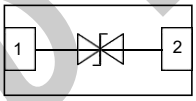
DCE0501P1

1-Line Ultra Low Capacitance Uni-directional TVS Diode

Features

- Ultra small package: 1.0 x 0.6 x 0.5mm
- Ultra low capacitance: 0.8pF typical
- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- 2-pin leadless package
- IEC 61000-4-2 (ESD): Air ±25kV, Contact ±20kV
- IEC 61000-4-5 (Lightning): 5A (8/20μs)
- RoHS Compliant

DFN1006-2L



Mechanical Data

- Package: DFN1006-2 (1.0 x 0.6 x 0.5mm)
- Case Material: "Green" Molding Compound
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below

Applications

- Cellular Handsets and Accessories
- Display Ports
- MDDI Ports
- USB Ports
- Digital Visual Interface (DVI)
- PCI Express and Serial SATA Ports

Ordering information

Order code	Marking	Package	Packaging option	Base quantity	Packaging specification
DCE0501P1	5U	DFN1006-2	Tape and reel	10000pcs / reel	EIA STD RS-481

Absolute Maximum Ratings

Ratings at 25 °C, ambient temperature unless otherwise specified

Parameter	Symbol	Value	Unit
Peak Pulse Power (T_P=8/20μs)	P_{PP}	80	W
ESD contact/air discharge (IEC-61000-4-2)	V_{ESD}	±20/±25	kV
Peak Pulse Current (T_P = 8/20μs)	I_{PP}	5	A
Junction Temperature	T_J	-55 to +125	℃
Operation temperature	T_{OP}	-55 to +125	℃
Storage temperature	T_{STG}	-55 to +150	℃

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Electrical Characteristics

(T_A = 25 °C unless otherwise specified)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse stand-off Voltage	V_{RWM}		-	-	5	V
Holding Voltage	V_{BR}	IT = 1mA	6	-	-	V
Reverse Leakage Current	I_R	VRWM = 5V	-	-	0.5	uA
Clamping Voltage	V_C	IPP = 1A,t_p=8/20μs	-	-	10	V
Clamping Voltage	V_C	IPP = 5A,t_p=8/20μs	-	-	16	V
Junction Capacitance	C_J	V_R=0V, f=1MHz	-	0.8	-	pF

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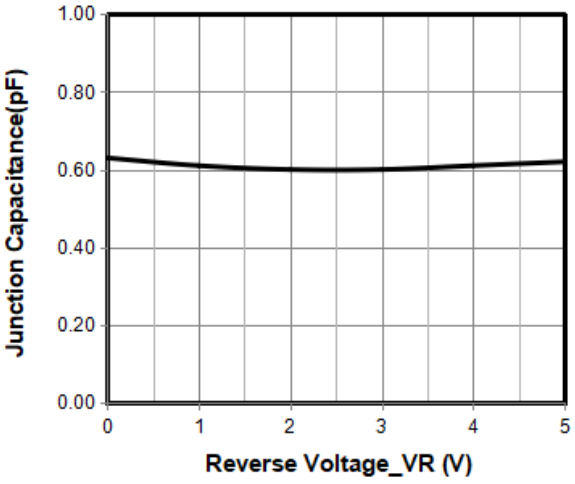
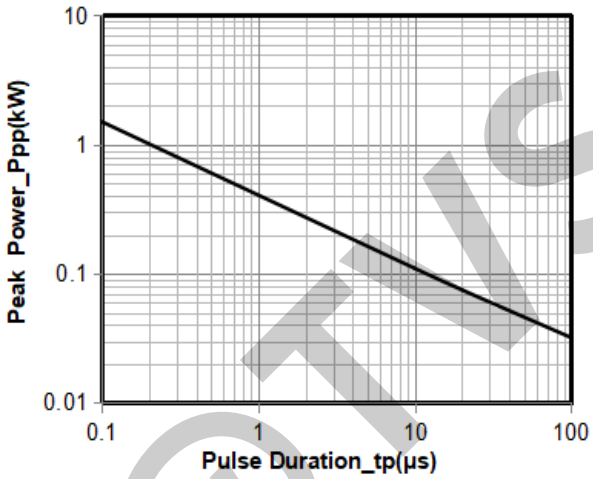
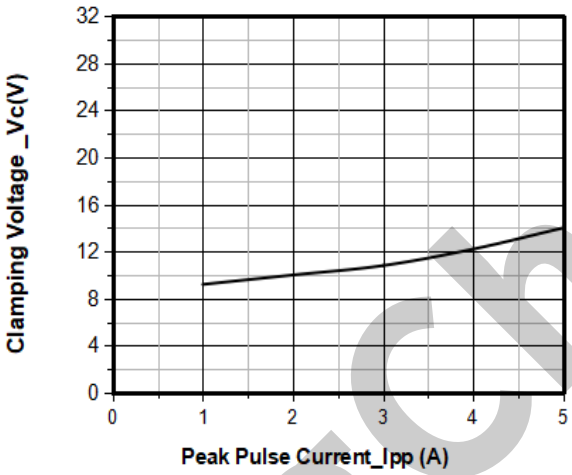
Typical Performance Characteristics (TA=25℃ unless otherwise Specified)



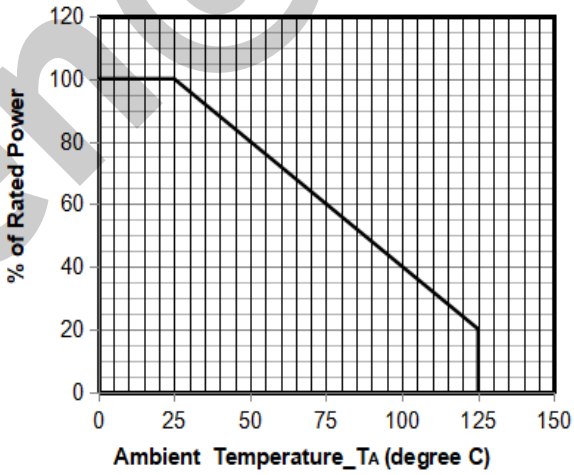
Junction Capacitance vs. Reverse Voltage



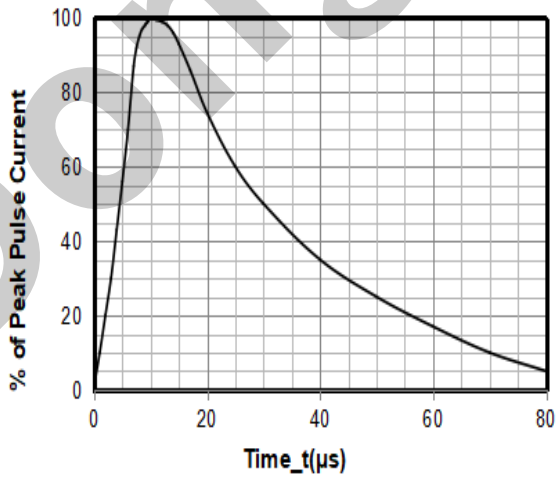
Peak Pulse Power vs. Pulse Time



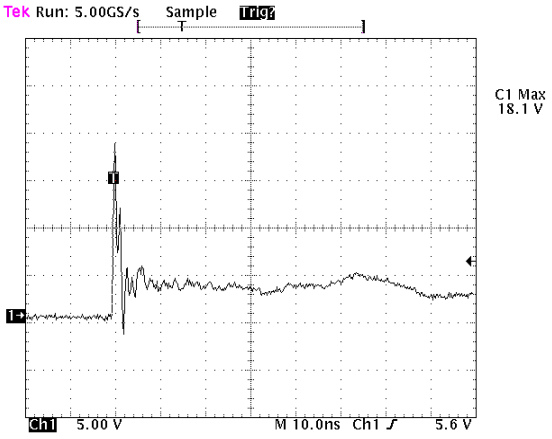
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



8 X 20μs Pulse Waveform



Note：Data is taken with a 10x attenuator

ESD Clamping Voltage

8 kV Contact per IEC61000−4−2

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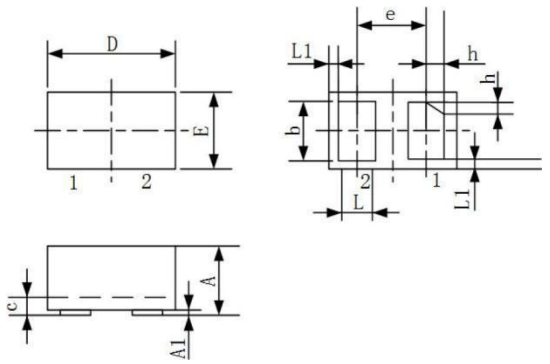
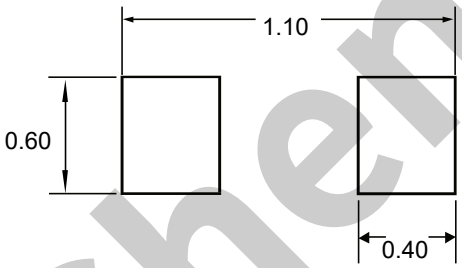
Package Dimensions



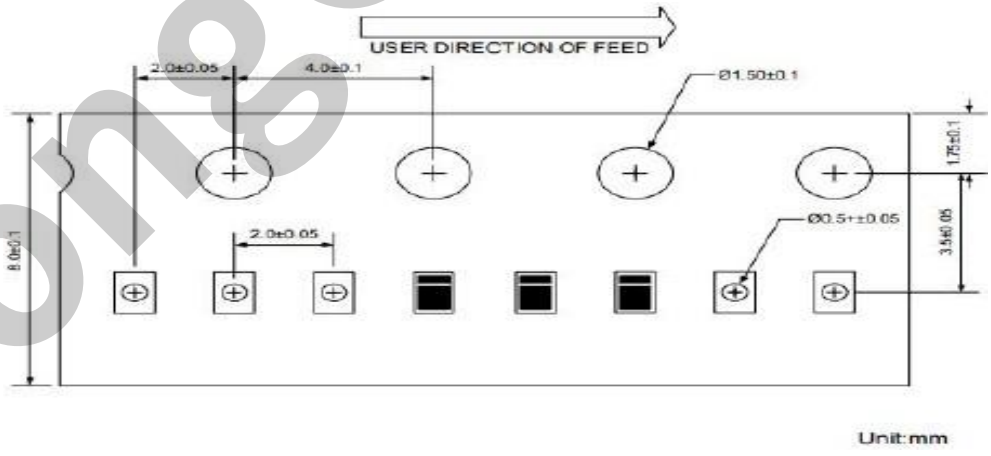
Symbol	Dimensions in millimeters		
	Min	Nom	Max
D	0.95	1.00	1.05
E	0.55	0.60	0.65
b	0.45	0.50	0.55
L	0.20	0.25	0.30
e		0.65 BSC	
A	0.40	0.50	0.55
A1	0	0.02	0.05
c	0.12	0.15	0.18
h	0.07	0.12	0.17
L1		0.05 REF	

Pad Dimensions



Unit:mm

Tape and Reel Specification



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