

**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)



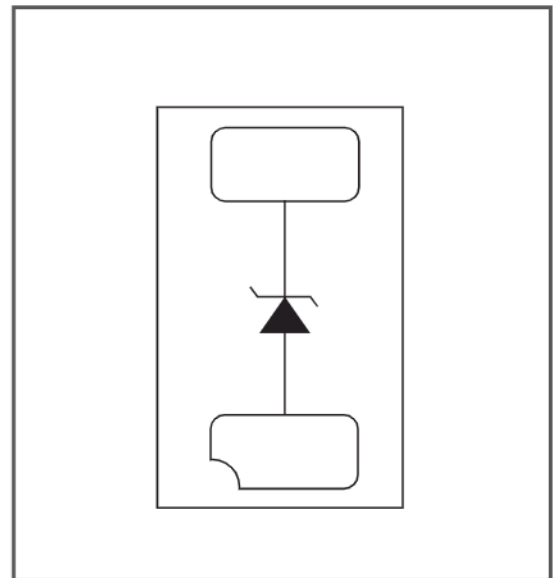
### Mechanical Characteristics

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

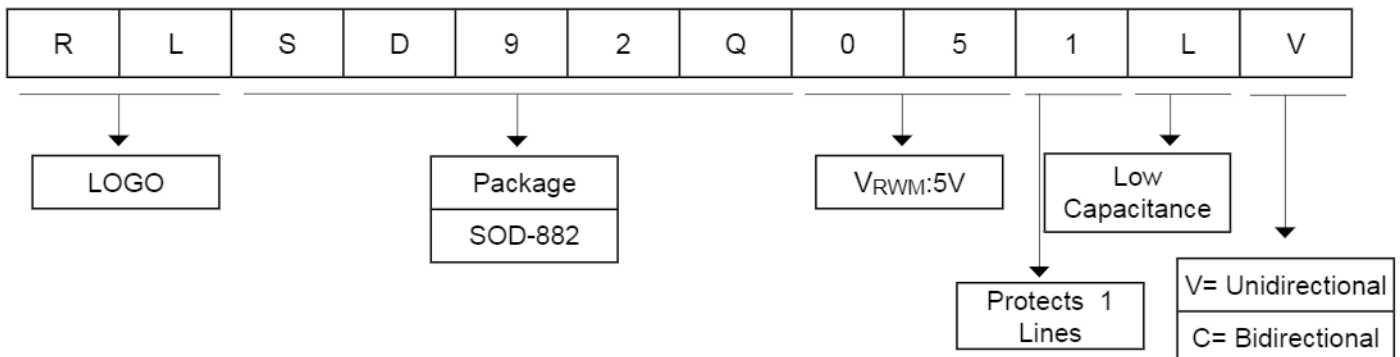
### Applications

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

### Pinout and Functional Block Diagram



### Part Number Code



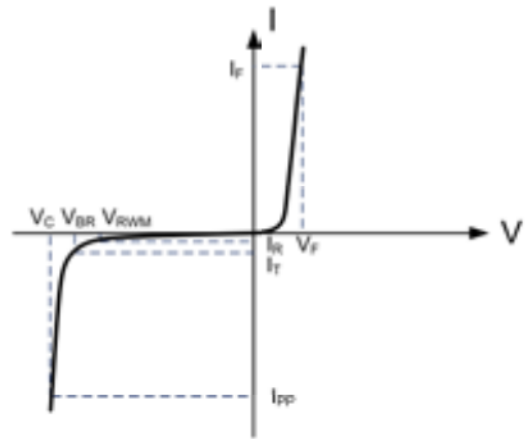
## TVS/ESD Arrays - RLSD92Q051LV Series

### Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p = 8/20\mu s$ )	PPK	40	Watts
ESD Voltage (Contact)	$V_{ESD}$	$\pm 8$	Kv
ESD Voltage (Air)	$V_{ESD}$	$\pm 15$	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 $\mu S$	Peak Pulse Current @8/20 $\mu S$	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	$\mu A$	pF
RLSD92Q051LV	5	6	9.8	4	1	1

## TVS/ESD Arrays - RLSD92Q051LV Series

### Typical Characteristics

Fig1. 8/20 $\mu$ s Pulse Waveform

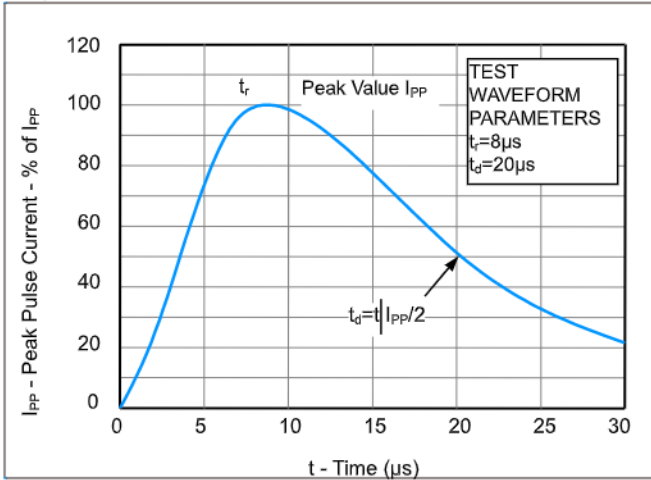


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

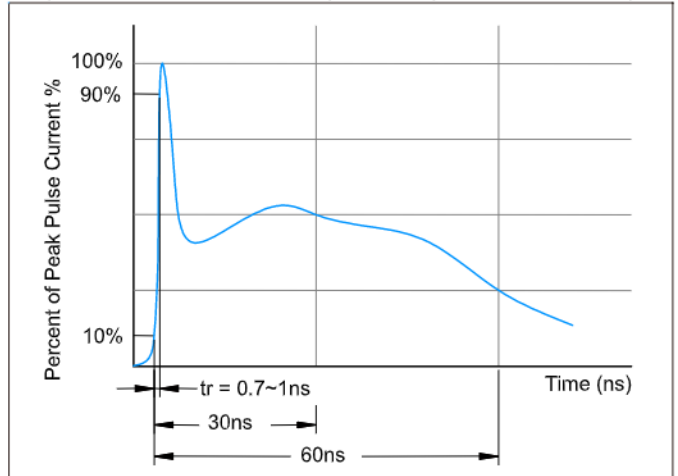


Fig3. Power Derating Curve

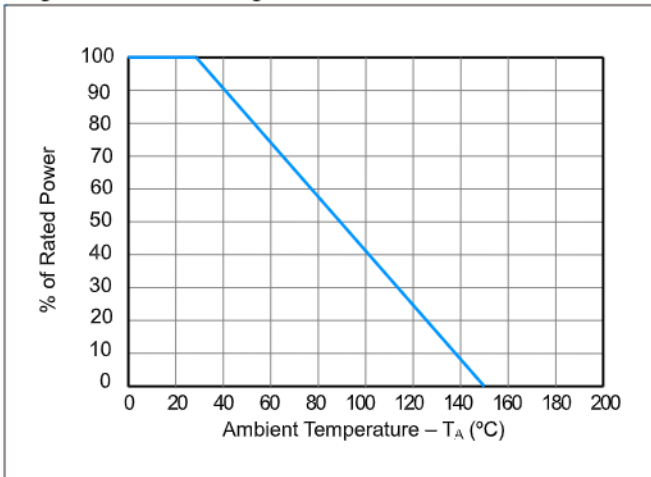
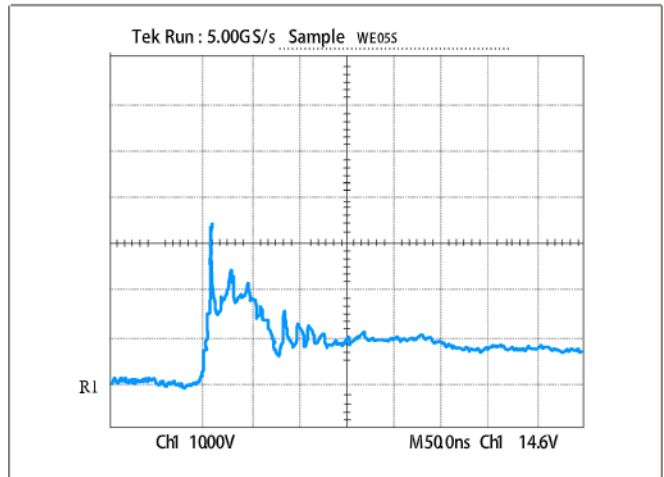
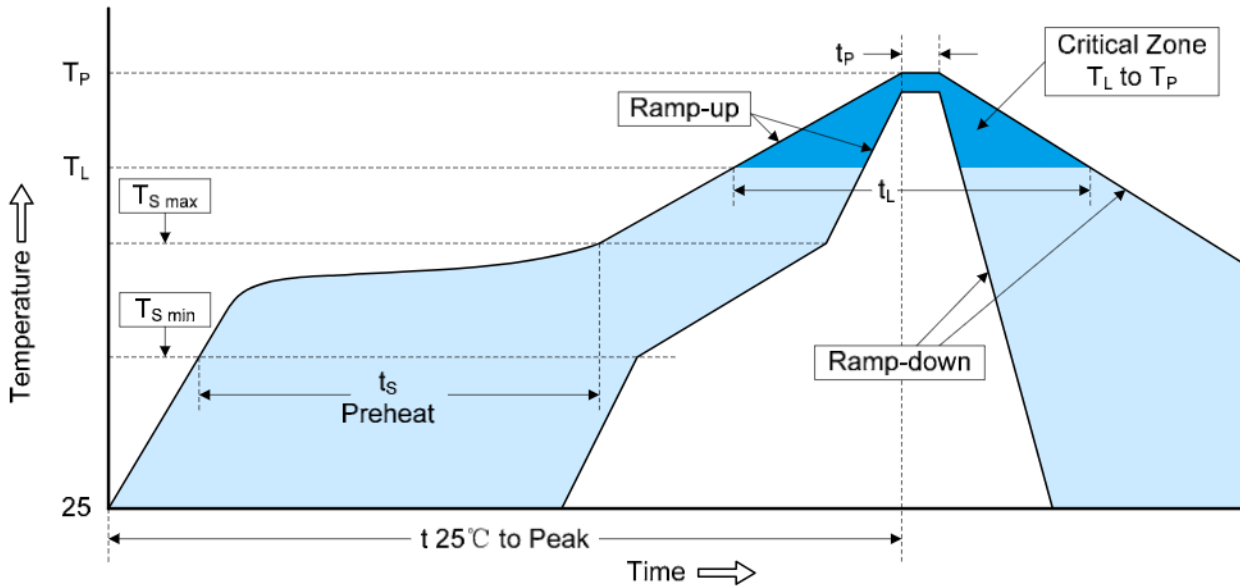


Figure 4: ESD Clamping (8kV Contact per IEC 61000-4-2)



## TVS/ESD Arrays - RLSD92Q051LV Series

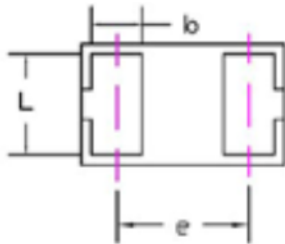
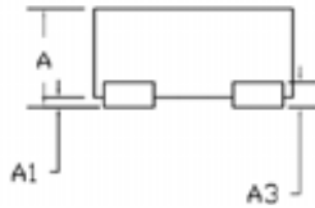
### Recommended Soldering Conditions



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



Dimensions(Millimeters)			
Symbol	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		

