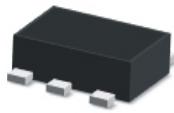
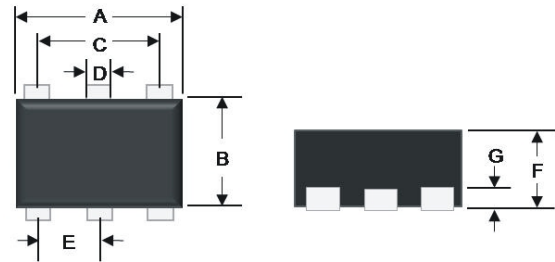




Low Capacitance ESD Protection Array



SOT-666 (SC-89)



Features

Meet IEC61000-4-2 (ESD) $\pm 15\text{kV}$ (air), $\pm 8\text{kV}$ (contact)

Meet IEC61000-4-4 (EFT) rating. 40A (5/50ns)

Meet IEC61000-4-5 (Lightning) rating. 24A (8/20 μs)

Protects two I/O line and power line

Working Voltage : 5V

Pb free version, RoHS compliant, and Halogen free

Mechanical Data

Case : SOT-666 (SC-89) standard package, molded plastic

Terminal : Matte tin plated, lead free, solderable per M-STD-202, Method 202 Guaranteed

High temperature soldering guaranteed : 260OC/10s

Molding Compound Flammability Rating : UL-94V-O

Weight : 3 mg (approximately)

| Dimension | Unit (mm) | | Unit (inch) | |
|-----------|-----------|------|-------------|-------|
| | Min | Max | Min | Max |
| A | 1.50 | 1.70 | 0.059 | 0.066 |
| B | 1.10 | 1.30 | 0.043 | 0.051 |
| C | 1.00 Typ | | 0.04 Typ | |
| D | 0.17 | 0.27 | 0.007 | 0.010 |
| E | 0.50 Typ | | 0.02 Typ | |
| F | 0.50 | 0.60 | 0.021 | 0.023 |
| G | 0.08 | 0.18 | 0.003 | 0.007 |

Applications

USB Power and Data Line Protection

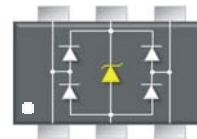
10/100/1000 Ethernet Ports

High-Definition Multimedia Interface (HDMI)

Monitors and Flat Panel Displays

Video Graphics Cards

Pin Configuration



Ordering Information

| Package | Part No. | Packing | Marking |
|---------|------------|------------|---------|
| SOT-666 | RESDG65V0J | 3K/7" Reel | SL3 |

Maximum Ratings and Electrical Characteristics

(Rating at 25°C ambient temperature unless otherwise specified)

Maximum Ratings

| Parameter | Symbol | Value | Unit |
|--|----------------|--------------|------|
| Peak Pulse Power ($t_p = 8/20\mu\text{s}$ waveform) | P_{PP} | 50 | W |
| Peak Pulse Current ($t_p = 8/20\mu\text{s}$) | I_{PP} | 3 | A |
| ESD per IEC 61000-4-2 (Air) | V_{ESD} | 20 | KV |
| ESD per IEC 61000-4-2 (Contact) | | 15 | |
| Junction and Storage Temperature Range | T_J, T_{STG} | -55 to + 150 | °C |

Electrical Characteristics

| Parameter | Symbol | Min | Max | Units |
|---------------------------|------------|-----------|--------------|---------------|
| Reverse Stand-Off Voltage | V_{RWM} | - | 5 | V |
| Reverse Breakdown Voltage | $V_{(BR)}$ | 6 | - | V |
| Reverse Leakage Current | I_R | - | 1 | μA |
| Clamping Voltage | V_C | - | 14.0 16.0 | V |
| Junction Capacitance | C_J | 0.7(Typ.) | | pF |



Low Capacitance ESD Protection Array

Rating and Characteristic Curves

Fig 1 Non-Repetitive Peak Pulse Power vs Pulse Time

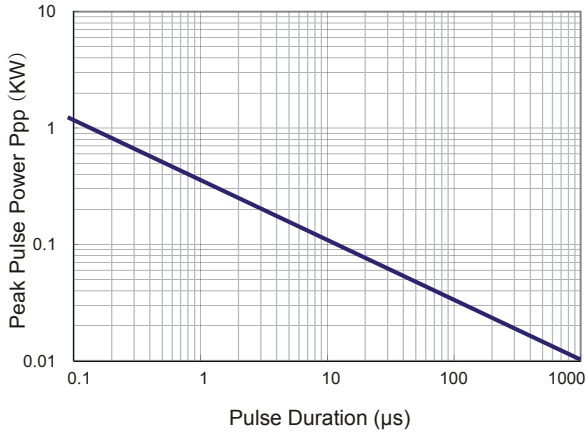


Fig 2 Pulse Waveform

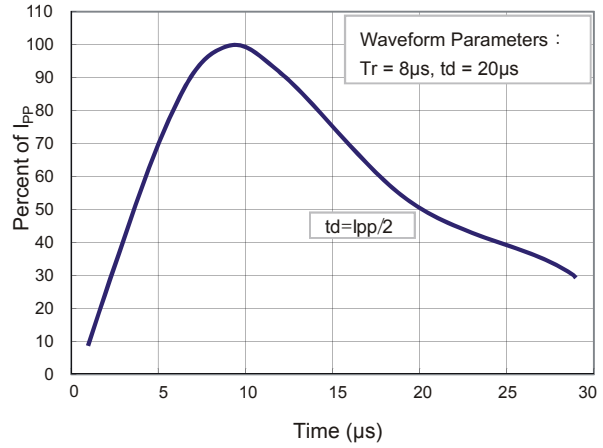


Fig 3 Admissible Power Dissipation Curve

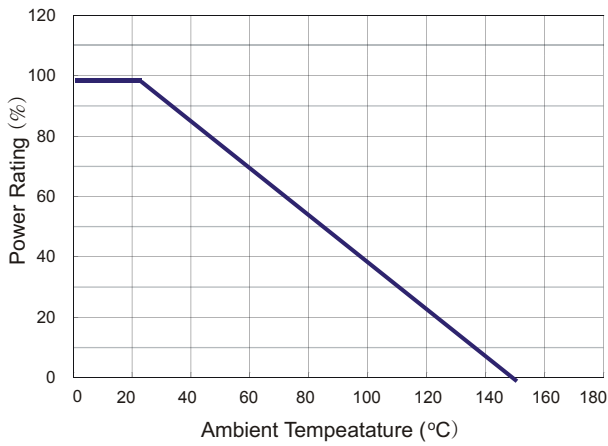


Fig 4 Typical Junction Capacitance

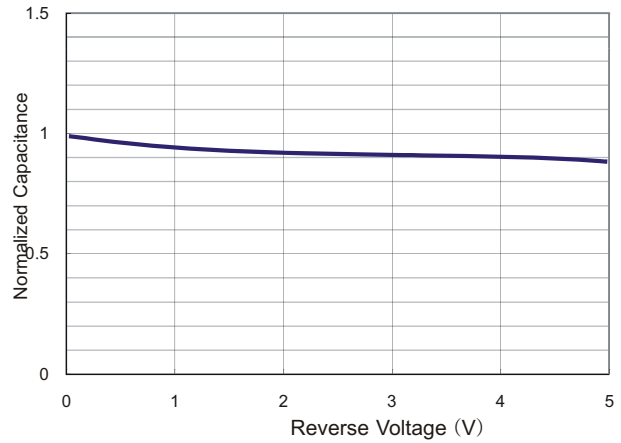
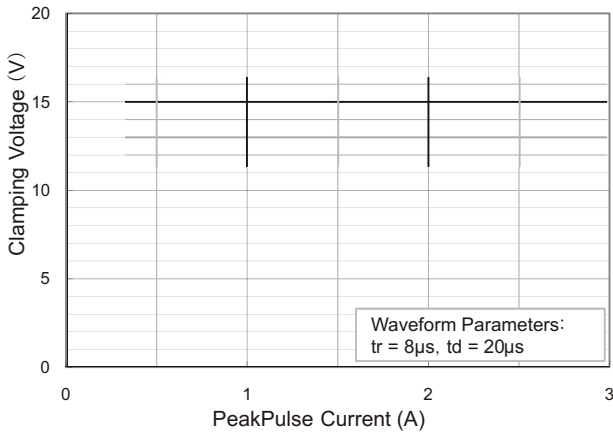


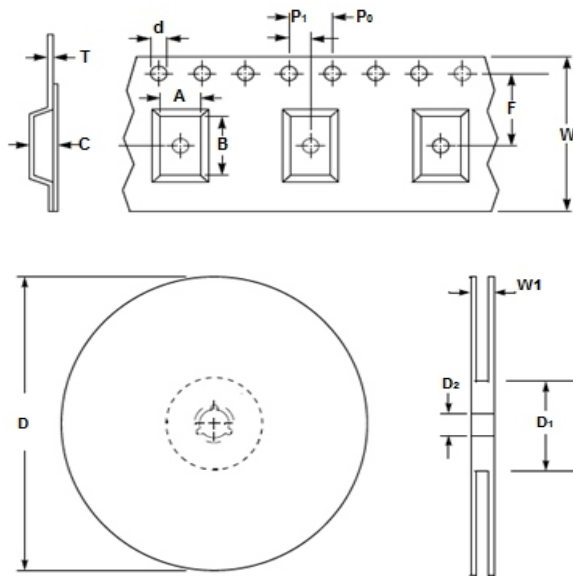
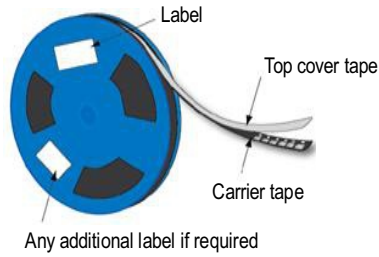
Fig 5 Clamping Voltage vs Peak Pulse Current





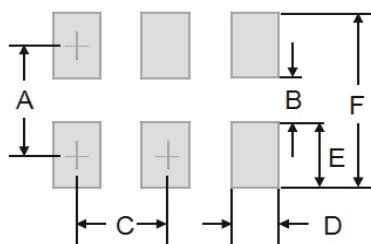
Low Capacitance ESD Protection Array

Tape & Reel specification



| Item | Symbol | Dimension (mm) |
|------------------------|--------|----------------|
| Carrier width | A | 1.75 ± 0.10 |
| Carrier length | B | 1.75 ± 0.10 |
| Carrier depth | C | 0.67 ± 0.10 |
| Sprocket hole | d | 1.5 ± 0.1 |
| Reel outside diameter | D | 178 ± 1 |
| Reel inner diameter | D1 | 54.4 ± 0.40 |
| Feed hole width | D2 | 13.0 ± 0.20 |
| Sprocket hole position | E | 1.75 ± 0.10 |
| Punch hole position | F | 3.50 ± 0.05 |
| Punch hole pitch | P | 4.00 ± 0.10 |
| Sprocket hole pitch | P0 | 4.00 ± 0.10 |
| Embossment center | P1 | 2.00 ± 0.05 |
| Overall tape thickness | T | 0.23 ± 0.013 |
| Tape width | W | 8.10 ± 0.20 |
| Reel width | W1 | 12.3 ± 0.20 |

Suggested PAD Layout



| Dimensions | Unit (inch) | Unit(mm) |
|------------|-------------|----------|
| A | 0.053 | 1.35 |
| B | 0.024 | 0.60 |
| C | 0.020 | 0.50 |
| D | 0.012 | 0.30 |
| E | 0.033 | 0.85 |
| F | 0.090 | 2.30 |