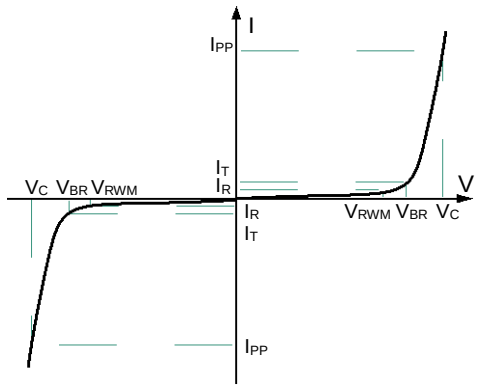
## Electronics Parameter

| Symbol | Parameter |
|---|---|
| $V_{RWM}$ | Peak Reverse Working Voltage |
| $I_R$ | Reverse Leakage Current @ $V_{RWM}$ |
| $V_{BR}$ | Breakdown Voltage @ $I_T$ |
| $I_T$ | Test Current |
| $I_{PP}$ | Maximum Reverse Peak Pulse Current |
| $V_C$ | Clamping Voltage @ $I_{PP}$ |
| $P_{PP}$ | Peak Pulse Power |
| $C_J$ | Junction Capacitance |
| $I_F$ | Forward Current |
| $V_F$ | Forward Voltage @ $I_F$ |




## Electrical characteristics per line@25 (unless otherwise specified)

| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|---|
| Peak Reverse Working Voltage | $V_{RWM}$ | | | | 7.0 | V |
| Breakdown Voltage | $V_{BR}$ | $I_t$ = 1mA | 7.5 | 9.0 | 10.0 | V |
| Reverse Leakage Current | $I_R$ | $V_{RWM}$ = 7V T=25 | | | 1.0 | + |
| Clamping Voltage | $V_{CL}$ | $I_{PP}$=16A $t_p$=100ns | | 11.0 | | V |
| Clamping Voltage | $V_C$ | $I_{PP}$=1A $t_P$ s | | 11.0 | 12.0 | V |
| Clamping Voltage | $V_C$ | $I_{PP}$=7A $t_P$ s | | 14.0 | 15.0 | V |
| Clamping Voltage | $V_C$ | $I_{PP}$=14.5A $t_P$ s | | 19.0 | 21.0 | V |
| Junction Capacitance | $C_j$ | $V_R$=0V f = 1MHz | | 39.0 | 45.0 | pF |

## Absolute maximum rating@25

| Rating | Symbol | Value | Units |
|---|---|---|---|
| Peak Pulse Power ($t_p$= s) | $P_{pp}$ | 300 | W |
| Peak Pulse Current ($t_p$ | $I_{pp}$ | 14.5 | A |
| Operating Temperature | $T_J$ | -55 to 150 | |
| Storage Temperature | $T_{STG}$ | -55 to 150 | |

## Typical Characteristics

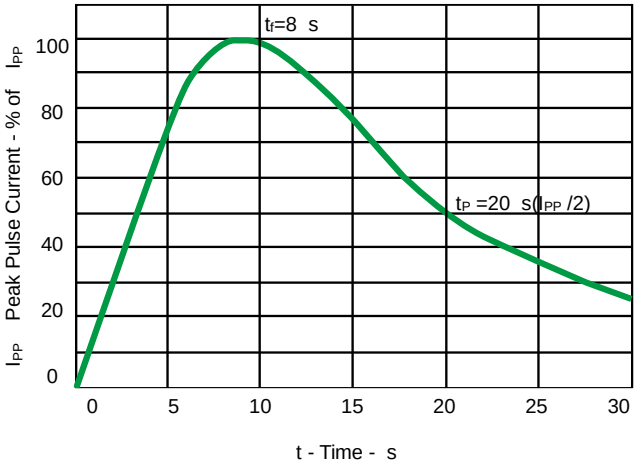



Fig 1.Pulse Waveform

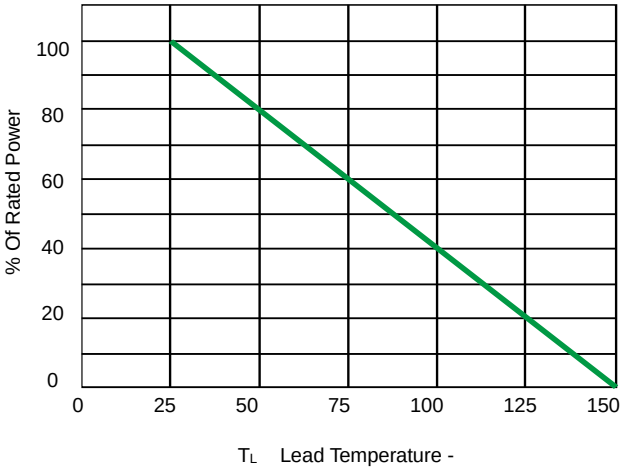



Fig 2.Power Derating Curve

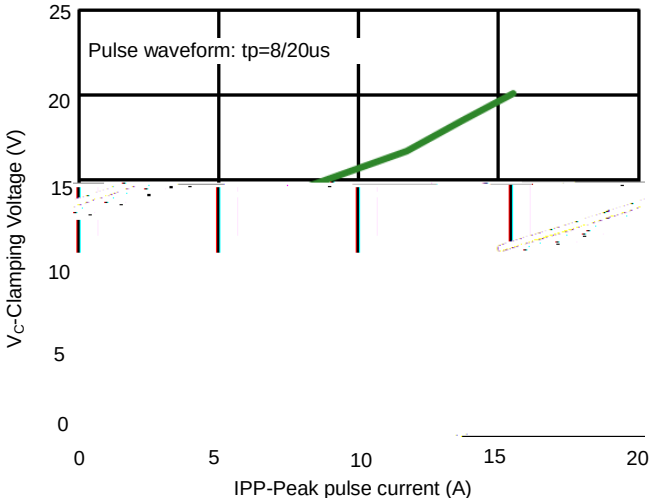



Fig 3. Clamping voltage vs. Peak pulse current

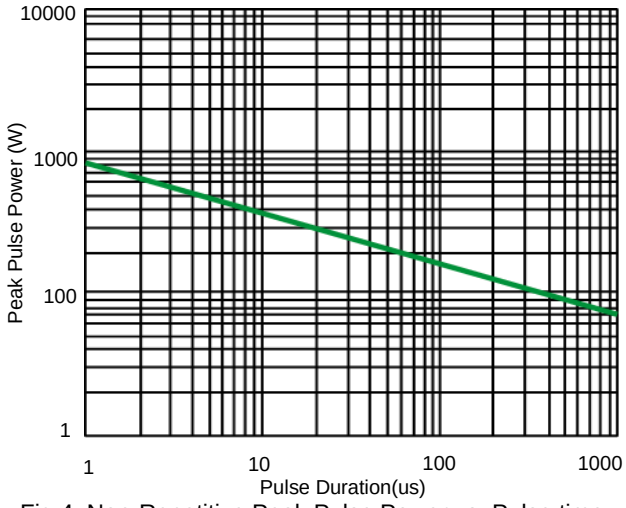



Fig 4. Non-Repetitive Peak Pulse Power vs. Pulse time

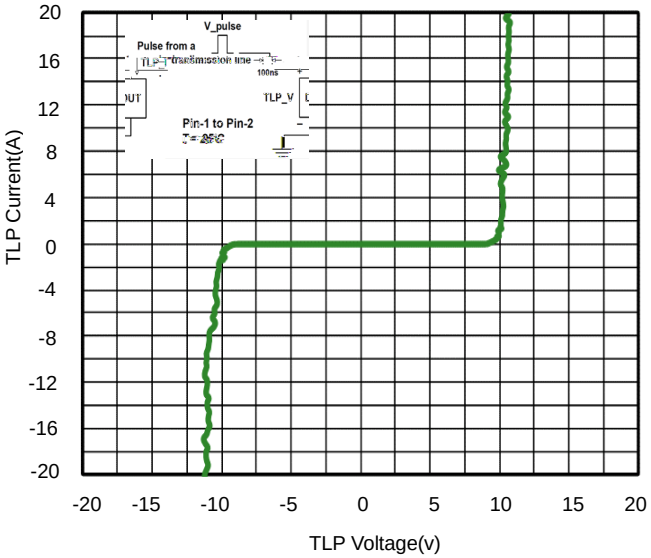



Fig 5. TLP Measurement

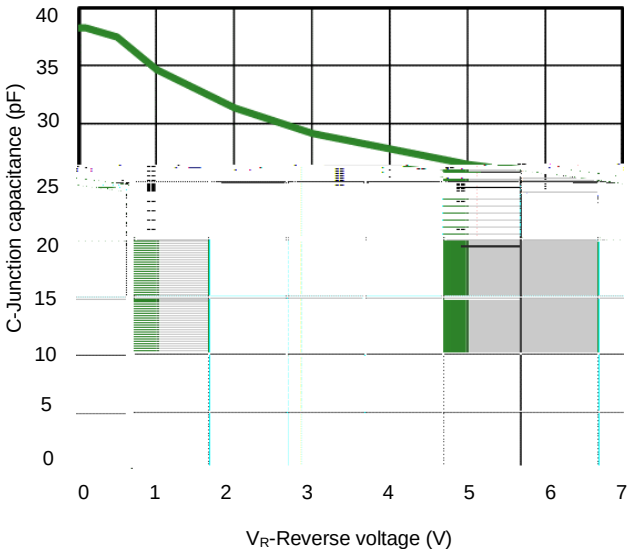



Fig 6. Capacitance vs. Reveres voltage

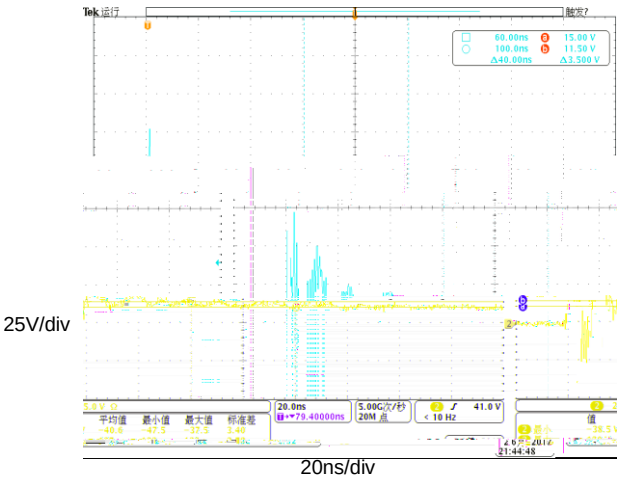



Fig 7. ESD clamping voltage
(IEC61000-4-2 +8KV contact)

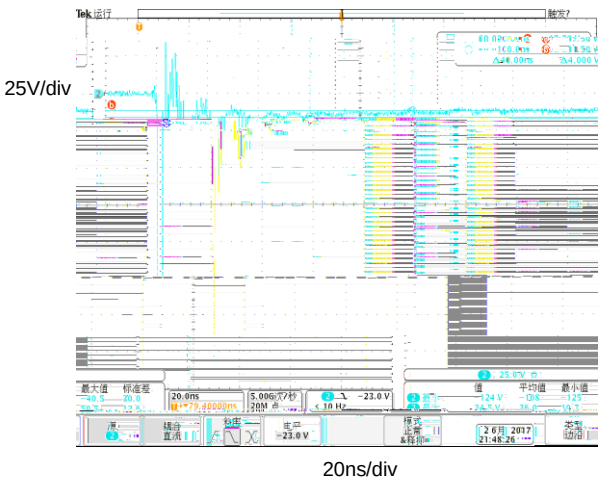



Fig 8. ESD clamping voltage
(IEC61000-4-2-8KV contact)

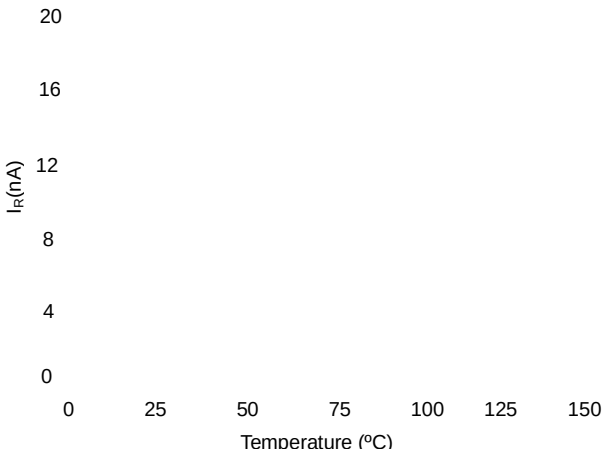



Fig 9.Typical Leakage Current vs. Temperature

## Solder Reflow Recommendation

0 30 60 90

For TVS diodes a low-ohmic and low-inductive path to chassis earth is absolutely mandatory in order to achieve good ESD protection. Novices in the area of ESD protection should take following suggestions to heart:

Do not use stubs, but place the cathode of the TVS diode directly on the signal trace.

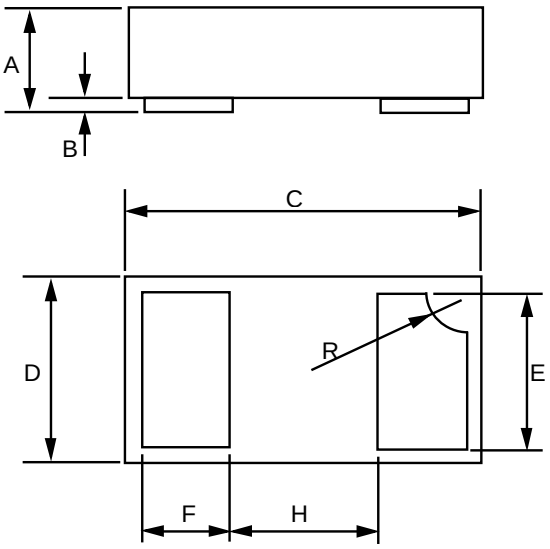
Do not make false economies and save copper for the ground connection.

Place via holes to ground as close as possible to the anode of the TVS diode.

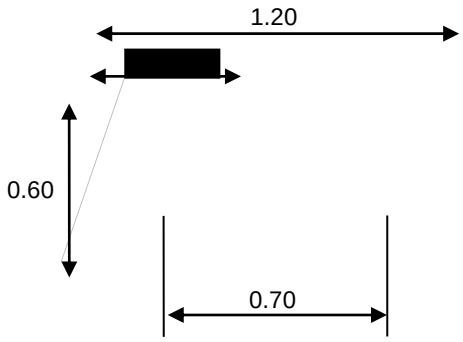
Use as many via holes as possible for the ground connection.

Keep the length of via holes in mind! The longer the more inductance they will have.

## Product dimension (DFN1006-2L)




| Dim | Inches | | Millimeters | |
|---|---|---|---|---|
| | MIN | MAX | MIN | MAX |
| A | 0.013 | 0.020 | 0.34 | 0.50 |
| B | 0.000 | 0.002 | 0.00 | 0.05 |
| C | 0.037 | 0.043 | 0.95 | 1.080 |
| D | 0.022 | 0.027 | 0.55 | 0.680 |
| E | 0.016 | 0.024 | 0.40 | 0.60 |
| F | 0.008 | 0.012 | 0.20 | 0.30 |
| H | 0.015Typ. | | 0.40Typ. | |
| R | 0.001 | 0.005 | 0.05 | 0.15 |




Unit:mm

**Suggested PCB Layout**

## Ordering information

| Device | Package | Reel | Shipping |
|---|---|---|---|
| PESDHC2FD7VB | DFN1006-2L (Pb-Free) | 7" | 10000 / Tape & Reel |

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