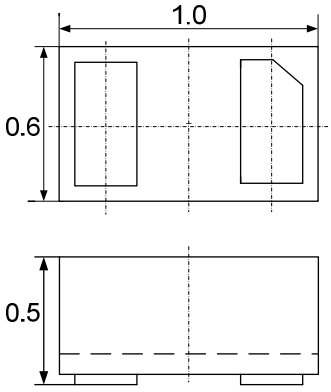
ST0541D4

1-Line Low Capacitance Bi-directional TVS Diode

Features

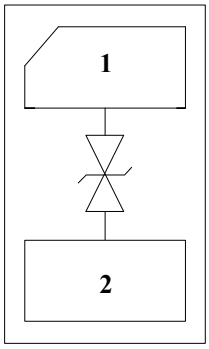
- Ultra small package: 1.0x0.6x0.5mm
- Low capacitance: 2.5pF typical
- Ultra low leakage: nA level
- Low operating voltage: 5V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    Air discharge: ±15kV Contact discharge: ±8kV
  - IEC61000-4-4 (EFT) 40A (5/50ns)
- RoHS Compliant



Maximum Dimensions (mm)

Mechanical Characteristics

- Package: DFN1006-2
- Lead Finish: NiPdAu
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020



DFN1006-2 (Bottom View)

Applications

- Personal Digital Assistants
- Peripherals
- Audio Players
- USB 2.0
- Portable Instrumentation
- Keypads, Side Keys, LCD Displays

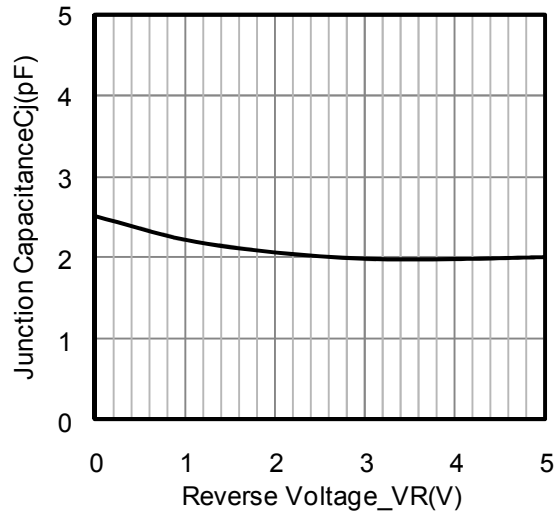
Absolute Maximum Ratings (TA=25˚C unless otherwise specified)

Parameter	Symbol	Value	Unit
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	±15 ±8	kV
Operating Temperature Range	T_J	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

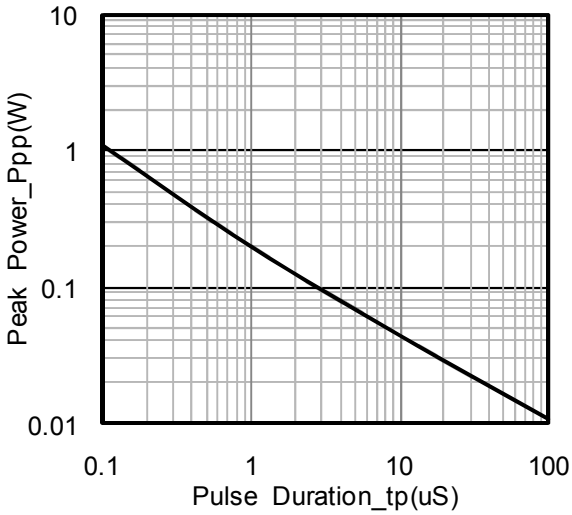
Electrical Characteristics (TA=25˚C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			5	V	
Breakdown Voltage	V_{BR}	5.5		9	V	I_T = 1mA
Reverse Leakage Current	I_R			0.5	uA	V_{RWM} = 5V
Clamping Voltage	V_C			11	V	I_{PP} = 1A (8 x 20μs pulse)
Junction Capacitance	C_J		2.5	3.5	pF	VR = 0V, f = 1MHz

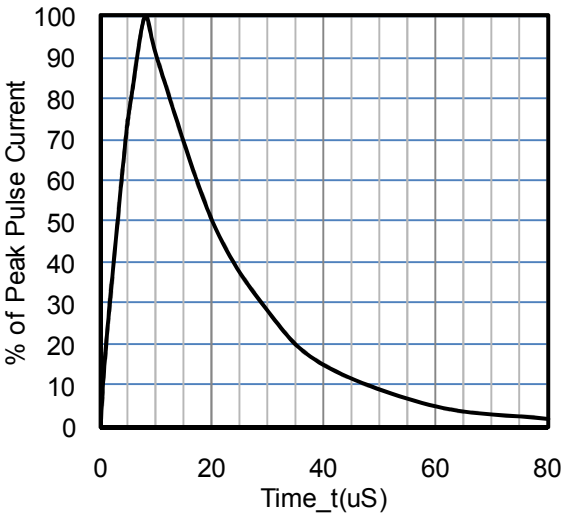
Typical Performance Characteristics (TA=25˚C unless otherwise specified)



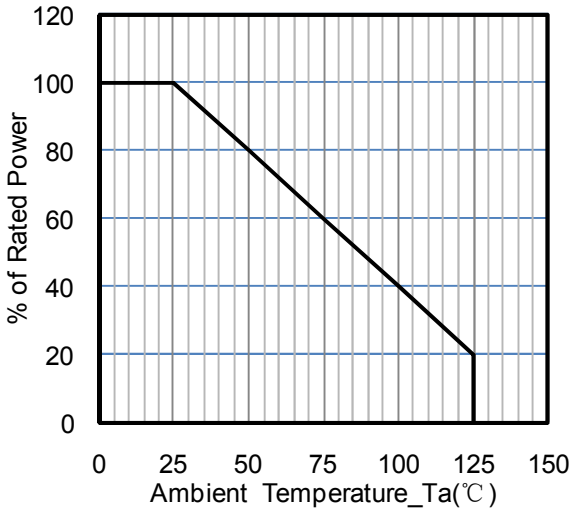
Junction Capacitance vs. Reverse Voltage



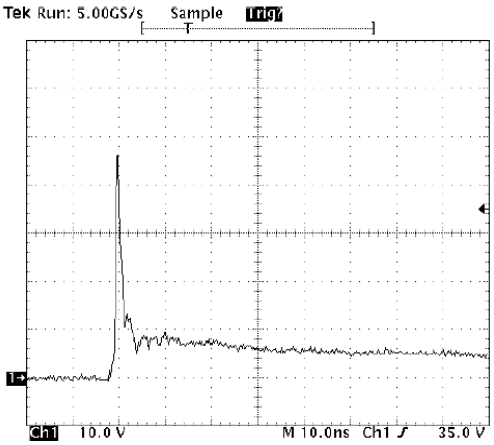
Peak Pulse Power vs. Pulse Time



8 X 20uS Pulse Waveform



Power Derating Curve



ESD Clamping Voltage

8 kV Contact per IEC61000−4−2