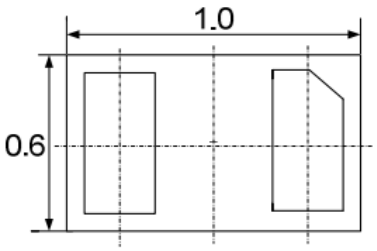
# SDA2411P1

**1-Line Bi-directional TVS Diode**

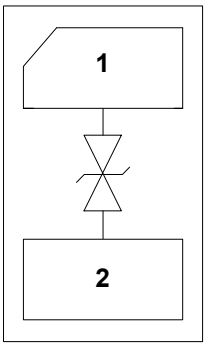
## Features

- Ultra small package: 1.0x0.6x0.5mm
- Protects one data or power line
- Ultra low leakage: nA level
- Working voltage: 24V
- Low clamping voltage
- 2-Pin leadless package
- Complies with following standards:
  - – IEC 61000-4-2 (ESD) immunity test
    - Air discharge: ±30kV
    - Contact discharge: ±25kV
  - – IEC61000-4-4 (EFT) 40A (5/50ns)
  - – IEC61000-4-5 (Lightning) 5A (8/20μs)
- RoHS Compliant

## Dimensions DFN1006




## Pin Configuration




## Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players

## Mechanical Characteristics

- Package: DFN1006 (1.0×0.6×0.5mm)
- Lead Finish: NiPdAu
- Case Material: “Green” Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below
- Marking Information: See Below

## Absolute Maximum Ratings(Tamb=25°C unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Peak Pulse Power (8/20μs) | Ppp | 300 | W |
| ESD per IEC 61000−4−2 (Air) | $V_{ESD}$ | ±30 | Kv |
| ESD per IEC 61000−4−2 (Contact) | | ±25 | |
| Operating Temperature Range | $T_J$ | -55 to +125 | ℃ |
| Storage Temperature Range | $T_{STJ}$ | -55 to +150 | ℃ |



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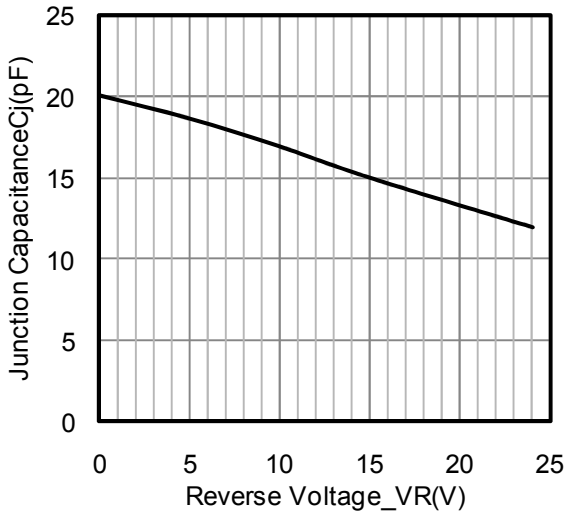
## Electrical Characteristics(TA=25°C unless otherwise specified)

| Part Number | Device Marking | $V_{RWM}$ (V) | $V_{BR}$ (V) | $I_T$ (mA) | $V_C$ @1A | Vc | | $I_R$ μA (Max) | C (Pf) (Typ.) |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | (Max) | (@A) | | |
| SDA2411P1 | A4 | 24 | 27 | 1 | 34 | 46 | 5 | 0.2 | 20 |

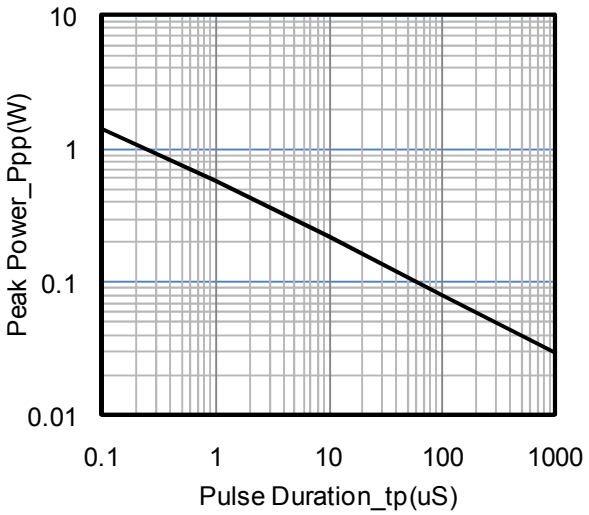


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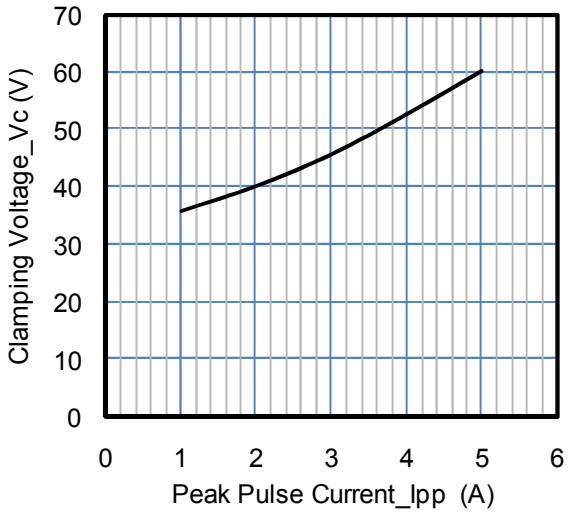
## Typical Performance Characteristics ($T_A$=25°C unless otherwise Specified)



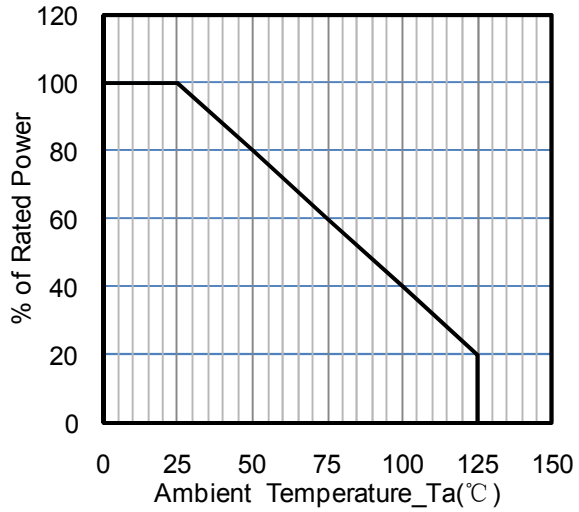

**Junction Capacitance vs. Reverse Voltage**



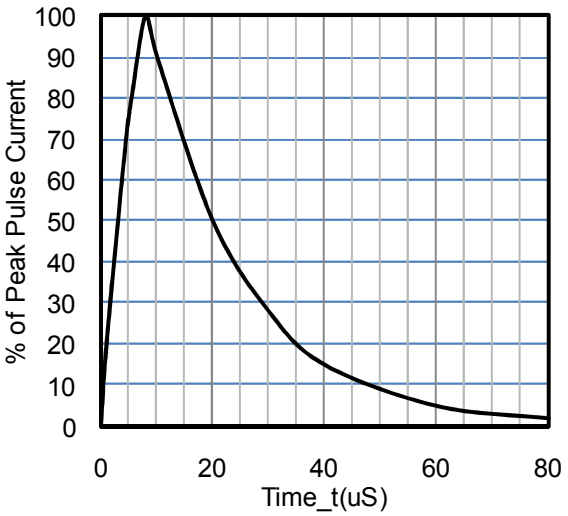

**Peak Pulse Power vs. Pulse Time**



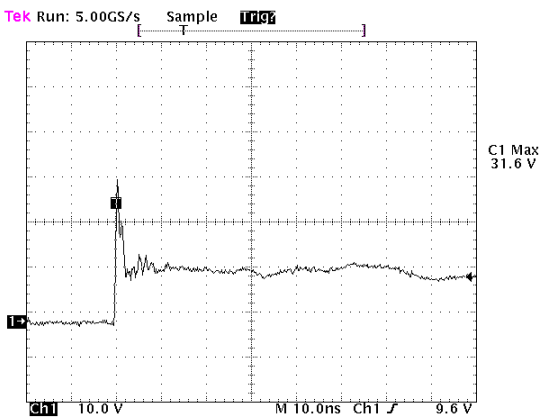

**Clamping Voltage vs. Peak Pulse Current**




**Power Derating Curve**




**8 X 20uS Pulse Waveform**



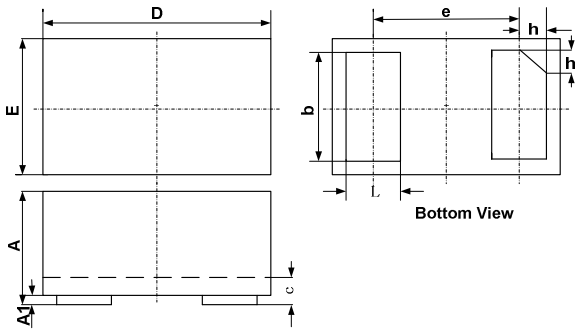

**ESD Clamping Voltage**

**8 kV Contact per IEC61000−4−2**



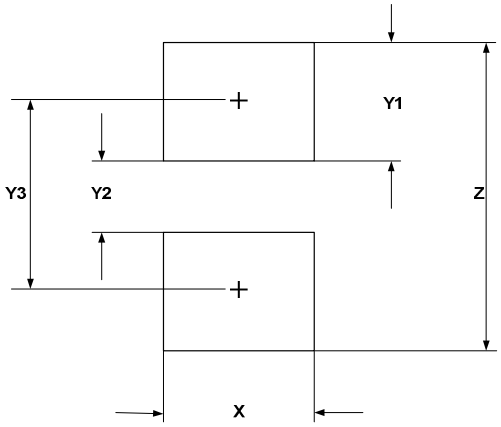
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## DFN1006 Package Outline Drawing




| SYM | DIMENSIONS | | | | | |
|---|---|---|---|---|---|---|
| | MILLIMETERS | | | INCHES | | |
| | MIN | NOM | MAX | MIN | NOM | MAX |
| A | 0.45 | 0.50 | 0.55 | 0.018 | 0.020 | 0.022 |
| A1 | 0.00 | 0.02 | 0.05 | 0.000 | 0.001 | 0.002 |
| b | 0.45 | 0.50 | 0.55 | 0.018 | 0.020 | 0.022 |
| c | 0.12 | 0.15 | 0.18 | 0.005 | 0.006 | 0.007 |
| D | 0.95 | 1.00 | 1.05 | 0.037 | 0.039 | 0.041 |
| e | 0.65 BSC | | | 0.026 BSC | | |
| E | 0.55 | 0.60 | 0.65 | 0.022 | 0.024 | 0.026 |
| L | 0.20 | 0.25 | 0.30 | 0.008 | 0.010 | 0.012 |
| h | 0.07 | 0.12 | 0.17 | 0.003 | 0.005 | 0.007 |

### Suggested Land Pattern




| SYM | DIMENSIONS | |
|---|---|---|
| | MILLIMETERS | INCHES |
| X | 0.60 | 0.024 |
| Y1 | 0.50 | 0.020 |
| Y2 | 0.30 | 0.012 |
| Y3 | 0.80 | 0.032 |
| Z | 1.30 | 0.052 |

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