



TVS/ESD Arrays

RLDSON10Q054LV Series

TVS/ESD Arrays - RLDSON10Q054LV Series

Features

- IEC61000-4-2 ESD 15KV Air, 8KV contact compliance
- Protects four I/O lines
- Peak power dissipation of 150W under 8/20s waveform
- Working voltage : 5V
- Low leakage current
- Low operating and clamping voltages
- Solid-state silicon avalanche technology
- Lead Free/RoHS compliant



Mechanical Characteristics

- DSON-10 (2.5×1.0×0.5mm) surface mount package
- Flammability rating UL 94V-0
- Marking: Logo, Marking Code, Date Code & Pin One
- Defined By Dot on Top of Package

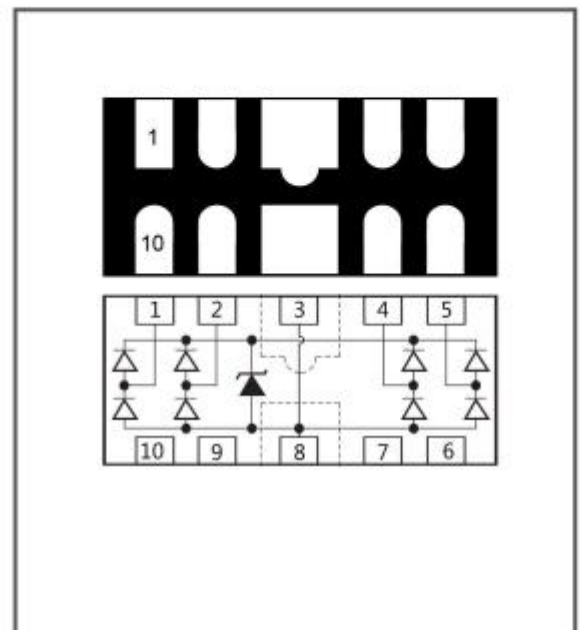
Applications

- High Definition Multimedia Interface (HDMI)
- Digital Visual Interface (DVI)
- Unified Display Interface (UDI)
- Display Port Interface
- MDDI Ports
- PCI Express
- Serial ATA

Life Support Note

- Not Intended for Use in Life Support or Life Saving Applications
- The products shown herein are not designed for use in life sustaining or life saving applications unless otherwise expressly indicated

Pinout and Functional Block Diagram



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Absolute Maximum Rating

| Rating | Symbol | Value | Units |
|---------------------------------------|------------------|----------|-------|
| Peak pulse power (tp=8/20 s waveform) | P _{pk} | 150 | Watts |
| ESD voltage (HBM contact) | V _{ESD} | ±8 | A |
| ESD voltage (AIR contact) | V _{ESD} | ±15 | Kv |
| Lead soldering temperature | TL | 260 | °C |
| Storage & operating temperature range | TSTG ,TJ | -55~+150 | °C |

Electrical Characteristics Per Lin (@ 25°C Unless Otherwise Specified)

| Parameter | Symbol | Conditions | Minimum | Typical | Maximum | Units |
|--------------------------------|------------------|--|---------|---------|---------|-------|
| Reverse Stand-Off Voltage | V _{RWM} | - | - | - | 5 | V |
| Reverse breakdown voltage | V _{BR} | IBR=1mA | 6.0 | - | - | V |
| Reverse leakage current | I _R | VR =5V each I/O pin | - | - | 1 | μA |
| Clamping voltage (tp=8/20s) | V _C | IPP=1A | - | - | 15 | V |
| Clamping voltage (tp=8/20s) | V _C | I _{IPP} =10A | - | - | 20 | V |
| Off state junction capacitance | V _C | 0Vdc,f=1MHZ between I/O pins and GND | - | 0.8 | - | pF |

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Typical Characteristics

Figure 1. Power Derating Curve

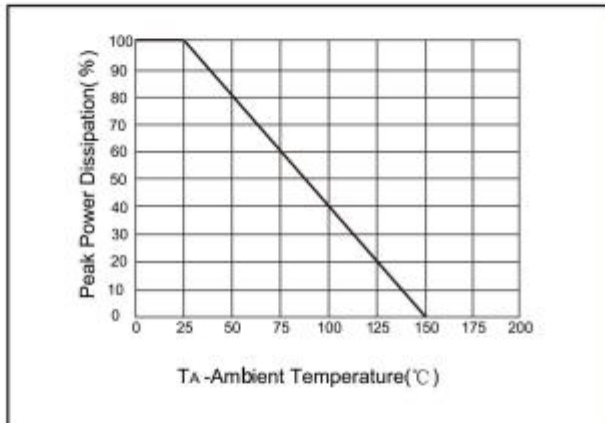


Figure 2. Pulse Waveforms

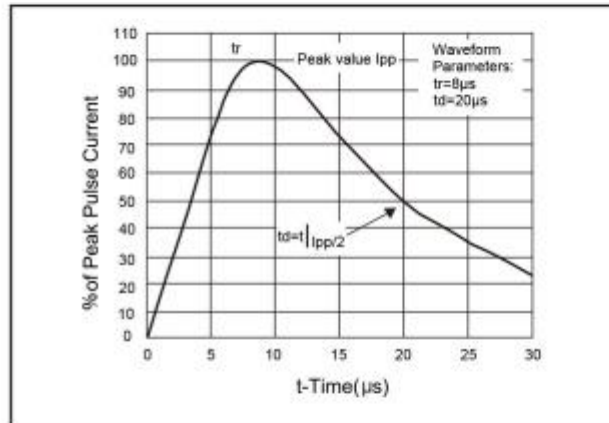


Figure 3. Non-Repetitive Peak Pulse vs Pulse Time

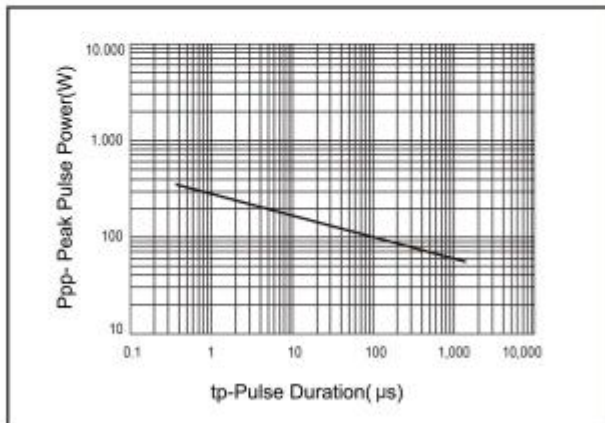
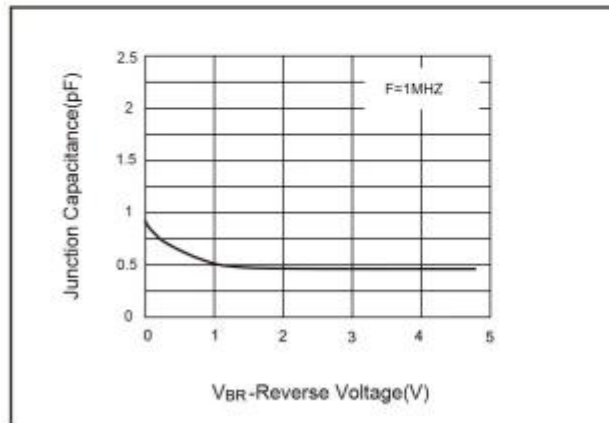
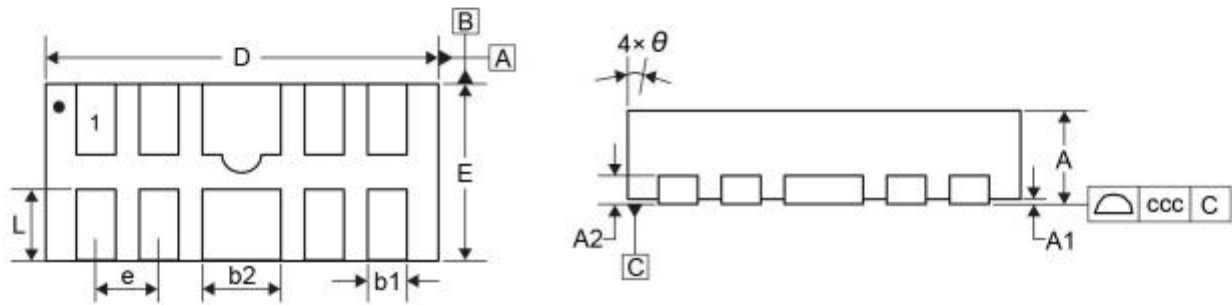


Figure 4. Capacitance vs. Reverse Voltage



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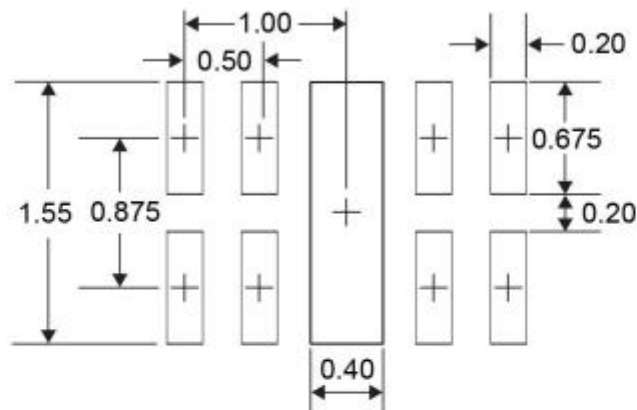
Package dimension DSON-10



Dimensions

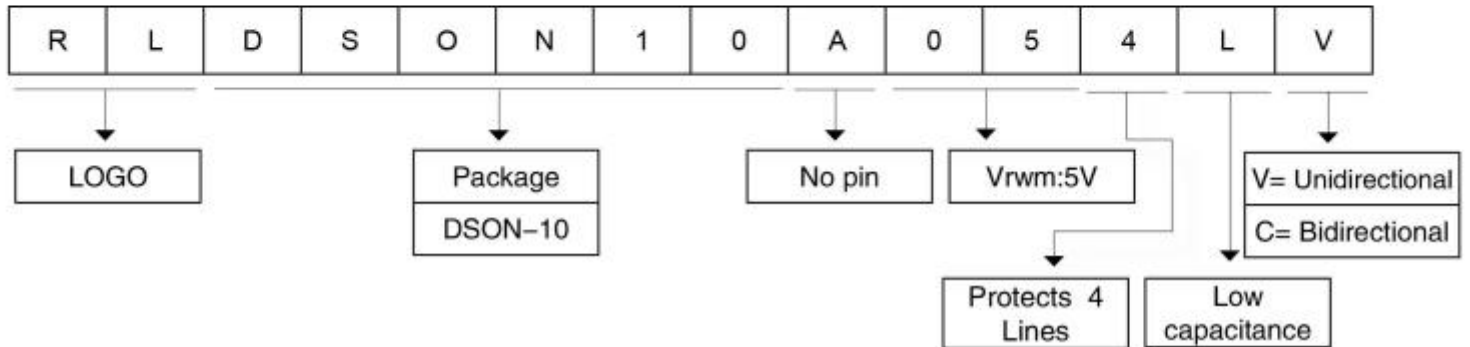
| DIM | Inches | | | Millimeters | | |
|-----|--------|----------|-------|-------------|---------|------|
| | Min | Nom | Max | Min | Nom | Max |
| A | 0.018 | 0.020 | 0.22 | 0.45 | 0.50 | 0.55 |
| A1 | 0 | 0.0004 | 0.001 | 0 | 0.01 | 0.03 |
| A2 | - | 0.006REF | - | - | 0.15REF | - |
| b1 | 0.006 | 0.008 | 0.010 | 0.15 | 0.2 | 0.25 |
| b2 | 0.014 | 0.016 | 0.018 | 0.35 | 0.40 | 0.45 |
| D | 0.096 | 0.098 | 0.100 | 2.45 | 2.50 | 2.53 |
| E | 0.037 | 0.039 | 0.041 | 0.95 | 1.00 | 1.03 |
| e | - | 0.020BSC | - | - | 0.5BSC | - |
| L | - | - | 0.002 | - | - | 0.05 |

Recommended soldering footprint



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Part Number Code



Ordering Information

| Part Number | Package | Min. Order Qty. |
|----------------|---------|-----------------|
| RLDSON10Q054LV | DSO-10 | 3000pcs |

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