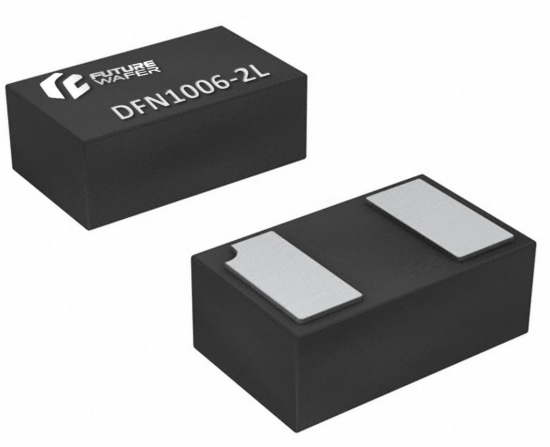
FE0502A

Bi-directional, Extra Low Capacitance ESD Protection

Applications

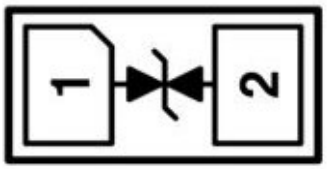
- Lan equipment
- Video
- DVI
- High Speed Data Line
- Ethernet
- USB 3.0 Power and Data line Protection



DFN1006

Feature

- With TVS Diode
- ESD Protection: Level 4
- Low clamping voltage
- 60 Watts peak pulse power per line (tp=8/20μS)
- Ultra low capacitance:0.5 pF max.
- Protection one line I/O port



IEC Compatibility

- EN61000-4
- 61000-4-2(ESD):Level 4,Contact:±8kv,Air:±15kv
- 61000-4-4(EFT):40A-5/50ns
- 61000-4-5(Surge):3A-8/20us

Mechanical Characteristics

- Molded JEDEC DFN1006 package
- Packing: Tape and Reel
- Flammability rating UL 94V-0
- Halogen Free

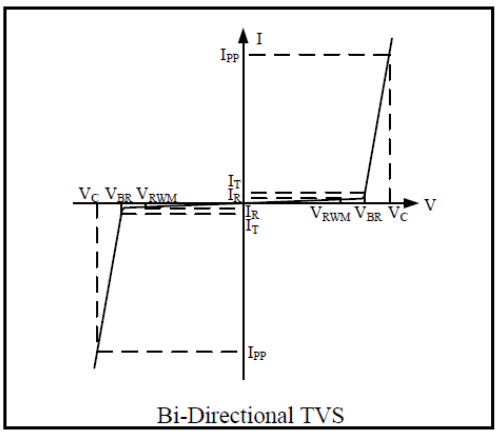
Device Characteristics

Maximum Ratings@25 unless otherwise specified			
Parameter	Symbol	Value	Units
Peak pulse power (tp=8/20us)	P_{PP}	60	Watts
Operating Temperature	TJ	-55~150	°C
Storage Temperature	TSTG	-55~150	°C

Electrical Characteristics

Parameter	Symbol	Condition	min	typ	max	Units
Reverse Stand-off Voltage	V_{RWM}	Pin 2-1/Pin 1-2			5	V
Reverse Breakdown Voltage	V_{BR}	It=1mA	6		9	V
Reverse Leakage Current	I_R (max)	V_{RWM}=5V, T=25°C			1	uA
Clamping Voltage	V_C	I_{PP}=1A tp=8/20us I_{PP}=3A tp=8/20us			13 20	V
Peak Pulse Current	I_{PP}	tp=8/20us			3	A
Junction Capacitance	C I/O	Pin capacitance Pin to Pin. Vdc=0V,f=1MHZ		0.4	0.5	pf

Symbol	Parameter
V_{RWM}	Nominal Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Reverse Breakdown Voltage @ I_T
I_T	Test Current for Reverse Breakdown
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Maximum Peak Pulse Current
C_{ESD}	Parasitic Capacitance
V_R	Reverse Voltage
f	Small Signal Frequency



Bi-Directional TVS

Rating and characteristic curve

FIGURE 1
Non-repetitive Peak pulse power V.S pulse time

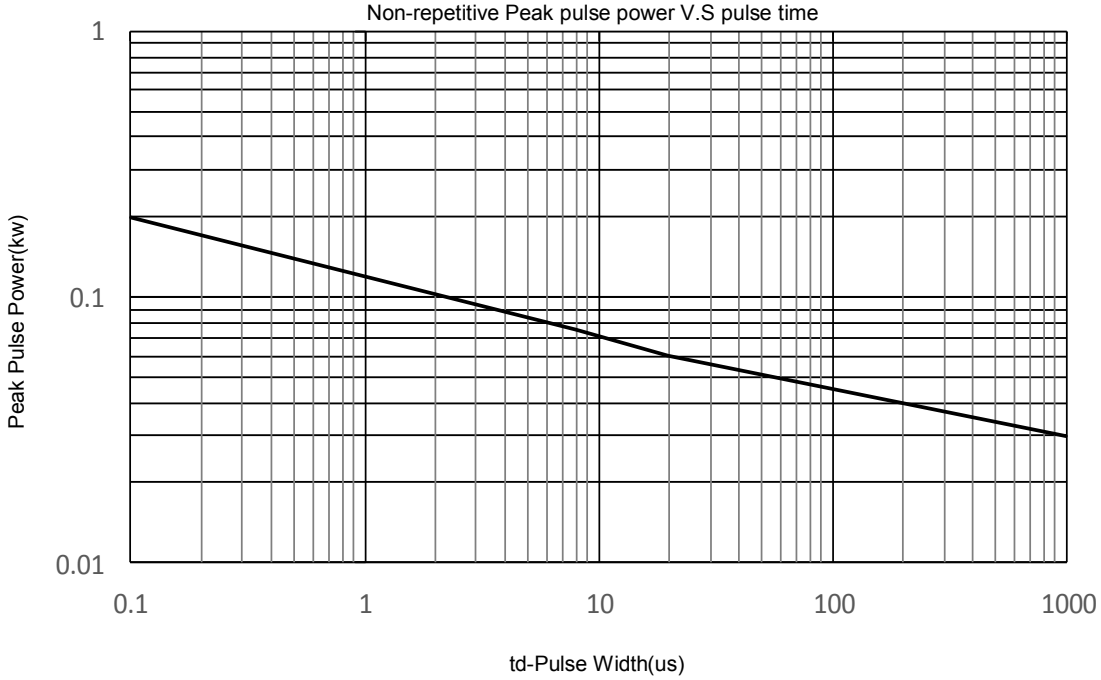


FIGURE 2
Clamping Voltage VC Map

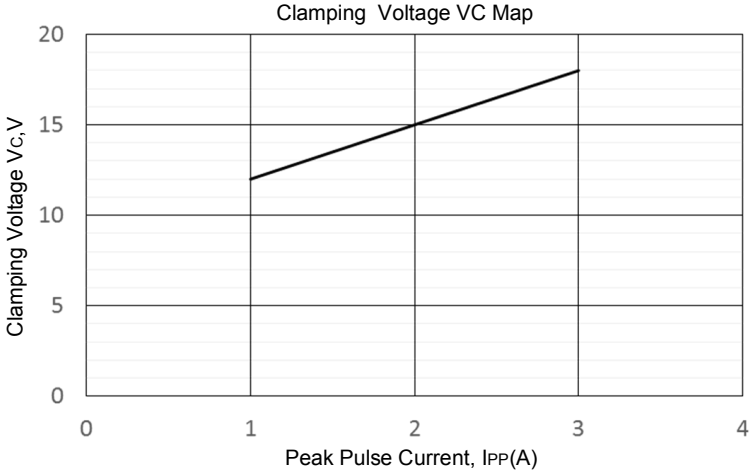


FIGURE 3
Normalized Capacitance vs.Reverse Voltage

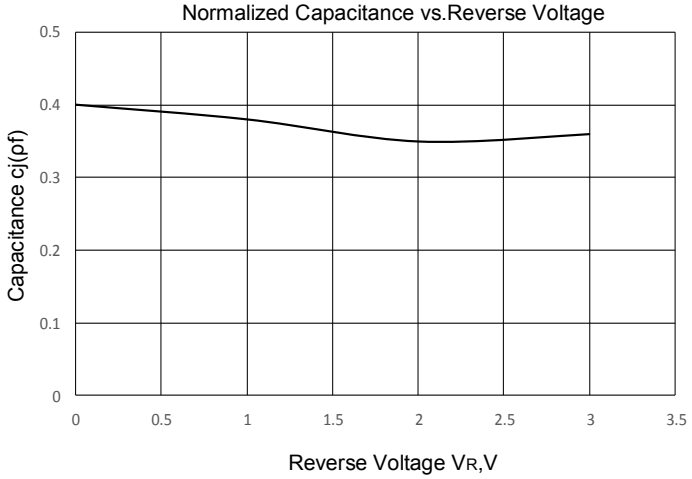


FIGURE 4
Power Derating Curve

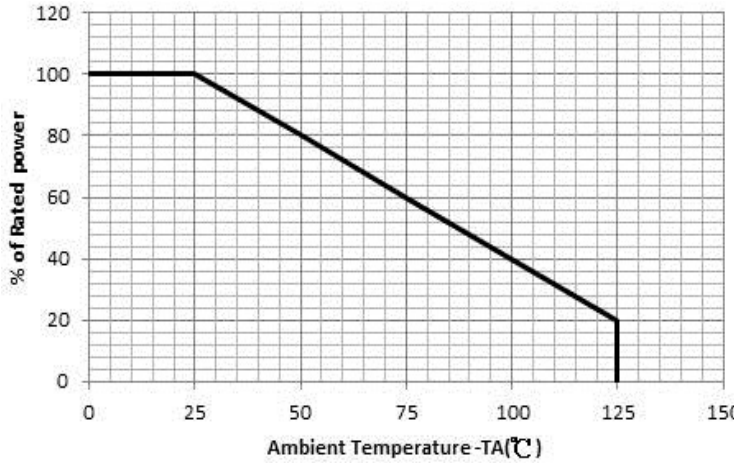
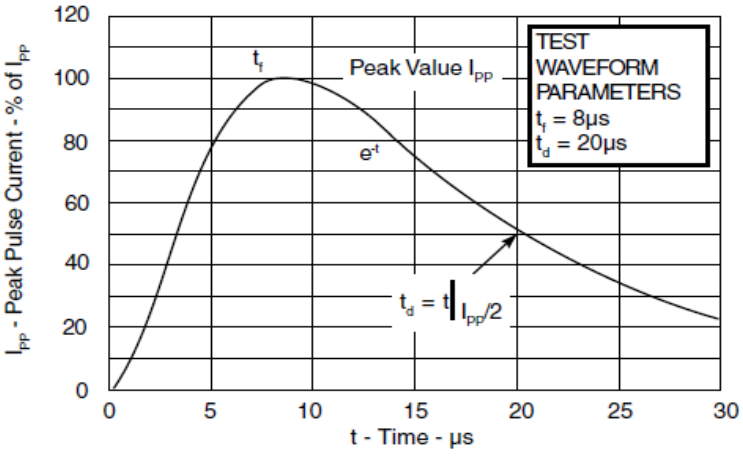
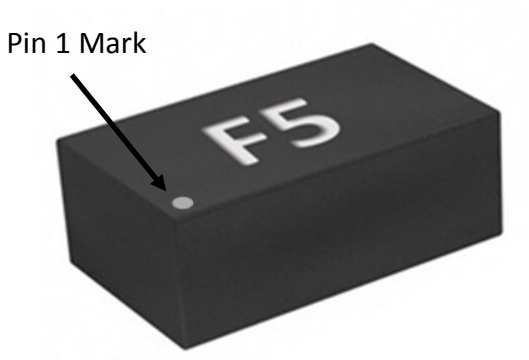


FIGURE 5
Pulse Wave Form



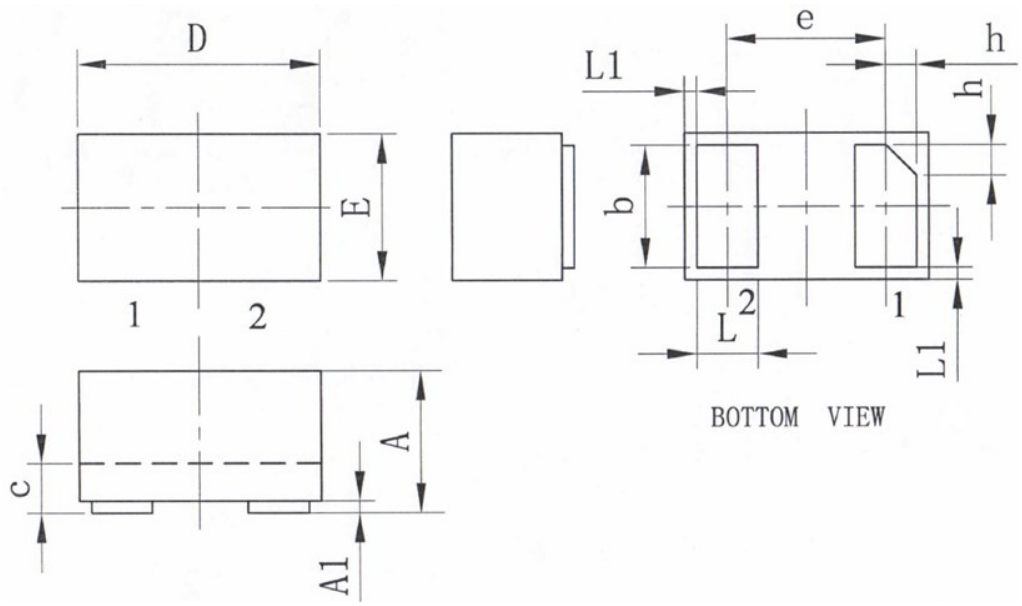
Ordering information

Marking codes



Part No.	Marking
FE0502A	F5
Quantity	10,000pcs / 2mm Pitch Reel

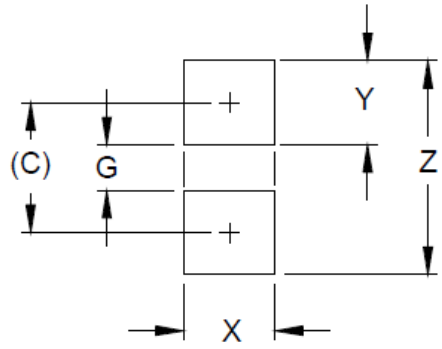
Package information



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	0.45	0.50	0.55
A1	-	0.02	0.05
b	0.45	0.50	0.55
c	0.12	0.15	0.18
D	0.95	1.00	1.05
e	0.65BSC		
E	0.55	0.60	0.65
L	0.20	0.25	0.30
L1	0.05REF		
h	0.07	0.12	0.17

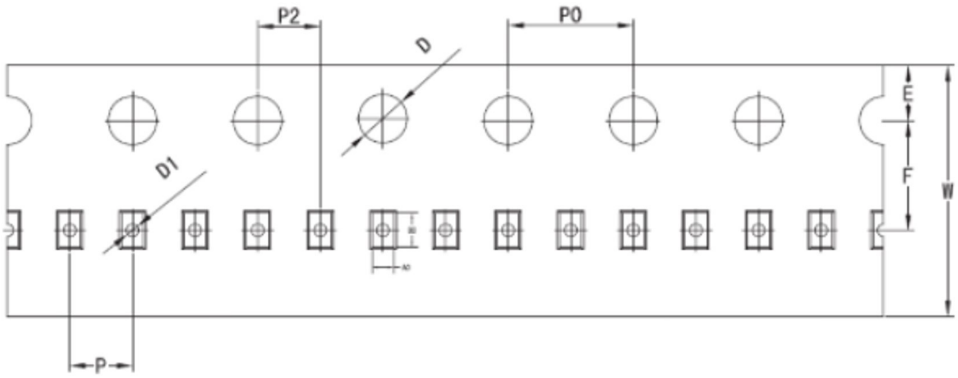
Unit ： mm

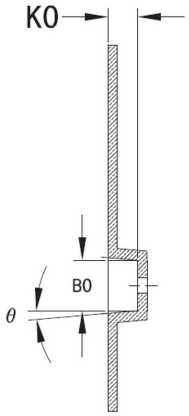
Pad Layout

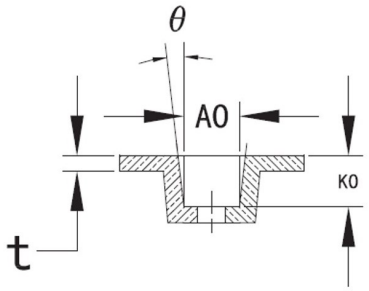


DIMENSIONS		
DIM	INCHES	MILLIMETERS
C	(.033)	(0.85)
G	.012	0.30
X	.024	0.60
Y	.022	0.55
Z	.055	1.40

Tape Information







Dimension	
DIM	Millimeters
E	1.75±0.10
F	3.50±0.05
P2	2.00±0.05
D	1.55±0.05
D1	0.40±0.05
P0	4.00±0.10
10P0	40.00±1.00

Dimension	
DIM	Millimeters
W	8.00±0.10
P	2.00±0.10
A0	0.70±0.05
B0	1.15±0.05
K0	0.57±0.03
t	0.20±0.05
ϴ	3°typ

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