

## ESD Protection Diode in DFN1006

### Features

- 400Watts peak pulse power ( $T_P = 8/20\mu s$ )
- DFN1006 package
- Bidirectional configurations
- Low clamping voltage
- Low leakage current
- Normal capacitance ( $C_J = 15pF$  typ.)
- Protection one data/power line to:
  - IEC 61000-4-2  $\pm 30kV$  contact  $\pm 30kV$  air
  - IEC 61000-4-4 (EFT) 40A (5/50ns)
  - IEC 61000-4-5 (Lightning) 6A (8/20 $\mu s$ )



### Mechanical Data

- **Case:** DFN1006 (plastic package).  
Lead free; RoHS compliant; Halogen free
- **Molding Compound Flammability Rating:**  
UL 94 V-0
- **Terminals:** High temperature soldering guaranteed:  
260 °C/10 sec. at terminals

### Applications

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

### Absolute Maximum Ratings

Ratings at 25 °C, ambient temperature unless otherwise specified

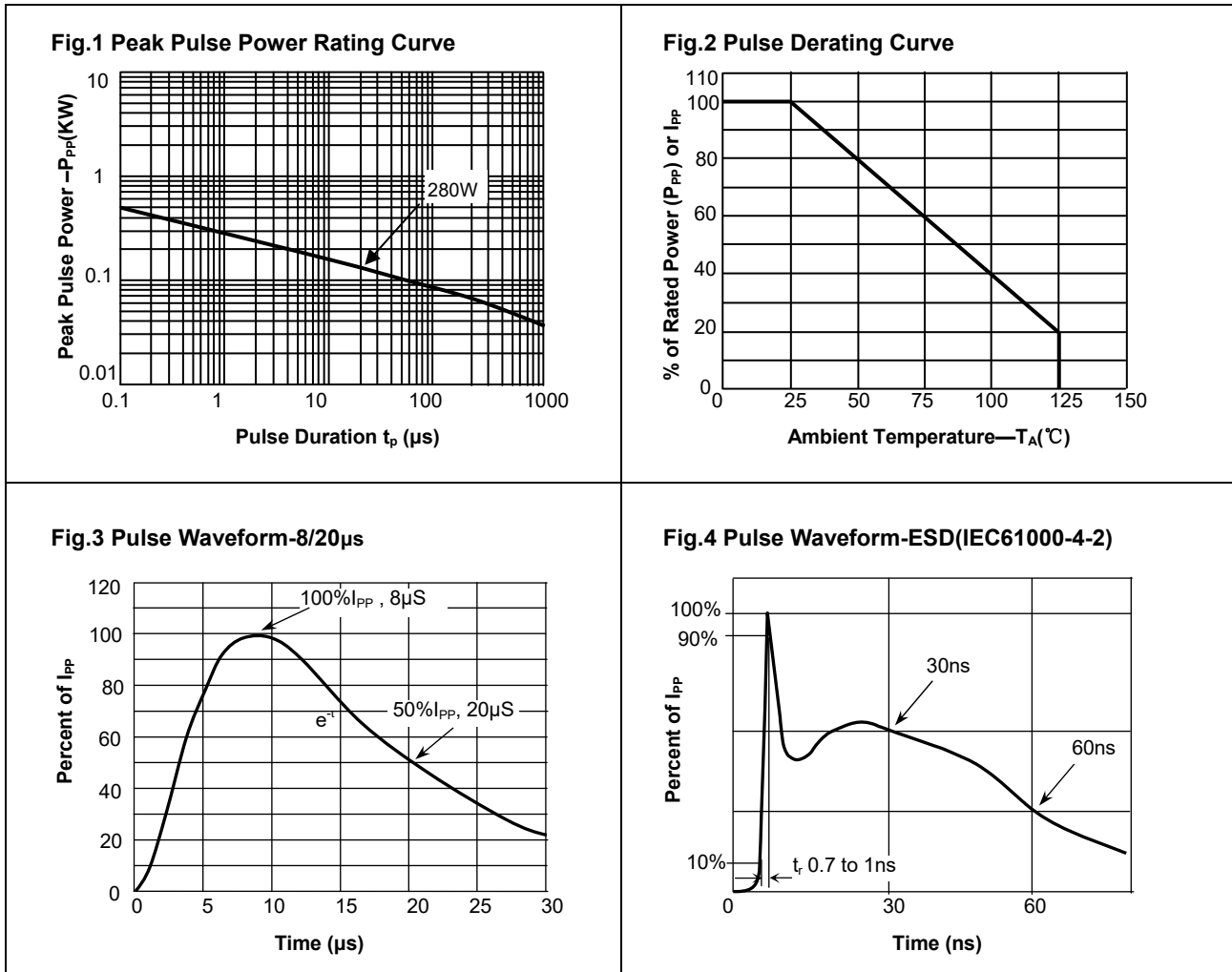
| Parameter                                 | Symbol    | Value       | Unit |
|---|-----------|-------------|------|
| Peak Pulse Power ( $T_P = 8/20\mu s$ )    | $P_{PP}$  | 400         | W    |
| ESD contact/air discharge (IEC-61000-4-2) | $V_{ESD}$ | 30/30       | kV   |
| Peak Pulse Current ( $T_P = 8/20\mu s$ )  | $I_{PP}$  | 6           | A    |
| Junction Temperature                      | $T_J$     | -55 to +125 | °C   |
| Storage temperature                       | $T_{STG}$ | -55 to +150 | °C   |

### Electrical Characteristics

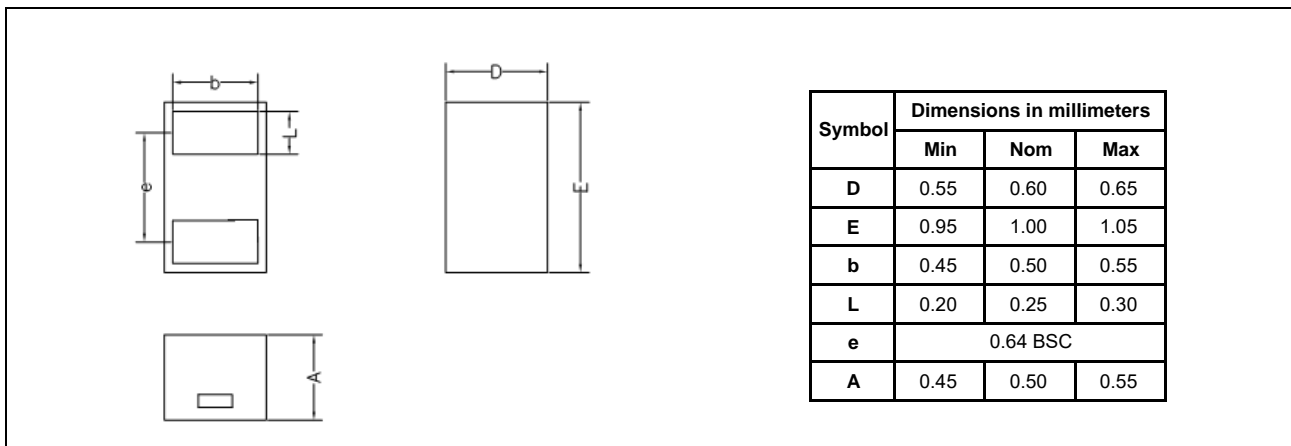
( $T_A = 25\text{ °C}$  unless otherwise specified)

| Parameter                        | Symbol    | Condition                      | Min  | Typ | Max | Unit    |
|----------------------------------|-----------|--------------------------------|------|-----|-----|---------|
| Reverse stand-off Voltage        | $V_{RWM}$ |                                |      |     | 36  | V       |
| Reverse Breakdown Voltage        | $V_{BR}$  | $I_T = 1mA$                    | 40.0 |     |     | V       |
| Reverse Leakage Current          | $I_R$     | $V_R = 36V, T = 25\text{ °C}$  |      |     | 0.5 | $\mu A$ |
| Clamping Voltage (IEC 61000-4-5) | $V_C$     | $I_{PP} = 6A, T_P = 8/20\mu s$ |      |     | 70  | V       |
| Junction Capacitance             | $C_J$     | $V_R = 0V, f = 1MHz$           |      | 15  |     | pF      |

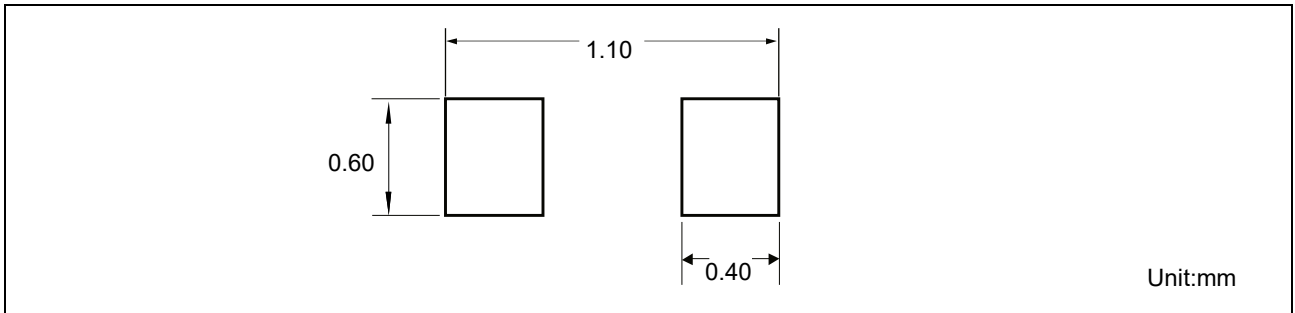
**Typical Characteristics** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$  unless otherwise specified)



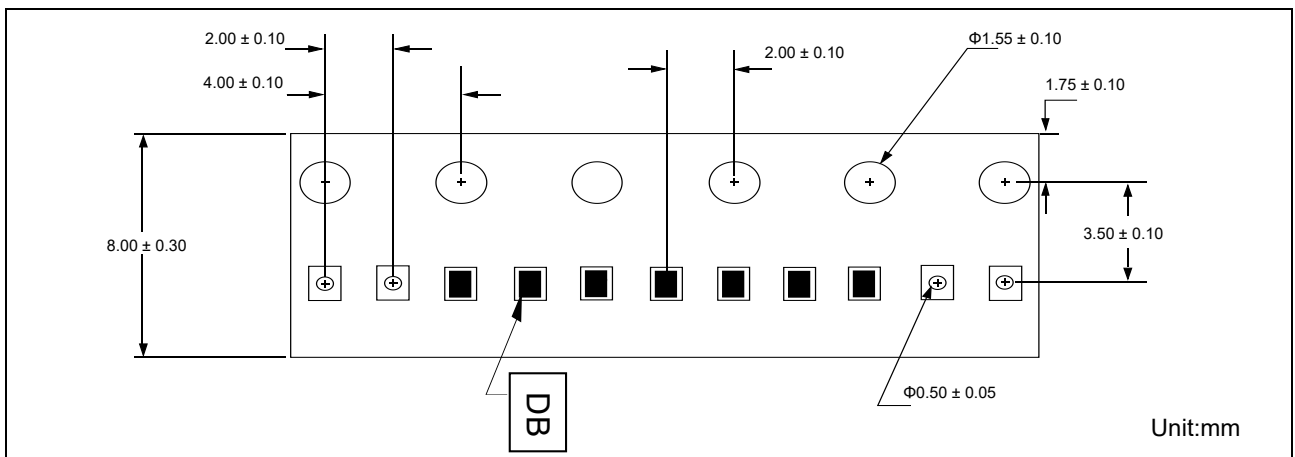
**Package Dimensions**



### Pad Dimensions



### Tape and Reel Specification



### Marking



### Ordering information

| Order code     | Package | Packaging option | Base quantity   | Packaging specification |
|----------------|---------|------------------|-----------------|-------------------------|
| CESD1006NC36VB | DFN1006 | Tape and reel    | 10000pcs / reel | EIA STD RS-481          |

### Revision history

| Date        | Revision | Changes         |
|-------------|----------|-----------------|
| 23-May-2020 | 1.0      | Initial release |

## CAUTION / WARNING

Information in this document is believed to be accurate and reliable. However, RDSEMI does not give any representations or warranties, expressed or implied, as to the accuracy or completeness of such information and shall have no liability for the consequences of use of such information.

Users should independently evaluate the suitability of and test each product selected for their own applications, and RDSEMI assumes no liability what's ever relating to the choice, selection or use of the RDSEMI products and services described herein.

RDSEMI reserves the right to change or update, without notice, any information contained in this publication; to change, without notice, the design, construction, processing, or specification of any product; and to discontinue or limit production or distribution of any product.

Information in this document supersedes and replaces all information previously supplied.

Products are not designed, authorized or warranted to be suitable for use in medical, military, aircraft, space or life support equipment, nor in applications where failure or malfunction of an RDSEMI product can reasonably be expected to result in personal injury, death or severe property or environmental damage. RDSEMI accepts no liability for inclusion and/or use of RDSEMI products in such equipment or applications and therefore such inclusion and/or use is at the customer's own risk.

This document as well as the item(s) described herein may be subject to export control regulations. Export might require a prior authorization from national authorities.

Resale of RDSEMI products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by RDSEMI for the RDSEMI product or service described herein and shall not create or extend in any manner whatsoever, any liability of RDSEMI.

RDSEMI expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. RDSEMI only obligations are those in the RDSEMI Standard Terms and Conditions of Sale and in no case will RDSEMI be liable for any incidental, indirect, or consequential damages arising from the sale, resale, use, or misuse of its products.

---

Specifications are subject to change without notice  
© Copyright 2020, DaJing Semiconductor  
All rights reserved