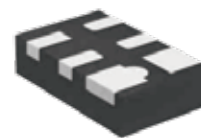


FEATURES

- | Package optimized for high-speed lines
- | Protects two I/O lines
- | Ultra Low capacitance:0.2pf
(typical between I/O channel)
- | Low operating and clamping voltages

APPLICATIONS

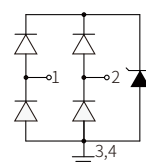
- | High Definition Multi-Media
Interface (HDMI)
- | USB 1.1/2.0/3.0/OTG
- | IEEE 1394 Firewire Ports
- | Projection TV Monitors and Flat
Panel Displays
- | Notebook Computers
- | Set Top Box



DFN1610-6L

0522P

Marking



Schematic Symbol

IEC COMPATIBILITY

- | IEC61000-4-2 (ESD) $\pm 30\text{kV}$ (air), $\pm 25\text{kV}$ (contact)
- | IEC61000-4-4 (EFT) 40A (5/50ns)

APPROVALS

- | **RoHS** | Compliance with 2011/65/EU
- | **HF** | Compliance with IEC61249-2-21:2003

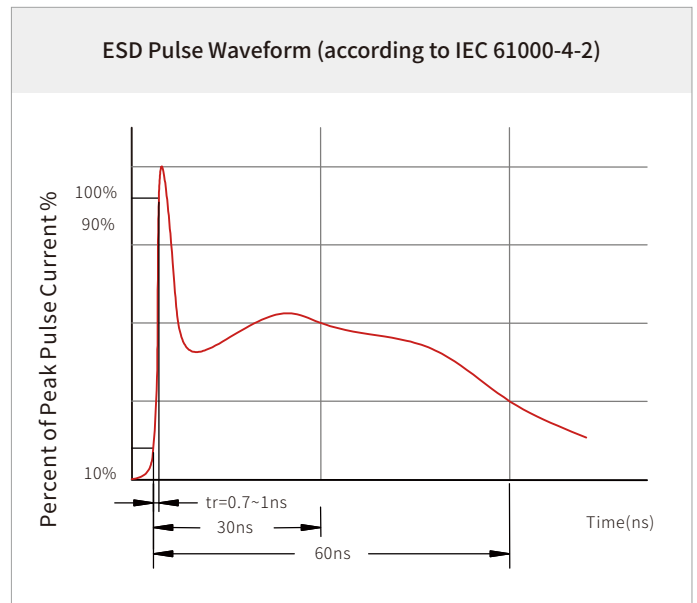
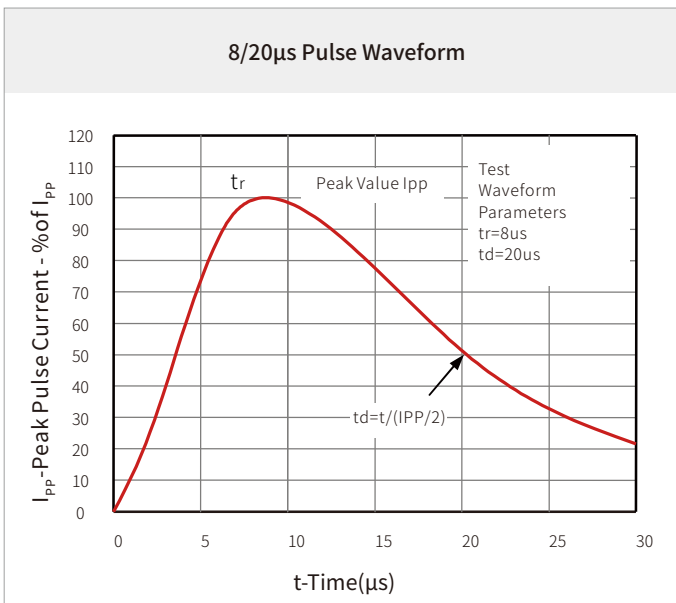
THERMAL CONSIDERATIONS

| Symbol | Parameter | Value | Unit |
|-----------|---|-------------|--------------------|
| P_{PP} | Peak Pulse Power (tp=8/20 μs waveform) | 70 | Watts |
| T_J | Operating Temperature Range | -55 to +125 | $^{\circ}\text{C}$ |
| T_{STG} | Storage Temperature Range | -55 to +150 | $^{\circ}\text{C}$ |

ELECTRICAL CHARACTERISTICS

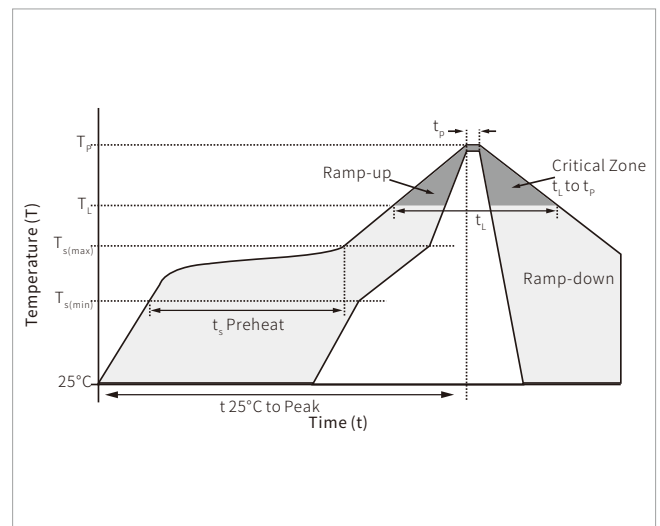
| Symbol | Parameter | Condition | Min. | Typ. | Max. | Unit |
|-----------|--------------------------------|---|------|------|------|---------------|
| V_{RWM} | Reverse Stand-off Voltage | | | | 5 | V |
| V_{BR} | Reverse Breakdown Voltage | $I_T=1\text{mA}$ | 6 | | | V |
| I_R | Reverse Leakage Current | $V_{RWM}=5\text{V}$ | | | 0.1 | μA |
| V_F | Diode Forward Voltage | $I_F=15\text{mA}$ | | | 0.8 | V |
| V_C | Clamping Voltage | $I_{PP}=10\text{A}, t_p=8/20\mu\text{s}$ | | | 7 | V |
| I_{PP} | Peak Pulse Current | $t_p=8/20\mu\text{s}$ | | | 10 | A |
| C_J | Off State Junction Capacitance | $V_R=0\text{V}, f=1\text{MHz}$ I/O-GND | | 0.5 | 0.6 | pF |
| C_J | Off State Junction Capacitance | $V_R=0\text{V}, f=1\text{MHz}$ I/O-I/O | | 0.2 | 0.25 | pF |

CHARACTERISTIC CURVES

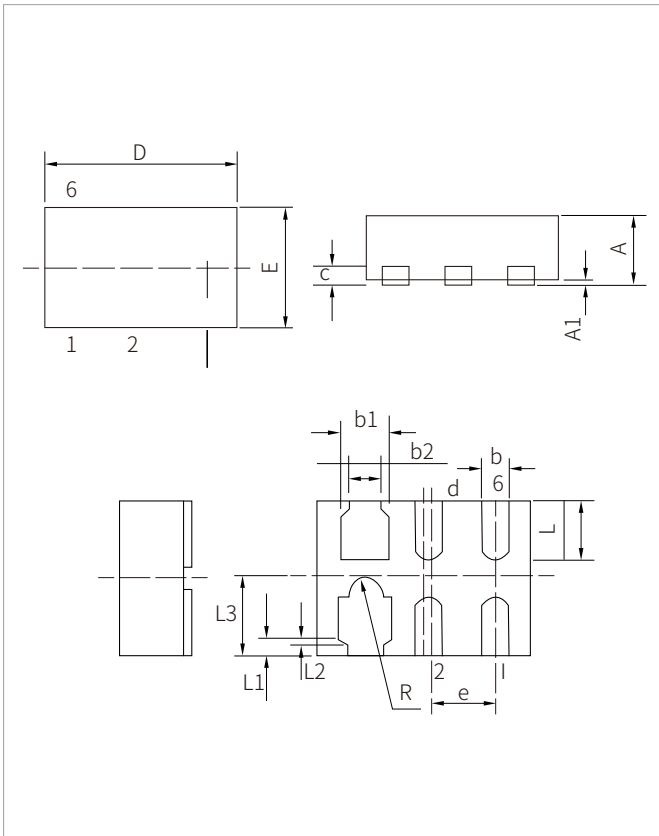


SOLDERING PARAMETERS

| Reflow Condition | | Lead-free assembly |
|--|----------------------------------|--------------------|
| Pre Heat | Temperature Max ($T_{s(min)}$) | 150°C |
| | Temperature Max ($T_{s(max)}$) | 200°C |
| | Time (min to max) (t_s) | 60 – 180 secs |
| Average ramp up rate (Liquidus Temp (T_L) to peak) | | 3°C/second max |
| $T_{s(max)}$ to T_L - Ramp-up Rate | | 3°C/second max |
| Reflow | Temperature (T_L) (Liquidus) | 217°C |
| | Time (min to max) (t_L) | 60 – 150 seconds |
| Peak Temperature (T_p) | | 260°C |
| Time within 5°C of actual peak Temperature (t_p) | | 20 – 40 seconds |
| Ramp-down Rate | | 6°C/second max |
| Time 25°C to peak Temperature (T_p) | | 8 minutes max. |
| Do not exceed | | 260°C |

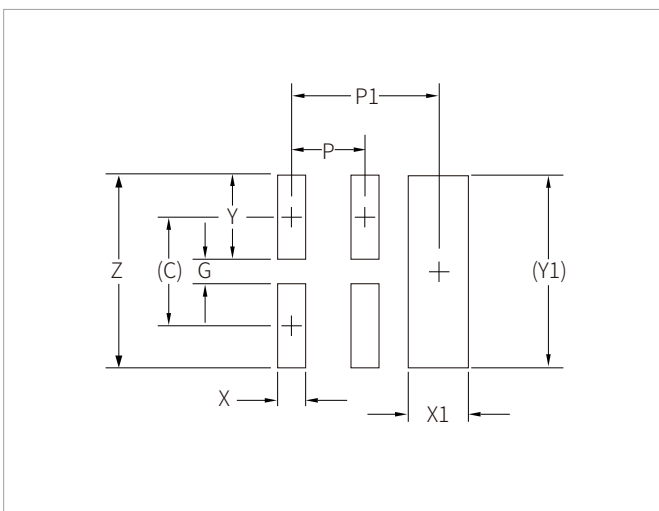


DFN1610-6L PACKAGE INFORMATION



| Ref. | Millimeters | | Inches | |
|------|-------------|------|----------|-------|
| | Min. | Max. | Min. | Max. |
| A | 0.40 | 0.60 | 0.016 | 0.024 |
| A1 | 0 | 0.05 | 0 | 0.002 |
| b | 0.15 | 0.25 | 0.006 | 0.010 |
| b1 | 0.35 | 0.45 | 0.014 | 0.018 |
| b2 | 0.20 | 0.30 | 0.008 | 0.012 |
| c | 0.10 | 0.20 | 0.004 | 0.008 |
| d | 0.05TYP | | 0.002 | |
| D | 1.50 | 1.70 | 0.060 | 0.067 |
| e | 0.50BSC | | 0.020BSC | |
| E | 0.90 | 1.10 | 0.035 | 0.043 |
| L | 0.30 | 0.45 | 0.012 | 0.018 |
| L1 | 0.10REF | | 0.004REF | |
| L2 | 0.05REF | | 0.002REF | |
| L3 | 0.49REF | | 0.019REF | |
| R | 0.08 | 0.18 | 0.003 | 0.007 |

RECOMMENDED PAD LAYOUT DIMENSIONS



| Ref. | Millimeters | Inches |
|------|-------------|--------|
| C | 0.875 | 0.034 |
| G | 0.20 | 0.008 |
| P | 0.50 | 0.020 |
| P1 | 1.00 | 0.039 |
| X | 0.20 | 0.008 |
| X1 | 0.40 | 0.016 |
| Y | 0.675 | 0.027 |
| Y1 | 1.55 | 0.061 |
| Z | 1.55 | 0.061 |

ORDERING INFORMATION

| Part Number | Component Package | QTY/Reel | Reel Size |
|--------------------|-------------------|----------|-----------|
| SE16P6F10B5.0MA-SP | DFN1610-6L | 3000PCS | 7" |

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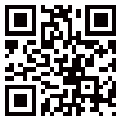
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