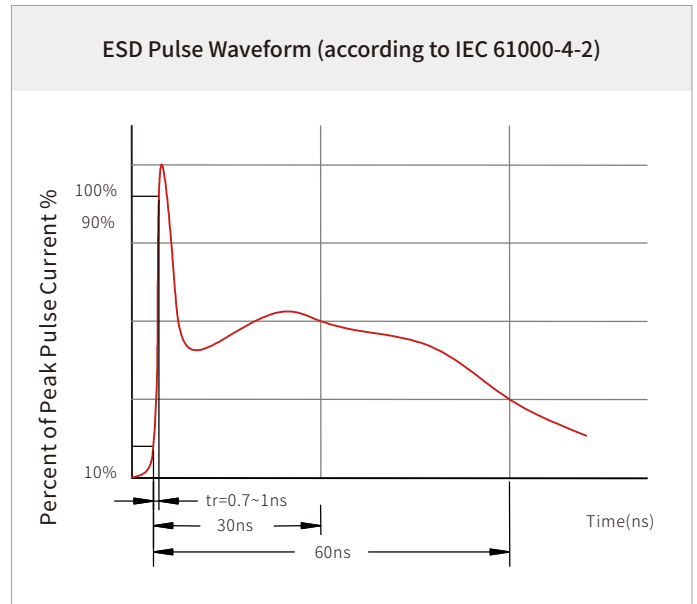
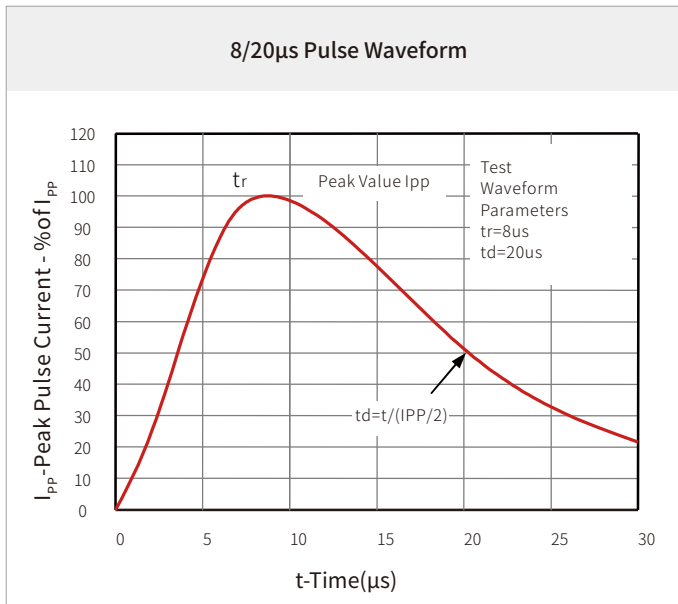
## THERMAL CONSIDERATIONS

| 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

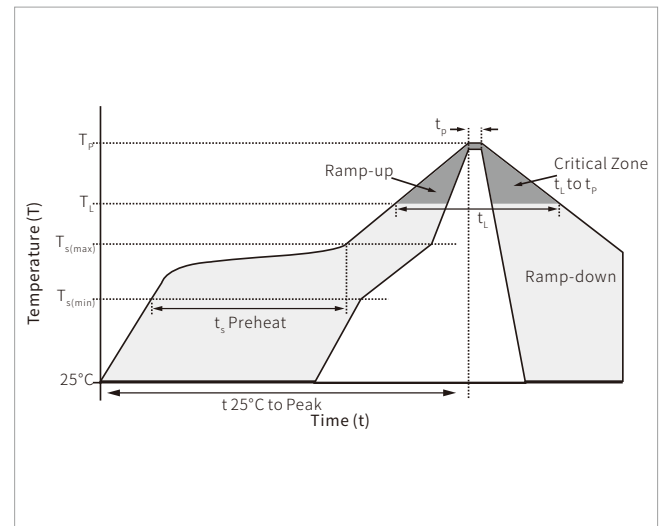
| Symbol    | Parameter                      | Condition                 | Min. | Typ. | Max. | Unit |
|-----------|--------------------------------|---------------------------|------|------|------|------|
| $V_{RWM}$ | Reverse Stand-off Voltage      |                           |      |      | 3.3  | V    |
| $V_{BR}$  | Reverse Breakdown Voltage      | $I_T=1mA$                 | 5    |      |      | V    |
| $I_R$     | Reverse Leakage Current        | $V_{RWM}=3.3V$            |      |      | 30   | nA   |
| $V_C$     | Clamping Voltage               | $I_{pp}=1A, tp=8/20\mu s$ |      |      | 10   | V    |
| $V_C$     | Clamping Voltage               | $I_{pp}=6A, tp=8/20\mu s$ |      |      | 16   | V    |
| $I_{PP}$  | Peak Pulse Current             | $tp=8/20\mu s$            |      |      | 6    | A    |
| $C_J$     | Off State Junction Capacitance | $V_R=0V, f=1MHz$          |      | 0.8  |      | pF   |

## CHARACTERISTIC CURVES

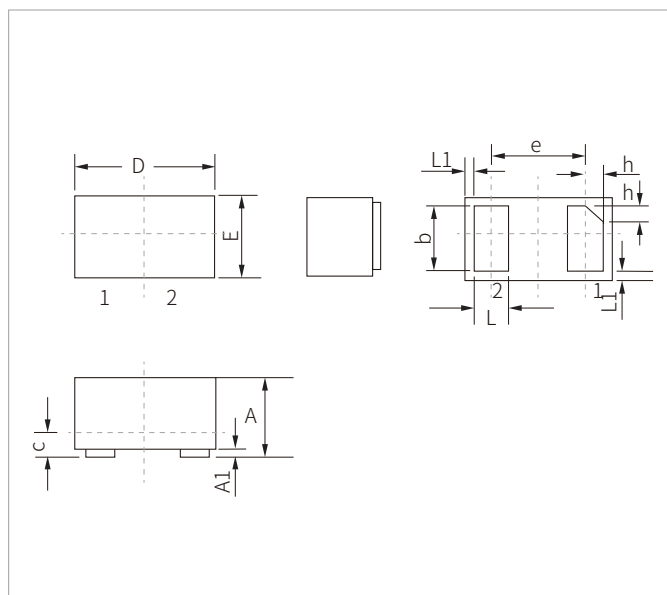


## SOLDERING PARAMETERS

| 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              |

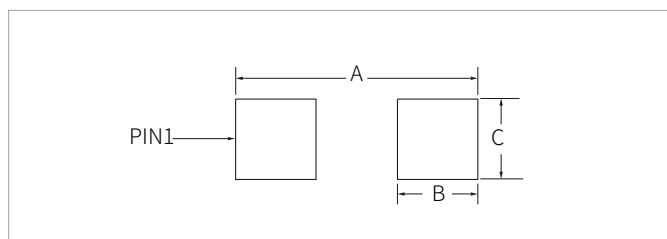


## DFN1006 PACKAGE INFORMATION



| 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 |
|-----------------|-------------------|----------|-----------|
| TPSE10F10U3.3MA | DFN1006           | 10000PCS | 7"        |

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