

RUILON

瑞隆源电子



TVS/ESD Arrays

RLSD92Q051LV Series

361° Circuit Protection
System

Revision:DEC-16

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

TVS/ESD Arrays - RLSD92Q051LV Series

Features

- 40 Watts Peak Pulse Power per Line (tp = 8/20µs)
- Working voltages: 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)



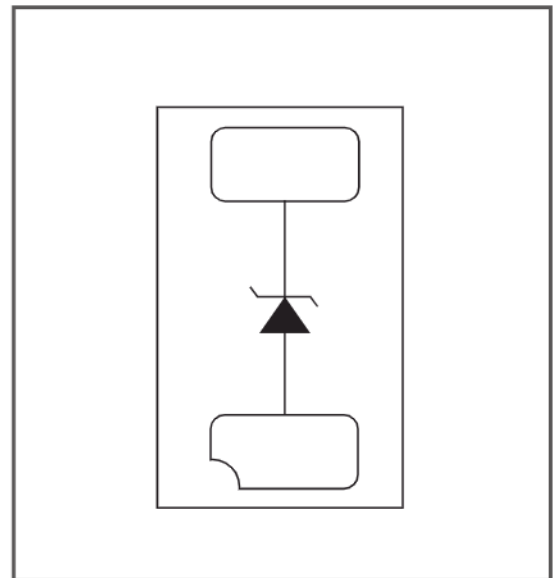
Mechanical Characteristics

- SOD-882 package
- Molding compound flammability rating: UL 94V-0
- Quantity Per Reel :10,000pcs
- Reel Size : 7 inch
- Lead Finish : Lead Free

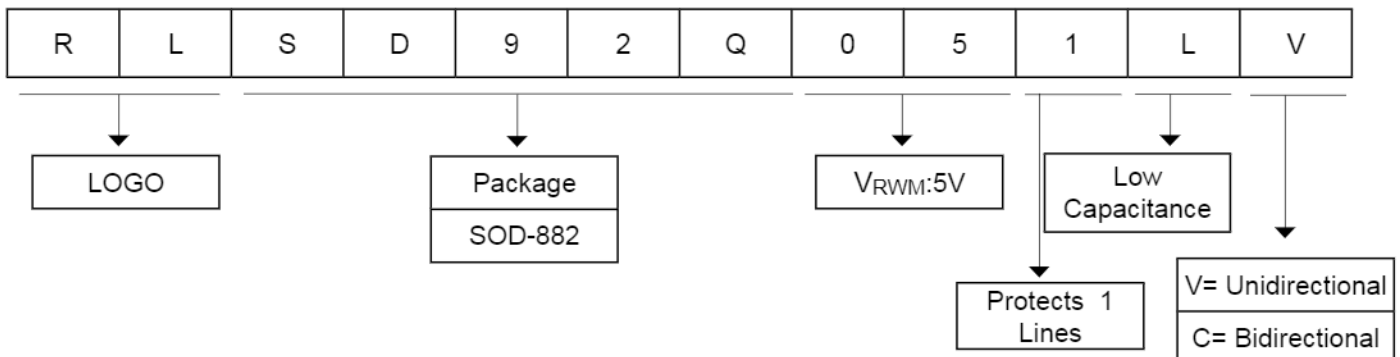
Applications

- Video I/O ports protection
- Set Top Boxes
- Portable Instrumentation
- Notebooks, Desktops, and Servers
- Pagers Peripherals

Pinout and Functional Block Diagram



Part Number Code



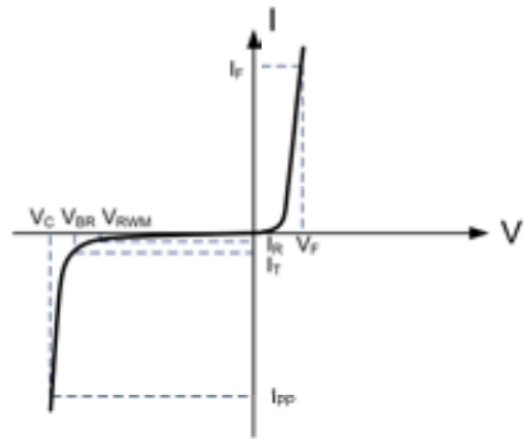
TVS/ESD Arrays - RLSD92Q051LV Series

Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	PPK	40	Watts
ESD Voltage (Contact)	V_{ESD}	± 8	Kv
ESD Voltage (Air)	V_{ESD}	± 15	Kv
Lead Soldering Temperature	T_L	260 (10 sec.)	$^{\circ}C$
Operating Temperature	T_J	-55 to +125	$^{\circ}C$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}C$

Electrical Parameters (T=25 $^{\circ}C$)

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
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 $^{\circ}C$ Unless Otherwise Specified)

Type Number	Reverse Stand-Off Voltage	Minimum Breakdown Voltage	Peak Pulse Voltage @8/20 μS	Peak Pulse Current @8/20 μS	Reverse Leakage @ V_{RWM}	Typical Capacitance
	V_{RWM}	$V_{BR}@1mA$	$V_C@1A$	I_{PP}	$I_R@V_{RWM}$	$C_J@1MHz$
	V	V	V	A	μA	pF
RLSD92Q051LV	5	6	9.8	4	1	1

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Typical Characteristics

Fig1. 8/20 μ s Pulse Waveform

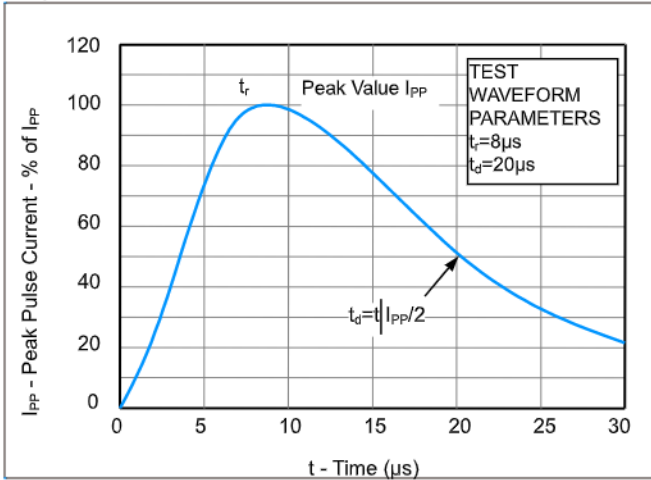


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

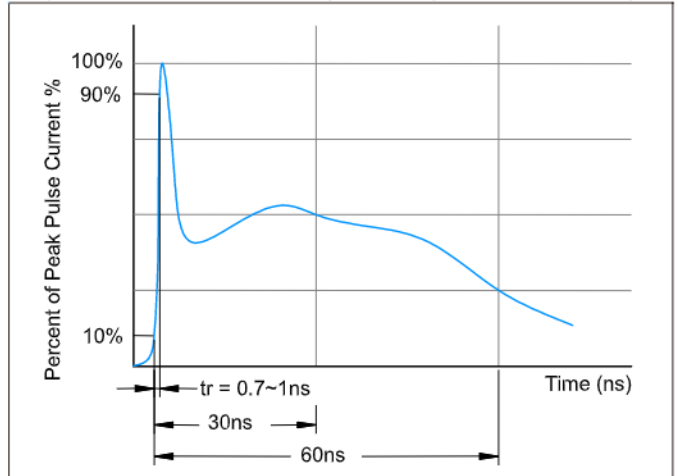


Fig3. Power Derating Curve

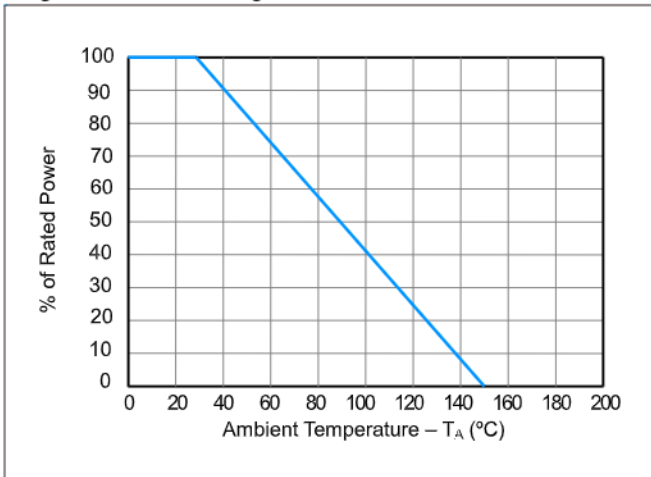
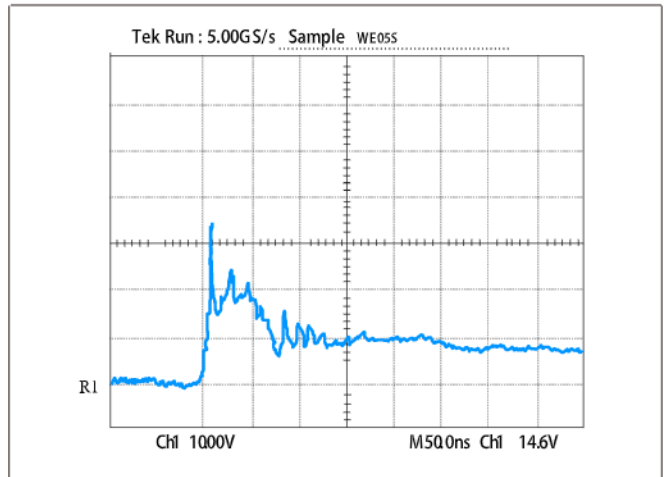
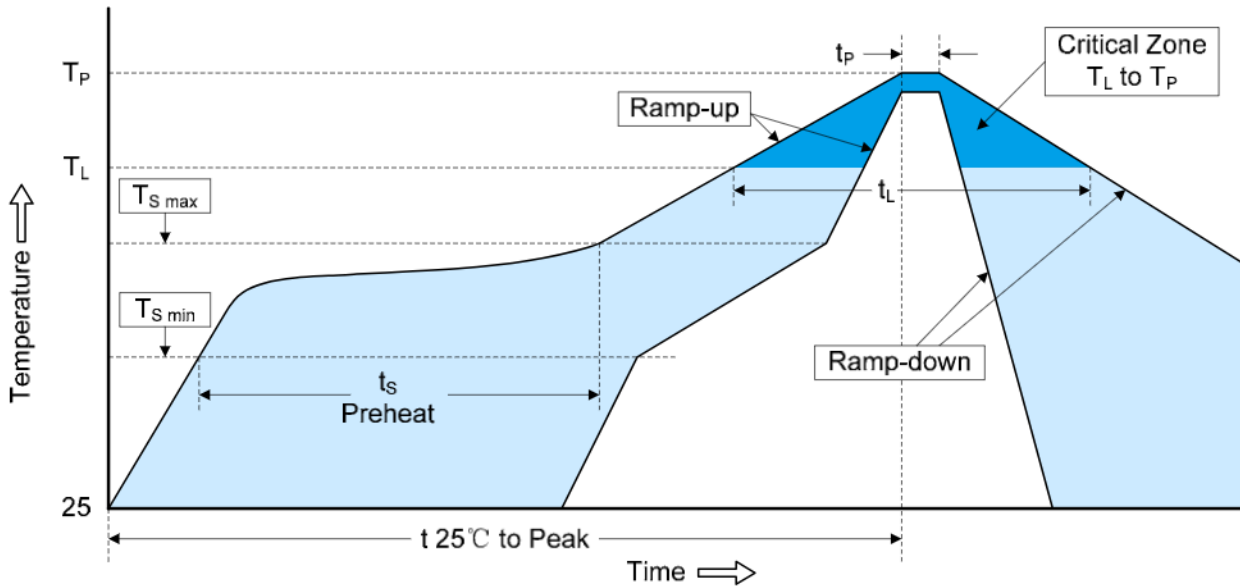


Figure 4: ESD Clamping (8kV Contact per IEC 61000-4-2)



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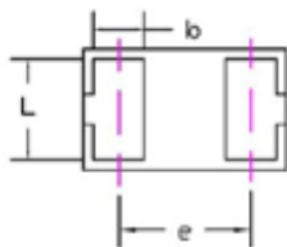
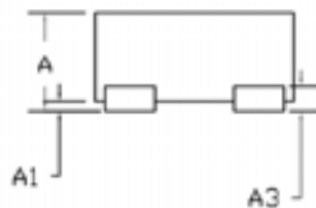
Recommended Soldering Conditions



Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3°C/second max.
Preheat	150°C
-Temperature Min ($T_{S\ min}$)	200°C
-Temperature Max ($T_{S\ max}$)	60-180 seconds
-Time (min to max) (t_s)	
$T_{S\ max}$ to T_L	3°C/second max.
-Ramp-up Rate	
Time maintained above:	217°C
-Temperature (T_L)	60-150 seconds
-Time (t_L)	
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 - RLSD92Q051LV Series

Package dimension SOD-882



Symbol	Dimensions(Millimeters)		
	Min	Nom	Max
A	0.45	-	0.55
A1	0.01	-	0.05
A3	0.150Ref		
D	0.951	-	1.05
E	0.55	0.65	0.65
b	0.200	0.25	0.30
L	0.450	0.50	0.55
e	0.65 BSC		

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