

## DESCRIPTION

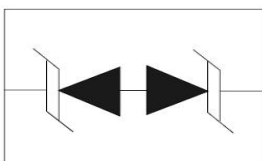
The AZ5325-01F is a low-capacitance Transient Voltage Suppressor (TVS) designed to provide electrostatic discharge (ESD) protection for data, control or power lines. With typical capacitance of 8pF only, The AZ5325-01F is designed to protect parasitic-sensitive systems against over-voltage and over-current transient events. It complies with IEC 61000-4-2 (ESD), Level 4 ( $\pm 15\text{kV}$  air,  $\pm 8\text{kV}$  contact discharge), IEC 61000-4-4 (electrical fast transient - EFT) (40A, 5/50 ns), very fast charged device model (CDM) ESD and cable discharge event (CDE), etc.

The AZ5325-01F is uses ultra-small DFN1006 package. The AZ5325-01F is device can protect one data line. It offers system designers flexibility to protect single data line where space is a premium concern.

## ORDERING INFORMATION

- Package: DFN1006
- Material: RoHS compliant, Halogen free
- Packing: Tape & Reel
- Quantity per reel: 10,000pcs

## CIRCUIT DIAGRAM



## FEATURES

- Transient protection for high-speed data lines IEC 61000-4-2 (ESD)  $\pm 15\text{kV}$  (Air)  $\pm 8\text{kV}$  (Contact)
- IEC 61000-4-4 (EFT) 40A (5/50 ns) Cable Discharge Event (CDE)
- Package optimized for high-speed lines — Ultra-small package (1.0mm-0.6mm-0.4mm) — Protects one data, control or power line — Low capacitance
- Low leakage current
- Low clamping voltage
- Each I/O pin can withstand over 1000 ESD strikes for  $\pm 8\text{kV}$  contact discharge

## MACHANICAL DATA

- DFN1006 package —
- Flammability Rating: UL 94V-0
- Packaging: Tape and Reel
- High temperature soldering guaranteed:  $260^\circ\text{C}/10\text{s}$  — Reel size: 7 inch

## APPLICATIONS

- Portable Electronics
- Desktops, Servers and Notebooks
- Cellular Phones
- MP3 Ports
- Digital Ports
- Subscriber Identity Module (SIM) card

## PIN CONFIGURATION



**ABSOLUTE MAXIMUM RATING**

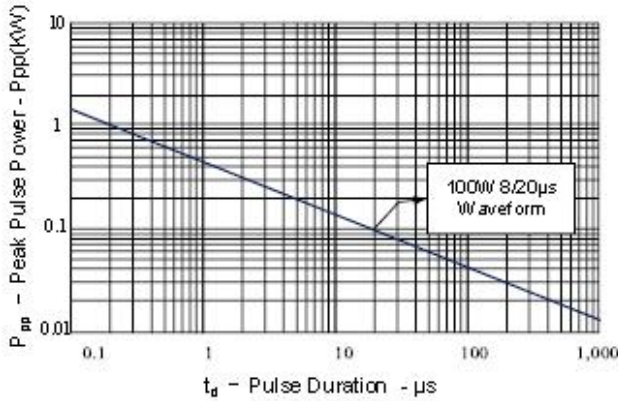
| Symbol           | Parameter                 | Value    | Units |
|------------------|---------------------------|----------|-------|
| P <sub>PP</sub>  | Peak Pulse Power (8/20μs) | 100      | W     |
| T <sub>j</sub>   | Operating Temperature     | -55/+125 | °C    |
| T <sub>STG</sub> | Storage Temperature       | -55/+150 | °C    |

**ELECTRICAL CHARACTERISTICS (T<sub>amb</sub>=25°C)**

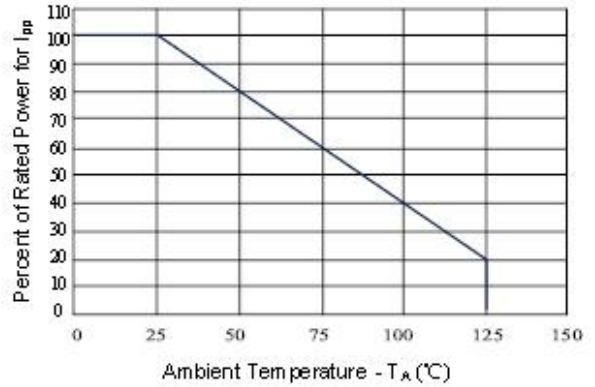
| Symbol           | Parameter                 | Test Condition   | Min | Typ | Max       | Units |
|------------------|---------------------------|--|-----|-----|-----------|-------|
| V <sub>RWM</sub> | Reverse Stand-Off Voltage |  |     |     | 5.0       | V     |
| V <sub>BR</sub>  | Reverse Breakdown voltage | I <sub>T</sub> =1mA  | 6.0 |     |           | V     |
| I <sub>R</sub>   | Reverse leakage current.  | V <sub>RWM</sub> =5V   |     |     | 1         | μA    |
| I <sub>PP</sub>  | Peak Pulse Current        | t <sub>p</sub> =8/20us   |     |     | 5         | A     |
| V <sub>C</sub>   | Clamping Voltage          | I <sub>PP</sub> =1A, t <sub>p</sub> =8/20us<br>I <sub>PP</sub> =5A, t <sub>p</sub> =8/20us |     | 13  | 9.5<br>15 | V     |
| C <sub>J</sub>   | Junction Capacitance      | V <sub>R</sub> =0V, f=1MHz   |     | 8   | 15        | pF    |

**ELECTRICAL CHARACTERISTICS CURVE**

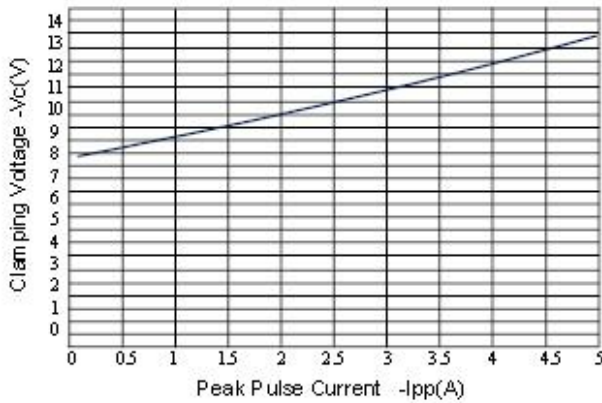
**Figure 1: Peak Pulse Power Vs Pulse Time**



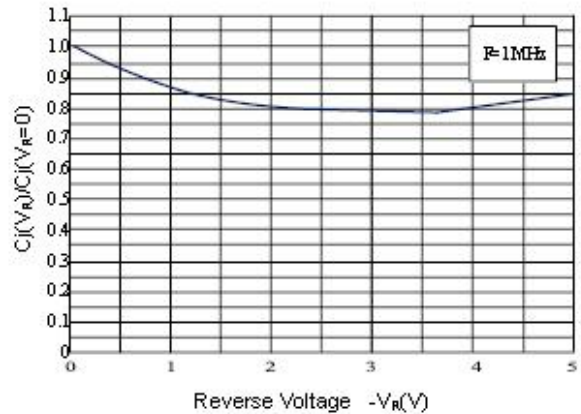
**Figure 2: Power Derating Curve**



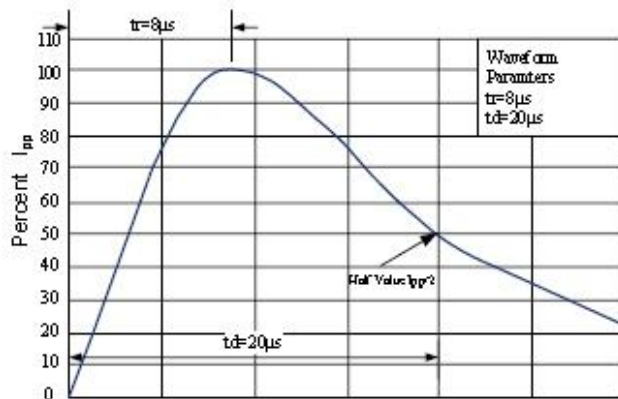
**Figure 3: Clamping Voltage vs. Peak Pulse Current**



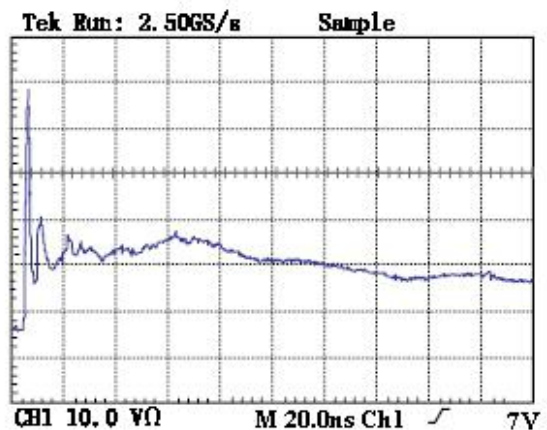
**Figure 4: Normalized Junction Capacitance vs. Reverse Voltage**



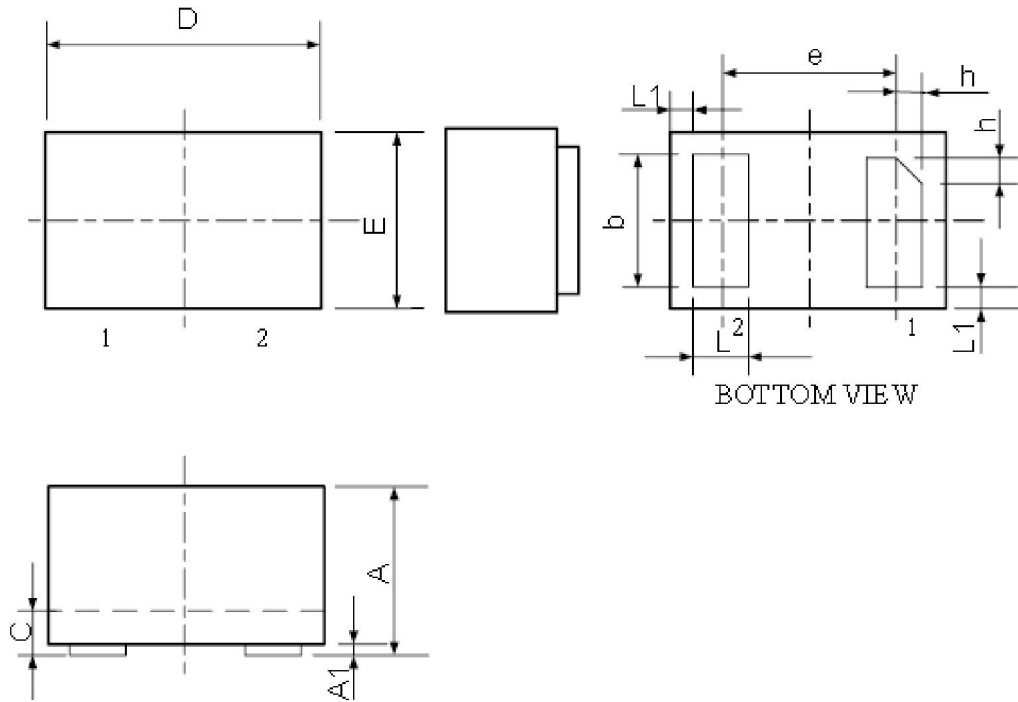
**Figure 5: Pulse Waveform**



**Figure 6: ESD Clamping(8kV Contact per IEC 61000-4-2)**



**DFN1006 PACKAGE OUTLINE DIMENSIONS**



| Symbol | Dimensions In Millimeters |         |
|--------|---------------------------|---------|
|        | Minimum                   | Maximum |
| A      | 0.450                     | 0.550   |
| A1     | 0.000                     | 0.050   |
| b      | 0.45                      | 0.55    |
| C      | 0.12                      | 0.18    |
| D      | 0.950                     | 1.050   |
| e      | 0.65BSC                   |         |
| E      | 0.550                     | 0.650   |
| L      | 0.200                     | 0.300   |
| L1     | 0.05REF                   |         |
| h      | 0.07                      | 0.17    |