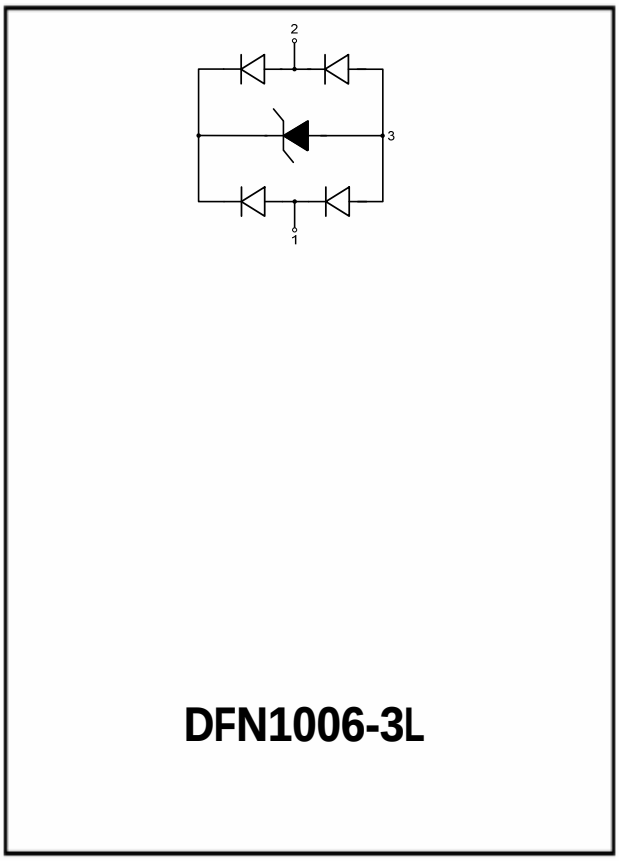
# 2-Lines, Uni-directional, Low Capacitance Transient Voltage Suppressor




## Features

- ð Stand-off voltage: 3.3V Max
- ð Transient protection for each line according to
  IEC61000-4-2(ESD): Ñ30kV (contact)
  IEC61000-4-5(surge): 9A (8/20εs)
- ð Ultra-low capacitance: CJ = 1.2pF typ
- ð Ultra-low leakage current
- ð Low clamping voltage:
  $V_{CL}$ = 3.1V typ. @ IPP = 16A (TLP)
- ð RoHS Compliant

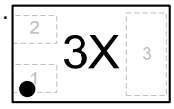
## Applications

- ð USB 2.0
- ð HDMI 1.3, HDMI 1.4
- ð SATA and eSATA interface
- ð DVI
- ð IEEE 1394
- ð Portable Electronics and Notebooks

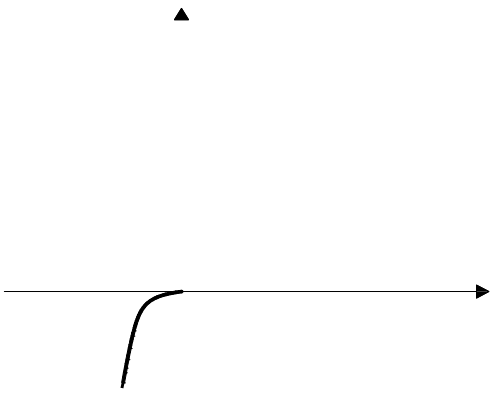
*Caution:*
*This Device is designed for signal line protection only. Not intended to be used under bias, not for application with a power line.*

## Mechanical Data

- ð Package: DFN1006-3L
- ð Case Material: ñGreenò Molding Compound
- ð Moisture Sensitivity: Level 3 per J-STD-020
- ð Marking Information: See Below




## √Definitions of electrical characteristics



## yMaximum Ratings

| PARAMETER | SYMBOL | LIMITS | UNIT |
|---|---|---|---|
| Peak pulse power ($t_p$ = 8/20εs) | $P_{pk}$ | 45 | W |
| Peak pulse current ($t_p$ = 8/20εs) | $I_{PP}$ | 9 | A |
| ESD according to IEC61000-4-2 air discharge | $V_{ESD}$ | Ñ30 | kV |
| ESD according to IEC61000-4-2 contact discharge | | Ñ30 | |
| Junction temperature | $T_J$ | -55~125 | ºC |
| Storage temperature | $T_{STG}$ | -55~150 | ºC |

## yElectrical Characteristics $T_a$=25 Unless otherwise specified

| PARAMETER | Symbol | UNIT | Conditions | Min | Typ | Max |
|---|---|---|---|---|---|---|
| Reverse maximum working voltage | $V_{RWM}$ | V | | | | 3.3 |
| Reverse leakage current | $I_R$ | nA | $V_{RWM}$ = 3.3V | | | 50 |
| Reverse breakdown voltage | $V_{BR}$ | V | $I_T$ =1mA | 8.5 | | |
| Reverse holding voltage | $V_{HOLD}$ | V | $I_{HOLD}$ = 50mA, | 1.8 | | |
| Clamping voltage 1) | $V_{CL}$ | V | $I_{PP}$ = 16A, $t_p$ = 100ns | | 4.2 | |
| Dynamic resistance 1) | $R_{DYN}$ | q | | | 0.1 | |
| Clamping voltage 2) | $V_{CL}$ | V | $V_{ESD}$ = 8kV | | 5.5 | |
| Clamping voltage 3) | $V_{CL}$ | V | $I_{PP}$ = 1A, $t_p$ = 8/20εs | | 2.1 | 3.0 |
| | | V | $I_{PP}$ = 9A, $t_p$ = 8/20εs | | 3.2 | 5.0 |
| Junction capacitance | $C_J$ | pF | $V_R$ = 1.5V, f = 1MHz | | 1.2 | 1.5 |

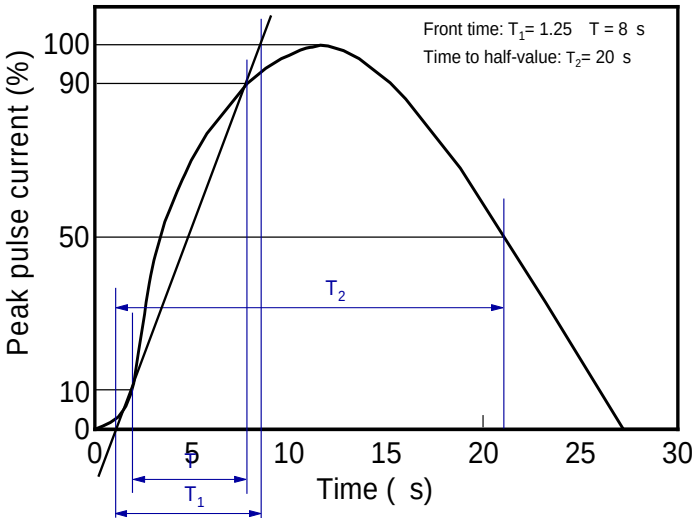
Notes:
(1). TLP parameter: $Z_0$ = 50q, $t_p$ = 100ns, $t_r$ = 2ns, averaging window from 60ns to 80ns. $R_{DYN}$ is calculated from 4A to 16A.
(2). Contact discharge mode, according to IEC61000-4-2.
(3). Non-repetitive current pulse, according to IEC61000-4-5.

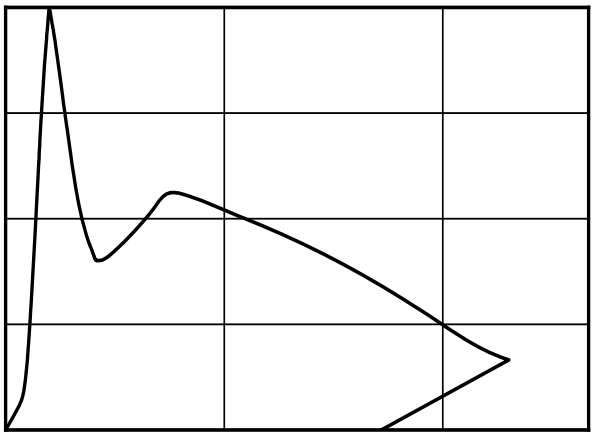
## yOrdering Information (Example)

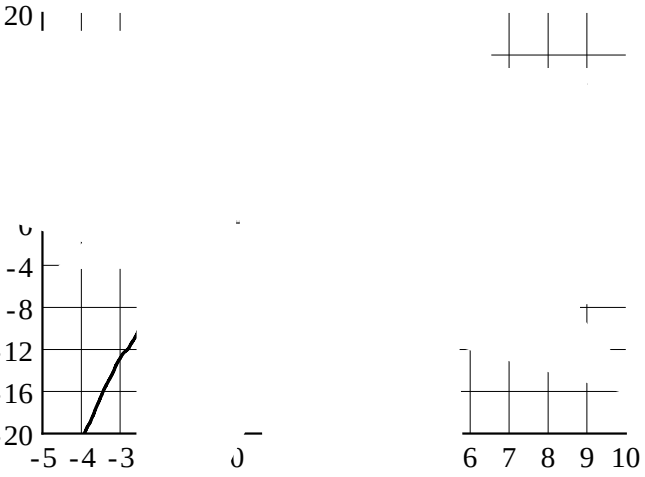
| PREFERED P/N | PACKING CODE | UNIT WEIGHT(mg) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---|---|---|---|---|---|---|
| ESDSLC3V3LT | F1 | Approximate 0.9 | 10000 | 100000 | 400000 | 7ò reel |

## y Characteristics (Typical)

**Fig.1 8/20μs waveform per IEC61000-4-5**



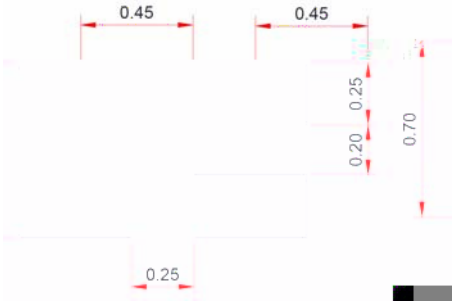






## y Outline Dimensi

| SYMBOL | MILLIMETER | |
|---|---|---|
| | MIN | MA |
| A | 0.95 | 1.0 |
| B | 0.55 | 0.6 |
| C | 0.40 | 0.5 |
| C1 | | 0.0 |
| D | 0.01 | 0.0 |
| E | 0.675 BSC | |
| F | 0.20 | 0.4 |
| G | 0.40 | 0.6 |
| H | 0.35 BSC | |
| I | 0.10 | 0.2 |

## ■ Recommended PCB Layout




Unit:mm

Notes:
This recommended land pattern is for reference purposes only. Please consult your manufacturing group to ensure your PCB design guidelines are met

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