DCE0510D2XY

1-Line Bi-directional TVS Diode for ESD Protection

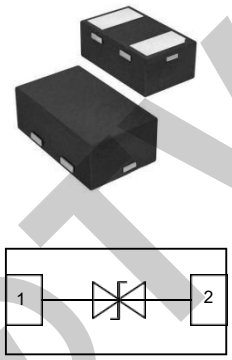
Features

- Reverse stand-off voltage: 5V max
- IEC 61000-4-2 (ESD): ±30kV (contact and air discharge)
- IEC 61000-4-5 (surge): 5.5A (8/20μs)
- Capacitance: CJ = 15pF typ.
- Response Time < 1 ns
- Small DFN1006-2L package

Mechanical Data

- Package: DFN1006-2L
- Bi-directional TVS protection
- Marking:PB

DFN1006-2L



Applications

- Cellular Handsets
- Tablets
- Laptops
- Other portable devices
- Network communication devices

Ordering information

Order code	Marking	Package	Packaging option	Base quantity	Packaging specification
DCE0510D2XY	PB	DFN1006-2L	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}	66	W
ESD contact/air discharge (IEC-61000-4-2)	V_{ESD}	±30/±30	kV
Peak Pulse Current (T_P = 8/20μs)	I_{PP}	5.5	A
Junction Temperature	T_J	125	℃
Operation temperature	T_{OP}	-40~125	℃
Storage temperature	T_{STG}	-55 to +150	℃

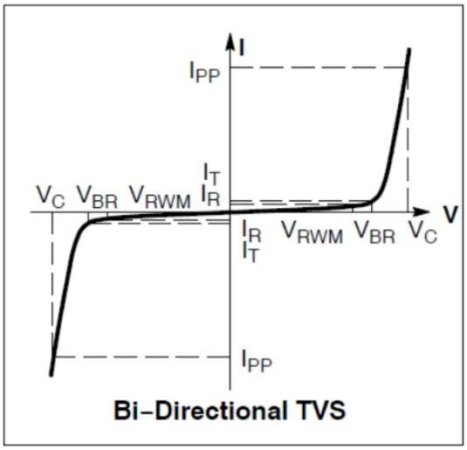
Electrical Characteristics

(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	5.6	-	8.4	V
Reverse Leakage Current	I_R	VRWM = 5V	-	-	0.1	uA
Clamping Voltage	V_C	IPP = 1A,tp=8/20 μ s	-	-	10	V
Clamping Voltage	V_C	IPP = 5.5A,tp=8/20 μ s	-	-	12	V
Junction Capacitance	C_J	V_R=0V, f=1MHz	-	15	18	pF

Electrical characteristics (TA=25℃, unless otherwise noted)

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
P_{pk}	Peak Power Dissipation
C	Capacitance @ V_R = 0 and f = 1.0 MHz



Bi-Directional TVS

Typical Characteristics

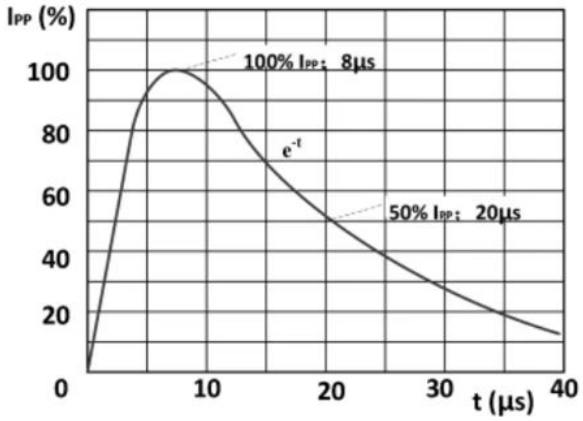


Fig. 1 . 8/20 us pulse waveform according to IEC 61000-4-5 and IEC 61643-321

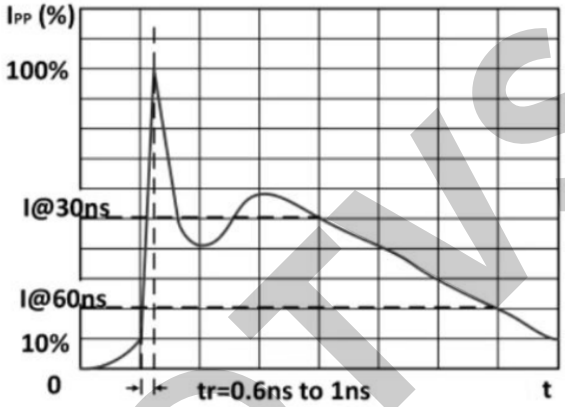


Fig. 2 . ESD pulse waveform according to IEC61000-4-2

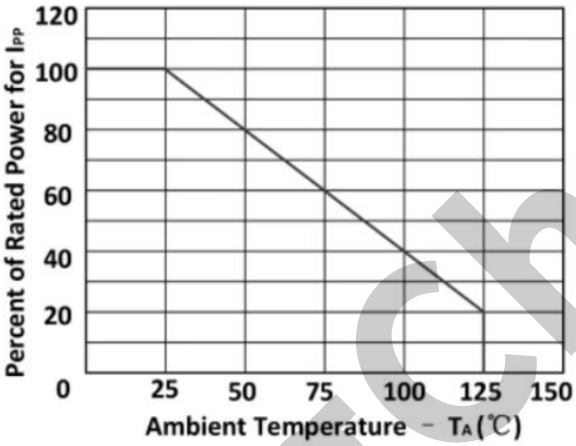


Fig. 3 . Power Derating Curve

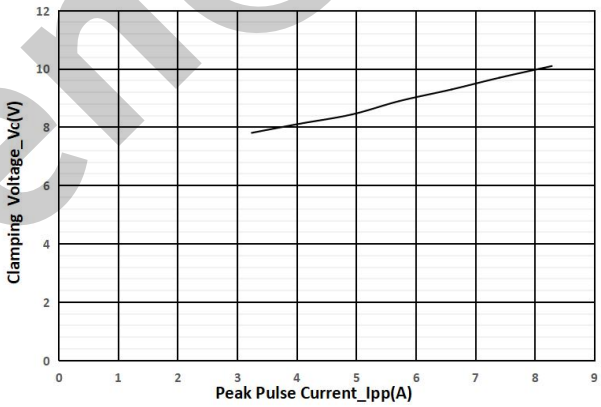
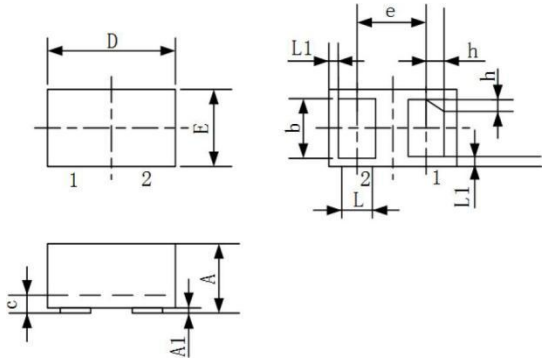


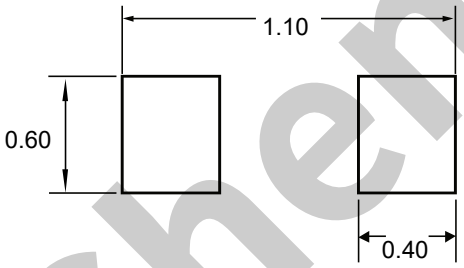
Fig. 4 . Peak Pulse Current vs Clamping Voltage

Package Dimensions



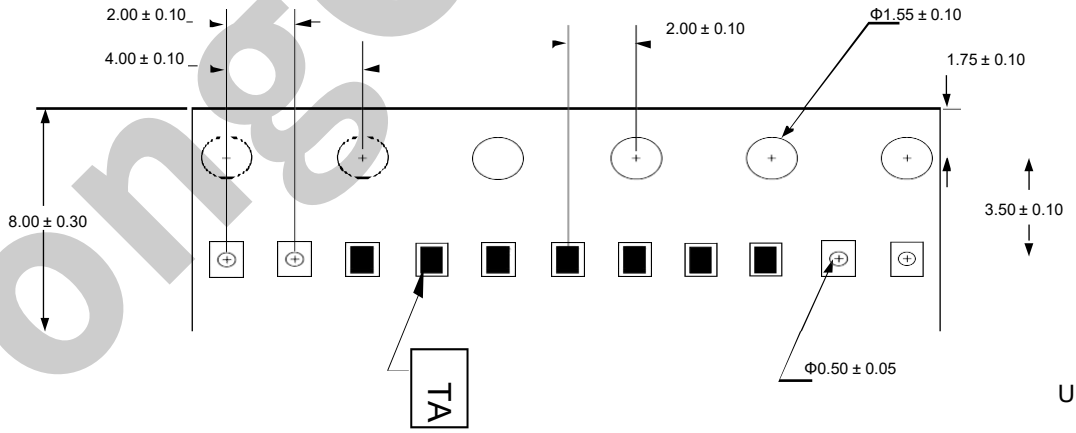
Symbol	Dimensions in millimeters		
	Min	Nom	Max
D	0.95	1.00	1.05
E	0.55	0.60	0.65
b	0.45	0.50	0.55
L	0.20	0.25	0.30
e		0.65 BSC	
A	0.40	0.50	0.55
A1	0	0.02	0.05
c	0.12	0.15	0.18
h	0.07	0.12	0.17
L1		0.05 REF	

Pad Dimensions



Unit:mm

Tape and Reel Specification



Unit:mm

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Head Office
Contact Information:
DongChen Electronics Co.,Ltd.
Address：2F., No.407, Sec. 2, Longgang Rd.,Zhongli Dist., Taoyuan City 32097, Taiwan (R.O.C.)
Tel: 03-284-1808
Fax: 03-284-1404
Mail:dc@dongchen.com.tw
Web:www.dongchen.com.tw