

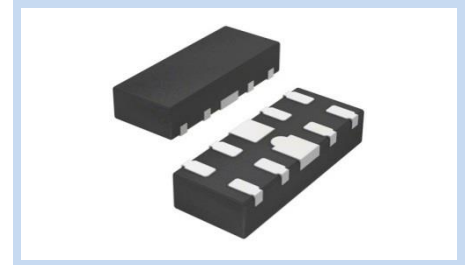
ESD Suppressor 5V 4-Unidirectional DFN2510

ME54U15D2510

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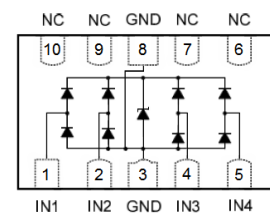
FEATURE

- IEC 61000-4-2 ESD: $\pm 17\text{KV}$ (Air) $\pm 12\text{KV}$ (Contact)
- ESD Protection for four Unidirectional Channels
- Low Capacitance
- Low Clamping Voltage
- Solid-State Silicon-Avalanche Technology



APPLICATION

- High Definition Multi-media Interface (HDMI)
- Digital Visual Interface (DVI)
- USB 2.0/ 3.0 Interface
- 10/100/1000M Ethernet Port
- Display Port Interface



MAXIMUM RATINGS AND CHARACTERISTICS

| Parameter | Symbol | Value | Unit |
|--|----------------|----------|--------------------|
| ESD Voltage per IEC61000-4-2 (Contact discharge) | V_{ESD} | ± 12 | KV |
| ESD Voltage per IEC61000-4-2 (Air discharge) | | ± 17 | KV |
| Peak Pulse Current ($t_p=8/20\mu\text{s}$) | I_{PP} | 5 | A |
| Peak Pulse Power ($t_p=8/20\mu\text{s}$) | P_{PP} | 150 | W |
| Operating Junction Temperature (10 Seconds) | T_L | 260 | $^{\circ}\text{C}$ |
| Operating & Storage Temperature Range | T_J, T_{STG} | -55~+150 | $^{\circ}\text{C}$ |

ELECTRICAL CHARACTERISTICS

| Parameter | Condition | Symbol | Min. | Typ. | Max. | Unit |
|--------------------------------|--|-----------|------|------|------|---------------|
| Reverse Stand-Off Voltage | Any I/O pin to GND | V_{RWM} | -- | -- | 5 | V |
| Forward Voltage | $I_F=15\text{mA}$, GND to any I/O pins | V_F | -- | -- | 1.15 | V |
| Reverse Breakdown Voltage | $I_{BR}=1\text{mA}$ | V_{BR} | 6.0 | -- | 8.5 | V |
| Reverse Leakage Current | $V_R=5\text{V}$ | I_R | -- | -- | 1 | μA |
| Clamping Voltage | $I_{PP}=1\text{A}$, $t_p=8/20\mu\text{s}$ | V_C | -- | -- | 15 | V |
| Off State Junction Capacitance | $V_{dc}=0$, $f=1\text{MHz}$ Any I/O pin to GND | C_J | -- | 0.5 | 0.8 | pF |
| Off State Junction Capacitance | $V_{dc}=0$, $f=1\text{MHz}$ Between I/O pins | C_J | -- | 0.3 | 0.4 | pF |

Notes:

1. $T_J=25^{\circ}\text{C}$ unless otherwise specified

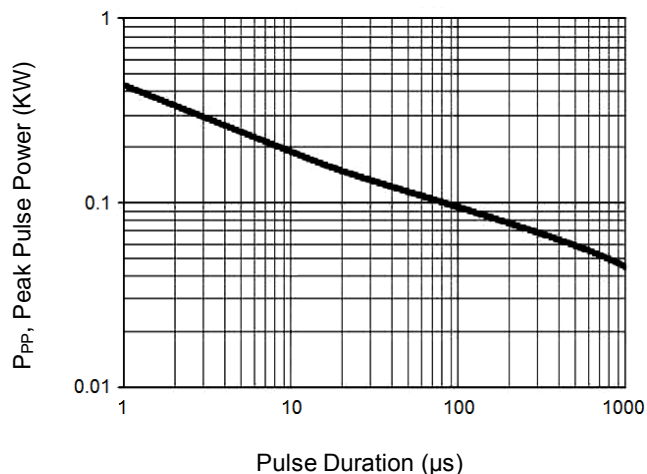
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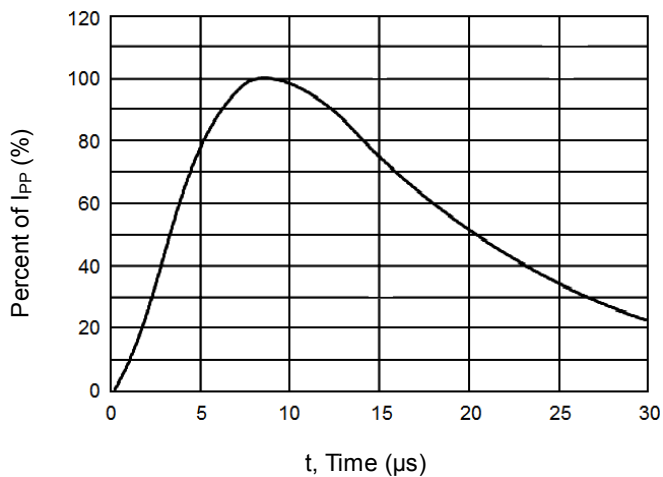
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CHARACTERISTIC CURVES

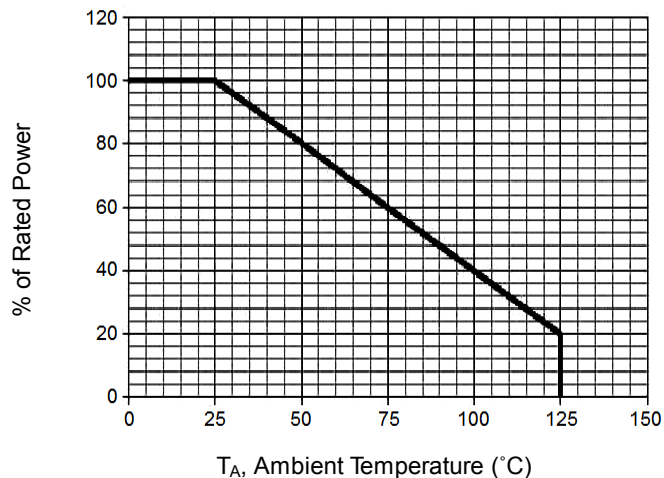
Non-repetitive Peak Pulse Power vs. Pulse Time



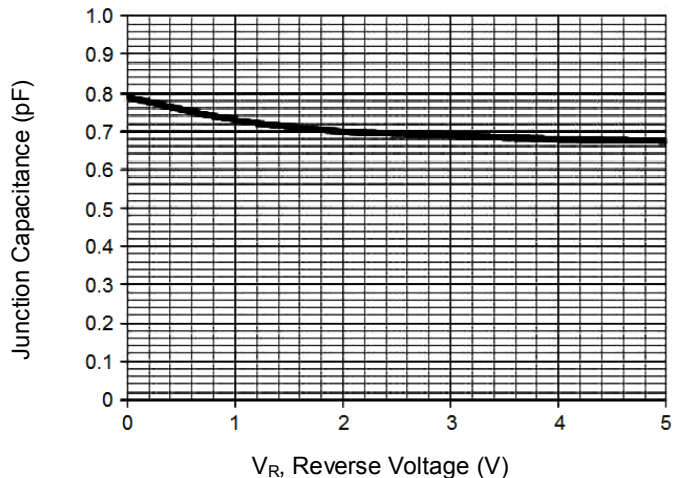
Pulse Waveform



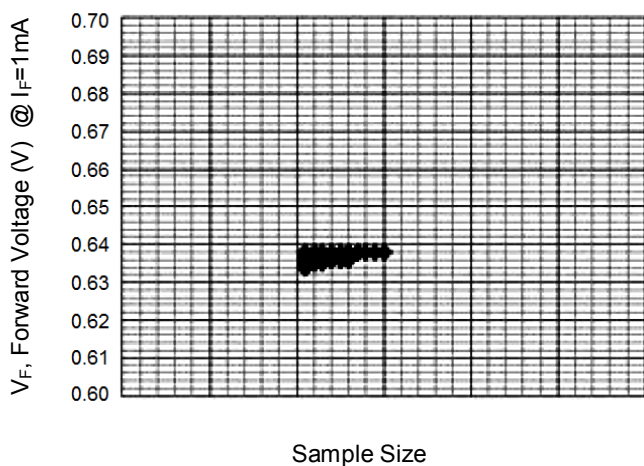
Power Derating Curve



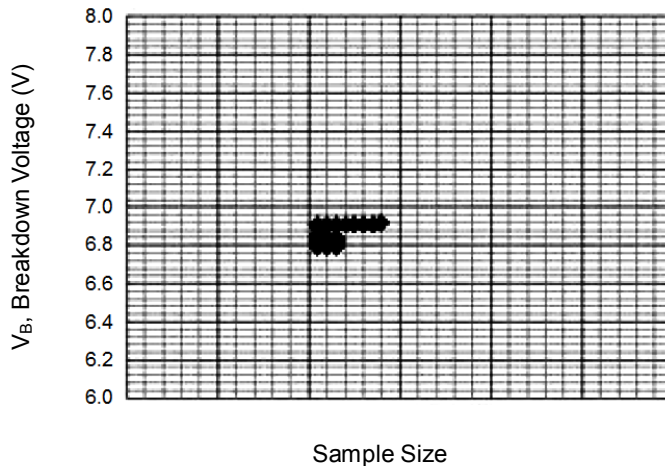
Capacitance vs. Reverse Voltage



Forward Voltage V_F Map (GND to I/O Pins)



Breakdown Voltage V_B Map (Any I/O Pin to GND)



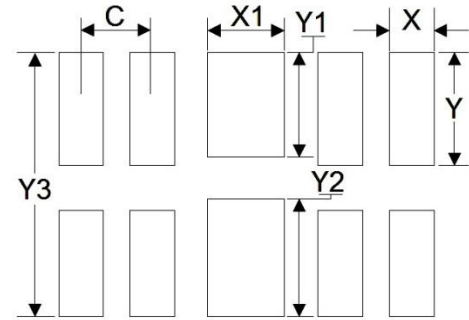
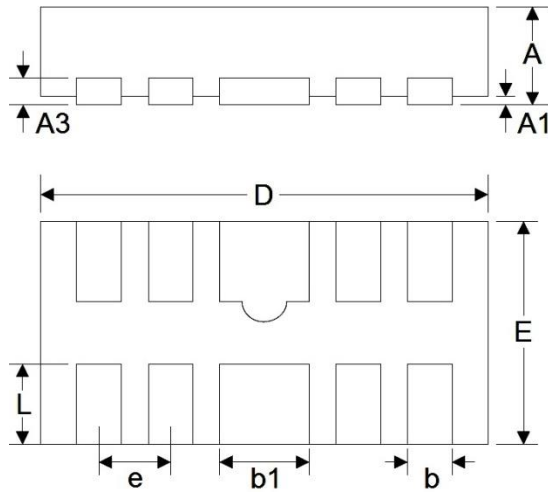
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DIMENSIONS AND RECOMMENDED LAND PATTERN

| Item | Min (mm) | Max (mm) |
|------|----------|----------|
| A | 0.45 | 0.55 |
| A1 | 0.00 | 0.05 |
| A3 | 0.15 | 0.15 |
| b | 0.15 | 0.25 |
| b1 | 0.30 | 0.50 |
| D | 2.40 | 2.60 |
| e | 0.50 | 0.50 |
| E | 0.90 | 1.10 |
| L | 0.30 | 0.46 |
| C | 0.50 | 0.50 |
| X | 0.25 | 0.25 |
| X1 | 0.45 | 0.45 |
| Y | 0.63 | 0.63 |
| Y1 | 0.58 | 0.58 |
| Y2 | 0.70 | 0.70 |
| Y3 | 1.40 | 1.40 |



*Specifications subject to change without notice.