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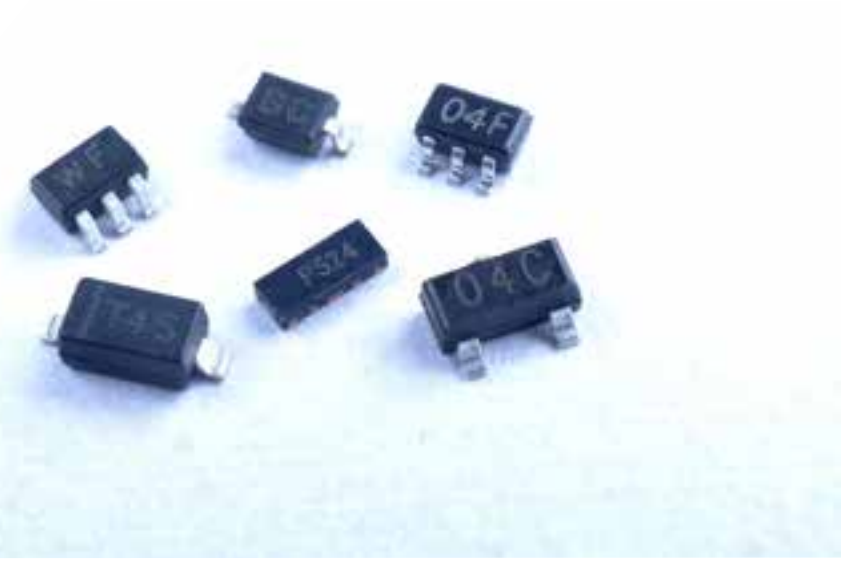

TVS/ESD Arrays

RLDSON10Qxx4LC Series

361° Circuit Protection System

Revision:DEC-16

Please refer to http://www.ruilon.com.cn for current information.

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TVS/ESD Arrays - RLDSON10Qxx4LC Series

Features

- 200 Watts Peak Pulse Power per Line (tp = 8/20μs)
- Working voltages: 3.3V、5V
- Low Leakage Current
- Low operating and clamping voltages
- Lead Free/RoHS compliant
- Solid-state silicon avalanche technology
- Provides ESD protection to IEC61000-4-2(ESD):
  ±15kV (air discharge)
  ±8kV (contact discharge)

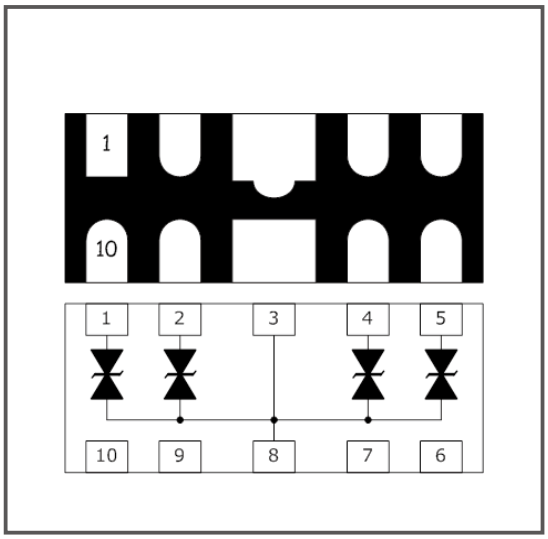
Mechanical Characteristics

- DSON-10 package
- Molding compound flammability rating: UL 94V-0
- Quantity Per Reel : 3000pcs
- Reel Size : 7 inch
- Lead Finish : Lead Free

Applications

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

Pinout and Functional Block Diagram



Part Number Code

R	L	D	S	O	N	1	0	Q	0	3	4	L	C

- R L: LOGO
- D S O N: Package — DSON-10
- 1 0: Q — No pin
- 0 3: V_{RWM}:3.3V
- 4: Protects 4 Lines
- L: Low capacitance
- C: V= Unidirectional / C= Bidirectional

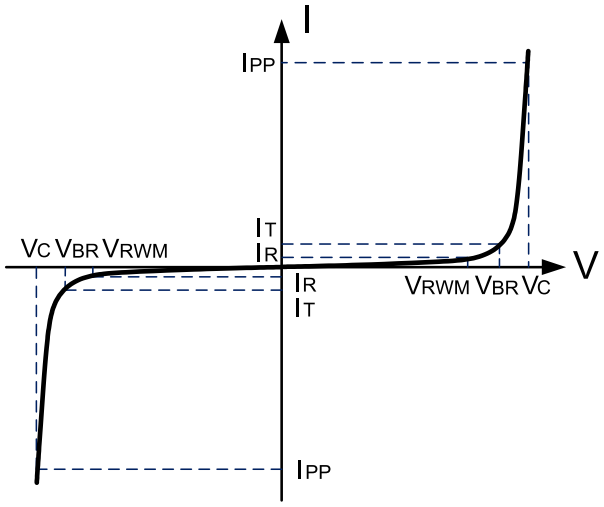
TVS/ESD Arrays - RLDSON10Qxx4LC Series

Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (tp =8/20μs)	P_{PK}	200	Watts
ESD Voltage (Contact)	V_{ESD}	±8	Kv
ESD Voltage (Air)	V_{ESD}	±15	Kv
Lead Soldering Temperature	T_L	260 (10 sec.)	°C
Operating Temperature	T_J	-55 to +125	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Parameters (T=25°C)

Symbol	Parameter
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F



Electrical Characteristics(@ 25°C Unless Otherwise Specified)

Type Number	Reverse Stand-Off Voltage	Minimum Breakdown Voltage	Peak Pulse Voltage @8/20μS	Peak Pulse Current @8/20μS	Reverse Leakage @V_{RWM}	Typical Capacitance
	V_{RWM}	V_{BR}@1mA	V_C@1A	I_{PP}	I_R@V_{RWM}	C_J@ 1 MHz
	V	V	V	A	μA	pF
RLDSON10Q034LC	3.3	4	7.5	10	1	10
RLDSON10Q054LC	5	6	9.8	10	1	8

TVS/ESD Arrays - RLDSON10Qxx4LC Series

Characteristic Curves

Fig1. 8/20μs Pulse Waveform

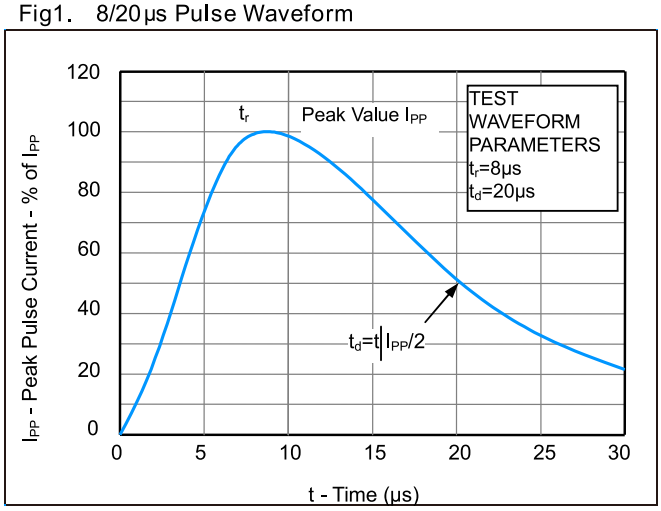


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

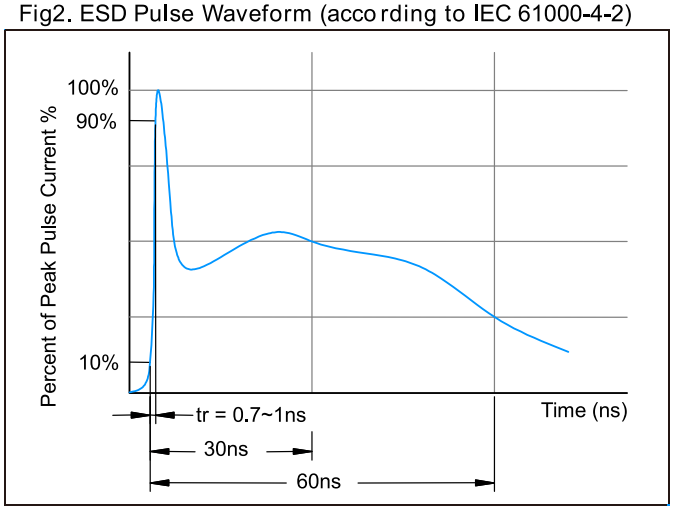


Fig3. Power Derating Curve

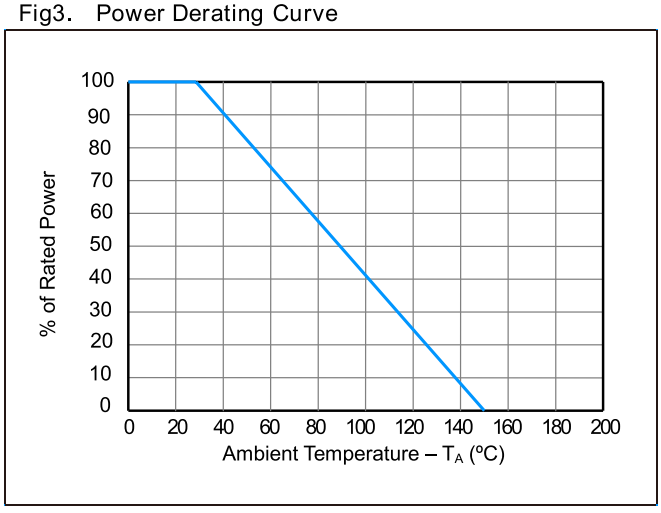
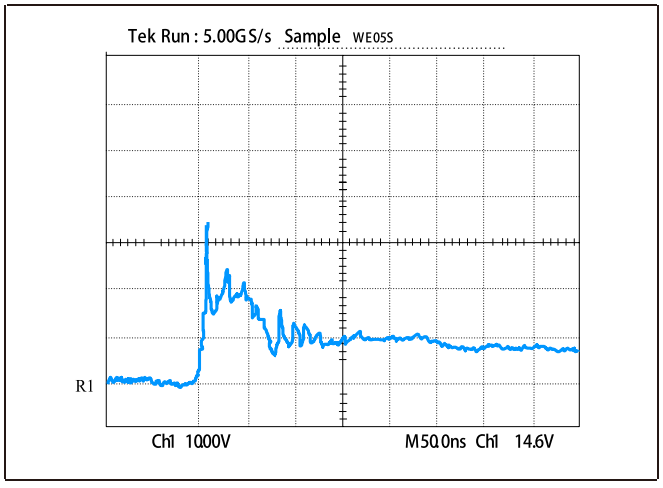


Figure 4: ESD Clamping(8kV Contact per IEC 61000-4-2)



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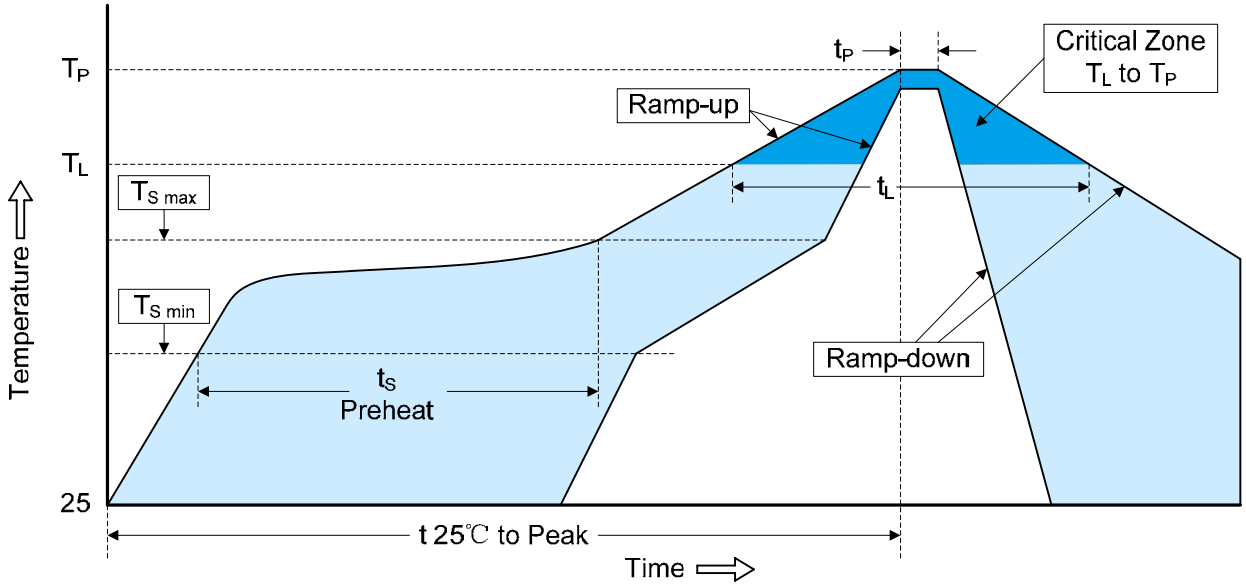
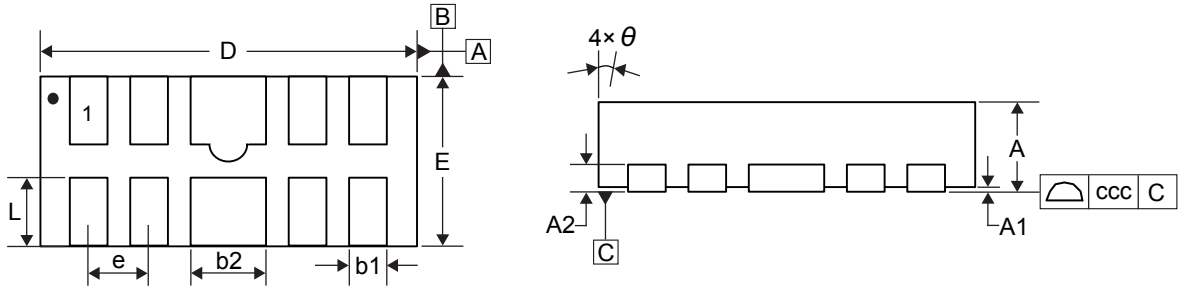
Recommended Soldering Conditions



Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3°C/second max.
Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (ts)	150°C 200°C 60-180 seconds
$T_{S\ max}$ to T_L -Ramp-up Rate	3°C/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	217°C 60-150 seconds
Peak Temperature (T_P)	260°C
Time within 5°C of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

TVS/ESD Arrays - RLDSON10Qxx4LC Series

Package dimension DSON-10



Dimensions						
DIM	Inches			Millimeters		
	Min	Nom	Max	Min	Nom	Max
A	0.020	0.023	0.26	0.50	0.58	0.65
A1	0.00	0.001	0.002	0.00	0.03	0.05
A2	-	0.005REF	-	-	0.13REF	-
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	0.094	0.098	0.120	2.45	2.50	2.53
E	0.035	0.039	0.043	0.90	1.00	1.10
e	-	0.020BSC	-	-	0.5BSC	-
L	-	-	0.002	-	-	0.05