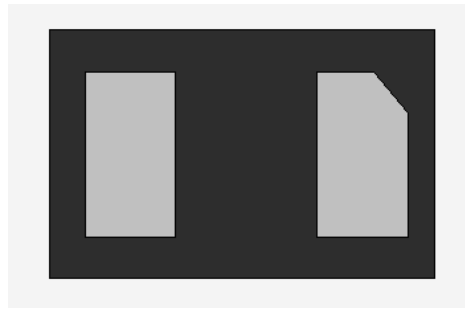




## Uni-directional TVS Diode for ESD Protection

Rev.1.3

- ✧ Protects one line I/O or power line
- ✧ Low clamping voltage
- ✧ Low leakage current
- ✧ Ultra low capacitance: 100pF(max)
- ✧ RoHS compliant



- ✧ USB 2.0 power and data line protection
- ✧ High speed data line
- ✧ LAN equipment
- ✧ Digital visual interface (DVI)
- ✧ Video



Pin Configuration(Top view)

- ✧ IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)
- ✧ IEC61000-4-5 (Lightning) 10A (8/20µs)

- ✧ DFN1006-2L package
- ✧ Molding compound flammability rating : UL 94V-0
- ✧ Quantity per reel : 10,000pcs
- ✧ Lead finish : lead free
- ✧ Marking code : P5

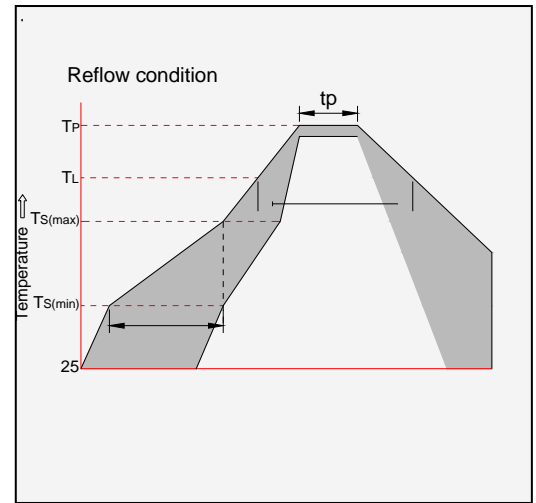
(T<sub>A</sub>=25°C, RH=45%-75%, unless otherwise noted)

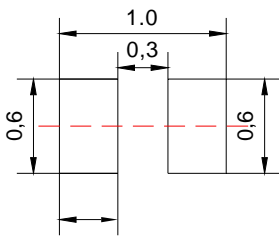
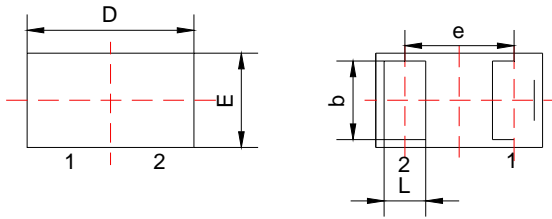
Parameter	Symbol	Value	Unit
Peak pulse power dissipation at 8/20µs waveform	P <sub>PP</sub>	150	W
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	+/- 30	kV
ESD per IEC 61000-4-2 (Contact)		+/- 30	
Lead soldering temperature	T <sub>L</sub>	260 (10 sec.)	
Operating junction temperature range	T <sub>J</sub>	-55 to +125	
Storage temperature range	T <sub>STG</sub>	-55 to +150	

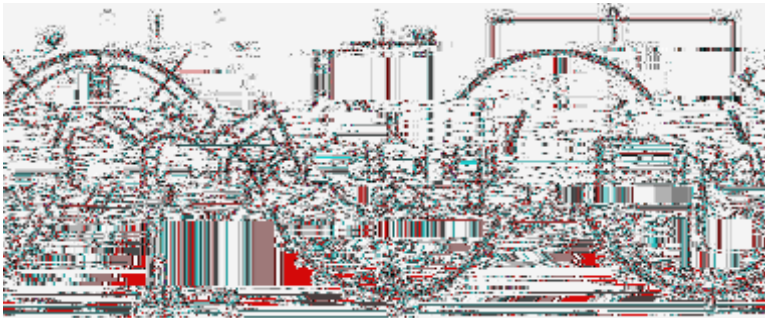
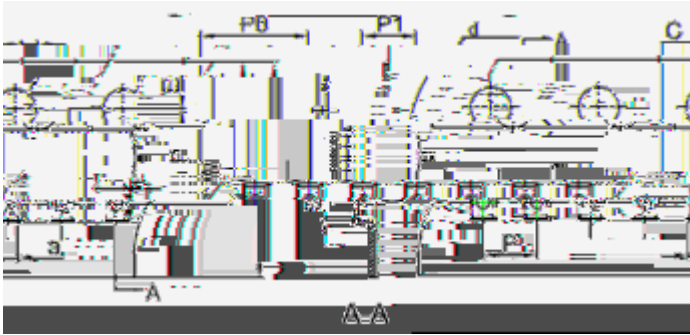
(T<sub>A</sub>=25 )

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse working voltage	V <sub>RWM</sub>				5.0	V
Reverse breakdown voltage	V <sub>BR</sub>	I <sub>T</sub> =1mA	6.0		8.0	V
Reverse leakage current	I <sub>R</sub>	V <sub>RWM</sub> =5V		0.01	0.1	μA
Forward voltage	V <sub>F</sub>	I <sub>F</sub> =15mA		0.8	1.1	V
Peak pulse current	I <sub>PP</sub>					

Reflow Condition		Pb-Free assembly (see figure at right)
Pre Heat	-Temperature Min ( $T_{s(min)}$ )	+150
	-Temperature Max( $T_{s(max)}$ )	+200
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquidus Temp ( $T_L$ )to peak)		3 /sec. Max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3 /sec. Max
Reflow	-Temperature( $T_L$ )(Liquidus)	+217
	-Temperature( $t_L$ )	60-150 secs.
Peak Temp ( $T_P$ )		+260(+0/-5)
Time within 5 of actual Peak Temp ( $t_p$ )		20-40secs.
Ramp-down Rate		6 /sec. Max
Time 25 to Peak Temp ( $T_P$ )		8 min. Max
Do not exceed		+260







**Packaging Description:**

DFN1006-2L parts are shipped in tape. The carrier tape is made from a dissipative(carbon filled) polycarbonate resin. The cover tape is a multilayer film(heat activated adhesive in nature)primarily composed of polyester film,

Symbol	Millimeter	Inches
	Typ.	Typ.
a	0.66	0.026
B	1.15	0.045
C	0.66	0.026
d	1.50	0.059
E	1.75	0.069
F	3.50	0.138
P0	4.00	0.157
P	2.00	0.079
P1	2.00	0.079
W	8.00	0.315
D	178	7.008
D1	54.40	2.142
D2	13.00	0.512
G	R78.00	R3.071
H	R25.60	R1.008
I	R6.50	R0.256
W1	9.50	0.374
W2	12.30	0.484

OUTLINE	Package	Reel Size	Quantity Per Reel
TAPING	DFN1006-2L	7 Inch	10,000 pcs

**for ESD Protection**