

MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT

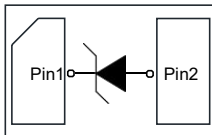


PLED

Product data sheet



DFN1610-2L



Circuit diagram

Marking H7N

Feature

- 1400W Peak pulse power per line ($t_P = 8/20\mu s$)
- DFN1610-2L package
- Response time is typically $< 1\text{ ns}$
- Protect one I/O or power line
- Low clamping Voltage
- RoHS compliant
- Transient protection for data lines to IEC 61000-4-2(ESD) $\pm 30\text{KV}(\text{air}), \pm 30\text{KV}(\text{contact});$ IEC 61000-4-4 (EFT) 40A(5/50ns)

Applications

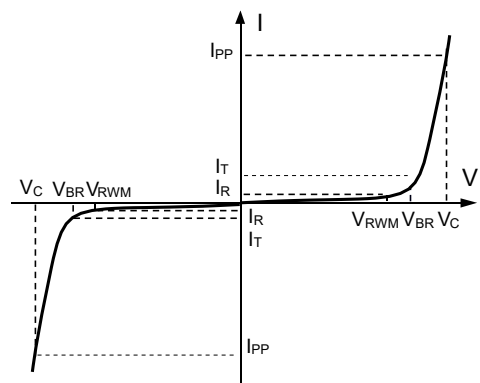
- Cell phone handsets and accessories
- Personal digital assistants (PDA's)
- Notebooks, desktops, and servers
- Portable instrumentation
- Cordless phones
- Digital cameras
- Peripherals
- MP3 players

Mechanical Characteristics

- Lead finish: 100% matte Sn(Tin)
- Mounting position: Any
- Qualified max reflow temperature: 260°C
- Pure tin plating: $7 \sim 17\ \mu\text{m}$
- Pin flatness: $\leq 3\text{mil}$
- Device meets MSL3 requirements

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 |



Electrical characteristics per line@25°C (unless otherwise specified)

| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Units |
|------------------------------|-----------|---|------|------|------|---------------|
| Peak Reverse Working Voltage | V_{RWM} | | | | 7 | V |
| Breakdown Voltage | V_{BR} | $I_t = 1\text{mA}$ | | 8 | 9.5 | V |
| Reverse Leakage Current | I_R | $V_{RWM} = 7\text{V}$ | | | 1 | μA |
| Clamping Voltage | V_C | $I_{PP} = 70\text{A}$ $t_P = 8/20\mu\text{s}$ | | 20 | 24 | V |
| Junction Capacitance | C_j | $V_R = 0\text{V}$ $f = 1\text{MHz}$ | 650 | 700 | 750 | pF |

Absolute maximum rating@25°C

| Rating | Symbol | Value | Units |
|--|-----------|--------------|-------|
| Peak Pulse Power ($t_P = 8/20\mu\text{s}$) | P_{pp} | 1400 | W |
| Lead Soldering Temperature | T_L | 260 (10 sec) | °C |
| Operating Temperature | T_J | -55 to +125 | °C |
| Storage Temperature | T_{STG} | -55 to +150 | °C |

Typical Characteristics

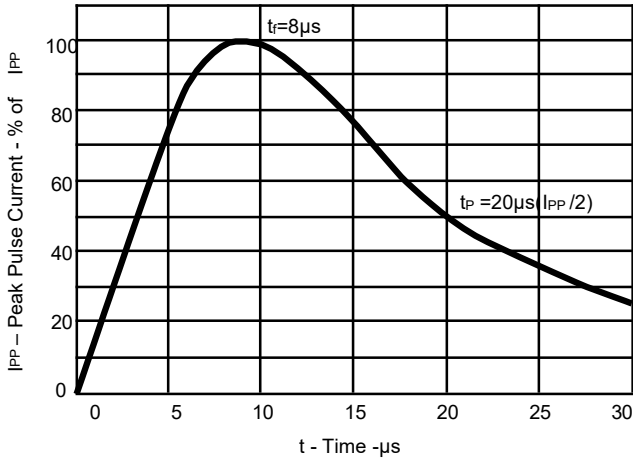


Fig 1. Pulse Waveform

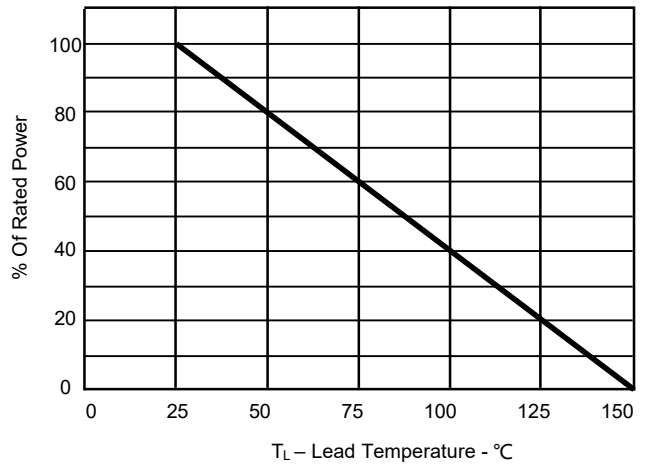


Fig 2. Power Derating Curve

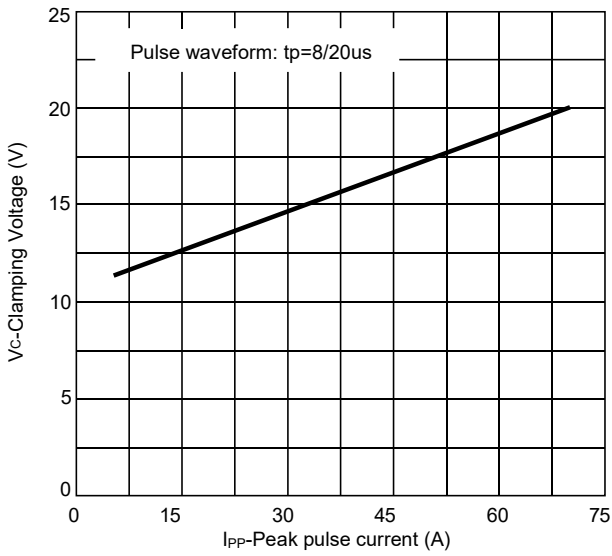


Fig 3. Clamping voltage vs. Peak pulse current

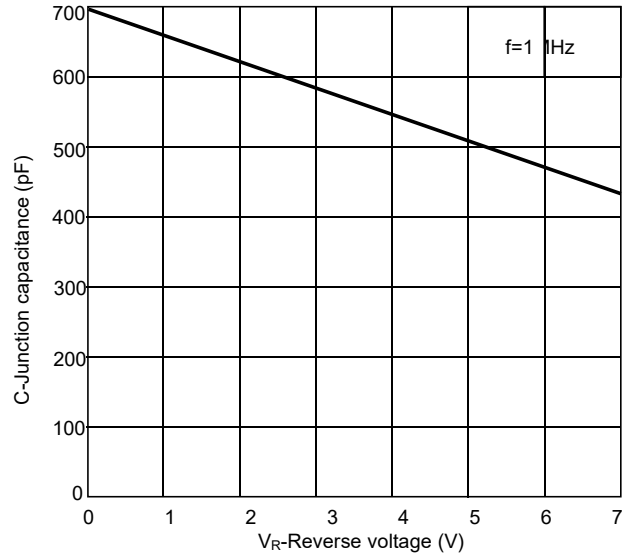


Fig 4. Capacitance vs. Reverse voltage

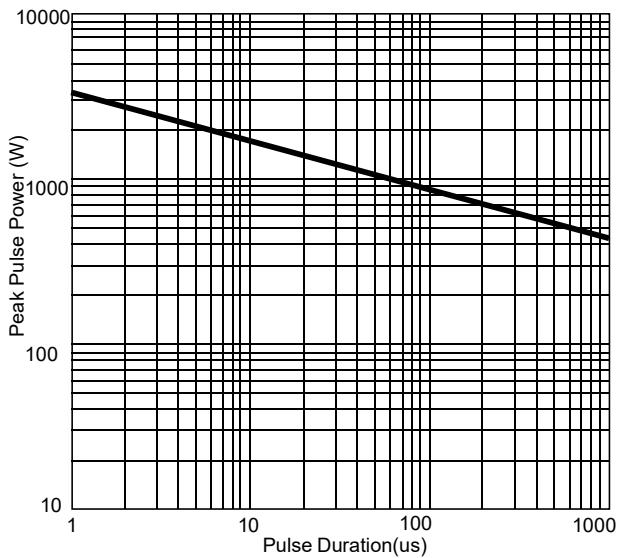
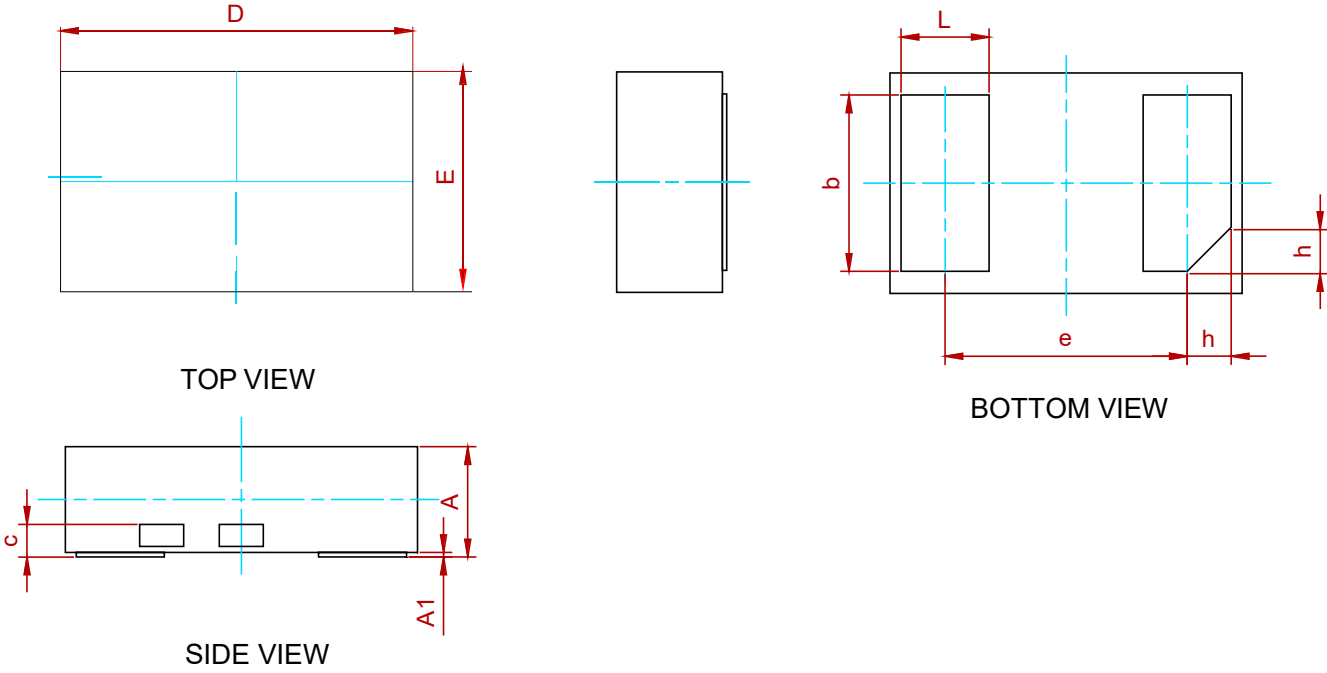


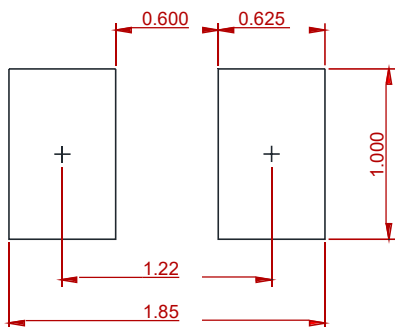
Fig 5. Non Repetitive Peak Pulse Power vs. Pulse time

PACKAGE MECHANICAL DATA



| Symbol | Dimensions in Millimeters | | |
|--------|---------------------------|------|------|
| | Min. | Typ. | Max. |
| A | 0.45 | 0.50 | 0.55 |
| A1 | 0.00 | 0.02 | 0.05 |
| c | 0.15 Ref. | | |
| b | 0.75 | 0.80 | 0.85 |
| L | 0.35 | 0.40 | 0.45 |
| D | 1.55 | 1.60 | 1.65 |
| E | 0.95 | 1.00 | 1.05 |
| e | 1.10 BSC | | |
| h | 0.20 Ref. | | |

Recommend 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.

REEL SPECIFICATION

| P/N | PKG | QTY |
|-----------------|------------|------|
| PTVSHC2EN7VU-MS | DFN1610-2L | 3000 |

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