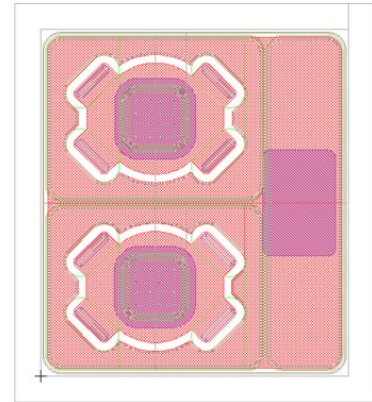


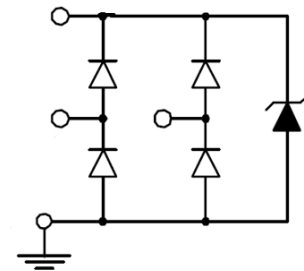
Features

- 2-Channel Uni-directional ESD diode
- Low Operating Voltage: 5.0V
- Ultra Low Leakage: nA Level
- Ultra Low Capacitance:
0.8pF when I/O to GND
- Low Clamping Voltage
- Response time is typically < 1 ns
- RoHS compliant
- Ultra Small Die Size, suitable for SOT-143 package
- Complies with IEC 61000-4-2 standards:
Air discharge: $\pm 30\text{kV}$
Contact discharge: $\pm 30\text{kV}$

Die Top-View



Circuit Diagram



From top to backside

Wafer Information

| Item | Description |
|--------------------------------|----------------------------------------|
| Wafer size | 6 inch |
| Wafer thickness | $150 \pm 10\mu\text{m}$ |
| Die Size (Include scribe lane) | $349\mu\text{m} \times 383\mu\text{m}$ |
| Bond Pad Opening | $75\mu\text{m} \times 75\mu\text{m}$ |
| Scribe lane width | $50\mu\text{m}$ |
| Gross die per wafer | 116, 000 dies |
| Top metal for wire bond | $4\mu\text{m}$ AlSiCu |
| Back side metal | TiNiAg |
| Passivation thickness | $1.2\mu\text{m}$ |

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

| Parameter | Symbol | Value | Unit |
|--------------------------------|------------------|-------------|------|
| Peak Pulse Power (8/20μs) | P _{pk} | 100 | W |
| ESD per IEC61000-4-2 (Air) | V _{ESD} | ±30 | kV |
| ESD per IEC61000-4-2 (Contact) | | ±30 | |
| Operating Temperature Range | T _J | -55 to +125 | °C |
| Storage Temperature Range | T _{stg} | -55 to +150 | °C |

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

| Parameter | Symbol | Min | Typ | Max | Unit | Test Condition |
|--------------------------------------|-------------------|-----|------|------|------|---------------------------------------------|
| Reverse Working Voltage | V _{RWM} | | | 5 | V | |
| Breakdown Voltage | V _{BR} | 6.5 | 7.5 | 9.0 | V | I _T =1mA |
| Leakage Current | I _{Leak} | | | 100 | nA | V _{RWM} =5V |
| Clamping Voltage (I/O-GND) | V _C | | | 9.5 | V | I _{PP} =1A, T _p =8/20μs |
| Clamping Voltage (I/O-GND) | V _C | | | 14.0 | V | I _{PP} =6A, T _p =8/20μs |
| Clamping Voltage (Vcc-GND) | V _C | | | 14.0 | V | I _{PP} =9A, T _p =8/20μs |
| Junction Capacitance (I/O to GND) | C _J | | 0.8 | 1.0 | pF | V _R =0V, f=1MHz, |
| Junction Capacitance (I/O to I/O) | C _J | | 0.35 | 0.5 | pF | V _R =0V, f=1MHz, |

Note: Electrical parameters are only for die, performance may alter after assembly.

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