

MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

ULC0544P10-MS

Product specification

Features

- Ultra low leakage: nA level
- Operating voltage: 5.0V
- Low clamping voltage
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
Air discharge: ±30kV
Contact discharge: ±25kV
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (EFT) 5A (8/20ns) RoHS Compliant

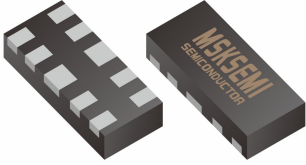
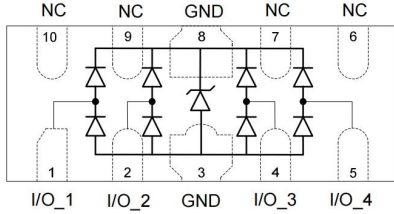
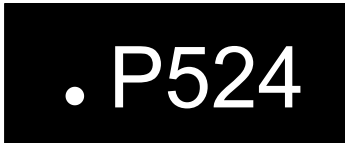
Applications

- USB 2.0 power and data line
- Set-top box and digital TV
- Digital video interface (DVI)
- Notebook Computers
- SIM Ports
- 10/100 Ethernet

Mechanical Characteristics

- Package: DFN2510P10
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel:3,000pcs
- Reel Size:7 inch

Reference News

| PACKAGE OUTLINE | Pin Configuration | Marking |
|---|---|---|
|  <p data-bbox="261 1655 411 1682">DFN2510P10</p> |  |  |

Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|---------------------------------|--------|--------------|------|
| Peak Pulse Power (8/20µs) | Ppp | 150 | W |
| ESD per IEC 61000-4-2 (Air) | VESD | ±15 | Kv |
| ESD per IEC 61000-4-2 (Contact) | | ±8 | |
| Operating Temperature Range | TJ | -55 to + 125 | °C |
| Storage Temperature Range | TSTJ | -55 to + 150 | °C |

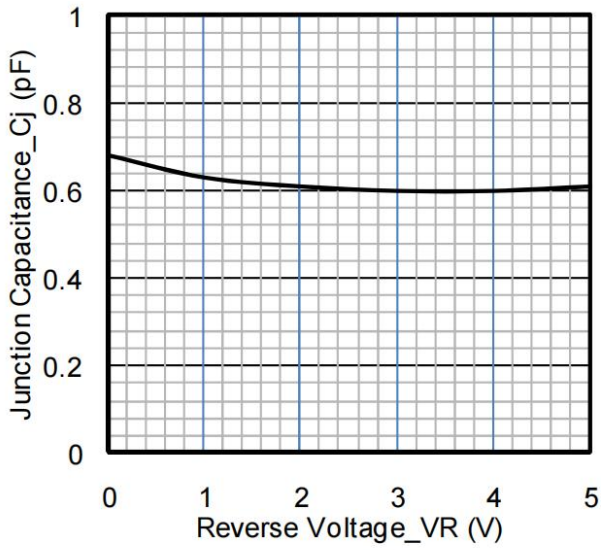
Absolute Maximum Ratings (TA=25°C unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|---------------------------------|--------|-------------|------|
| Peak Pulse Power (8/20µs) | Ppk | 150 | W |
| Peak Pulse Current (8/20µs) | IPP | 5 | A |
| ESD per IEC 61000-4-2 (Air) | VESD | ±30 | V |
| ESD per IEC 61000-4-2 (Contact) | | ±25 | |
| Operating Temperature Range | TJ | -55 to +125 | °C |
| Storage Temperature Range | Tstg | -55 to +150 | °C |

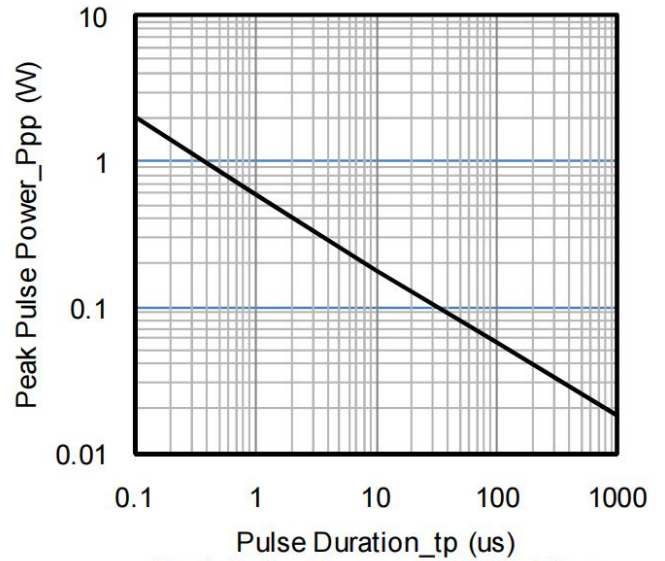
Electrical Characteristics (TA=25°C unless otherwise specified)

| Parameter | Symbol | Min | Typ | Max | Unit | Test Condition |
|-------------------------|--------|-----|-----|-----|------|--|
| Reverse Working Voltage | VRWM | | | 5 | V | Any I/O pin to ground |
| Breakdown Voltage | VBR | 6 | | | V | IT = 1mA, any I/O pin to ground |
| Reverse Leakage Current | IR | | | 0.5 | µA | VRWM = 5V, any I/O pin to ground |
| Clamping Voltage | VC | | | 15 | V | IPP = 1A (8 x 20µs pulse), any I/O pin to ground |
| Clamping Voltage | VC | | | 20 | V | IPP = 5A (8 x 20µs pulse), any I/O pin to ground |
| Junction Capacitance | CJ | | 0.3 | 0.4 | pF | VR = 0V, f = 1MHz, between I/O pins |
| Junction Capacitance | CJ | | | 0.8 | pF | VR = 0V, f = 1MHz, any I/O pin to ground |

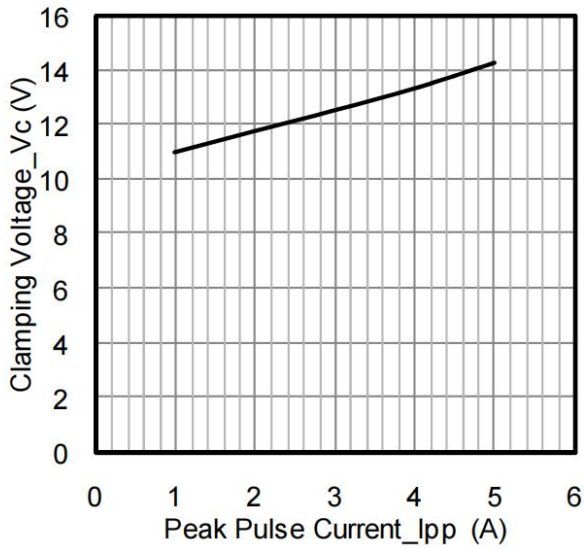
Typical Performance Characteristics (TA=25°C unless otherwise Specified)



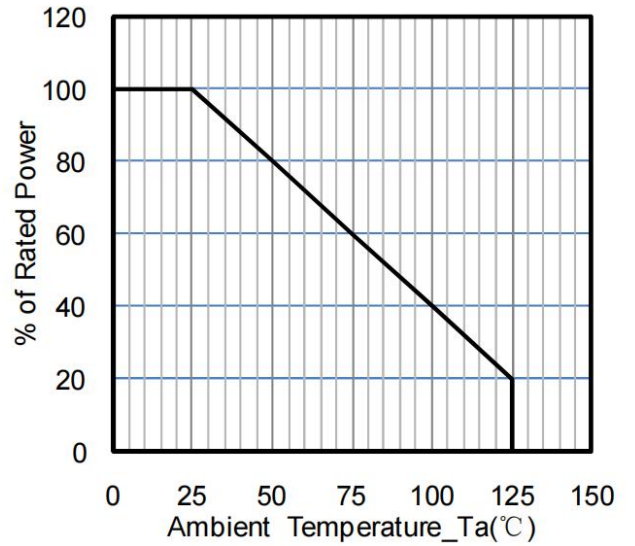
Junction Capacitance vs. Reverse Voltage



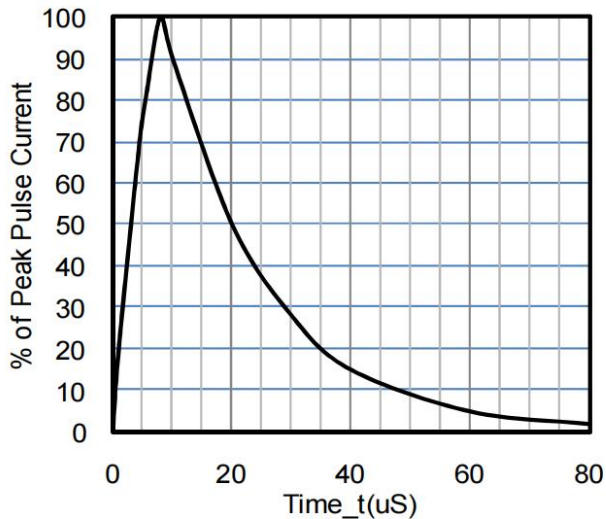
Peak Pulse Power vs. Pulse Time



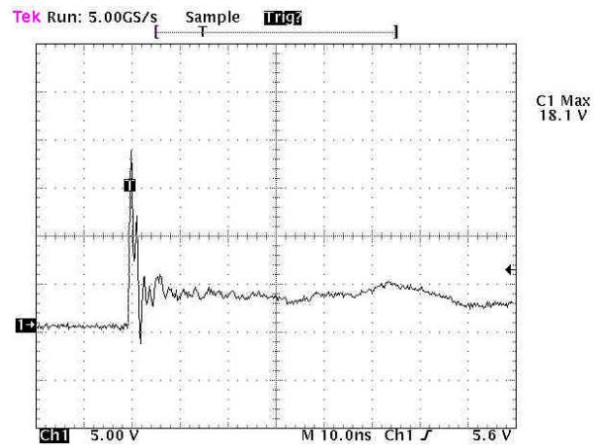
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



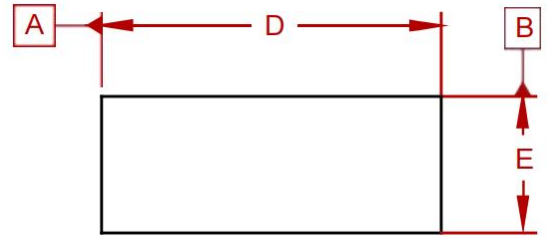
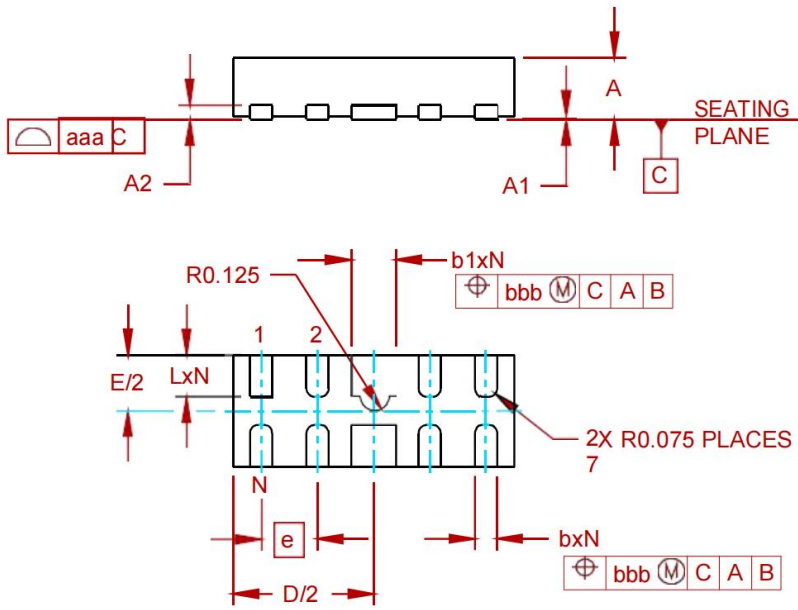
8 X 20uS Pulse Waveform



ESD Clamping Voltage

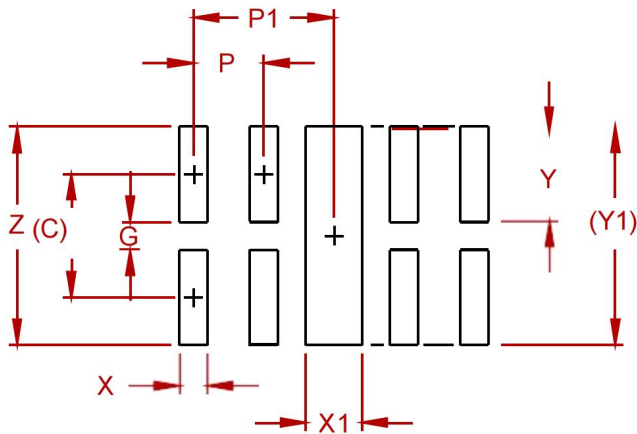
8 kV Contact per IEC61000-4-2

PACKAGE MECHANICAL DATA



| DIM | DIMENSI | | | ONS | | |
|-----|----------|------|------|-------------|------|-------|
| | INCHES | | | MILLIMETERS | | |
| | MIN | NOM | MAX | MIN | NOM | MAX |
| A | .020 | .023 | .026 | 0.50 | 0.58 | 0.65 |
| A1 | 0.00 | .001 | .002 | 0.00 | 0.03 | 0.05 |
| A2 | (.005) | | | (0.13) | | |
| b | .006 | .008 | .010 | 0.15 | 0.20 | 0.25 |
| 1 | .014 | .016 | .018 | 0.35 | 0.40 | 0.45 |
| D | .094 | .098 | .102 | 2.40 | 2.50 | 2.60 |
| E | .035 | .039 | .043 | 0.90 | 1.00 | 1.10 |
| e | .020 BSC | | | 0.50 BSC | | |
| L | .012 | .015 | .017 | 0.30 | 0.38 | 0.425 |
| N | 8 | | | 8 | | |
| aaa | .003 | | | 0.08 | | |
| bbb | .004 | | | 0.10 | | |

Suggested Pad Layout



| DIM | DIMENSIONS | |
|-----|------------|-------------|
| | INCHES | MILLIMETERS |
| C | (.034) | (0.875) |
| G | .008 | 0.20 |
| P | .020 | 0.50 |
| P1 | .039 | 1.00 |
| X | .008 | 0.20 |
| X1 | .016 | 0.40 |
| Y | .027 | 0.675 |
| Y1 | (.061) | (1.55) |
| Z | .061 | 1.55 |

NOTES:

- CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).
- THIS LAND PATTERN IS FOR REFERENCE PURPOSES ONLY.
- CONSULT YOUR MANUFACTURING GROUP TO ENSURE YOUR COMPANY'S MANUFACTURING GUIDELINES ARE MET.

REEL SPECIFICATION

| P/N | PKG | QTY |
|---------------|------------|------|
| ULC0544P10-MS | DFN2510P10 | 3000 |

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