

**RUILON**

瑞隆源电子



# TVS/ESD Arrays

RLSD92Q051V Series

**361°** Circuit Protection  
System

Revision:DEC-16

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

## TVS/ESD Arrays - RLSD92Q051V 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)



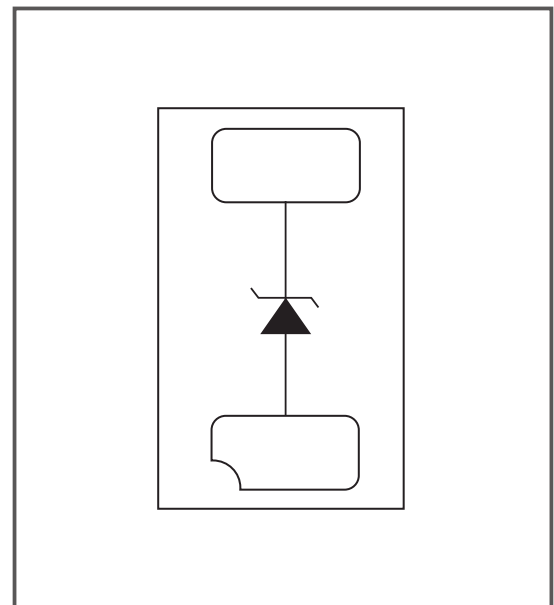
### Mechanical Characteristics

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

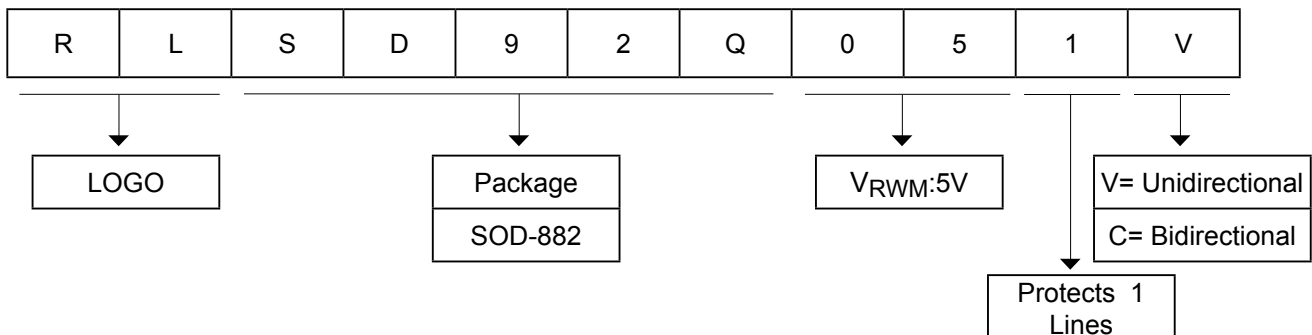
### Applications

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

### Pinout and Functional Block Diagram



### Part Number Code



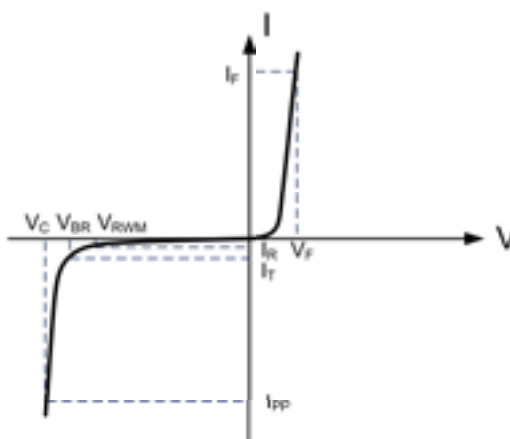
## TVS/ESD Arrays - RLSD92Q051V Series

### Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (tp =8/20μs)	P <sub>PK</sub>	40	Watts
ESD Voltage (Contact)	V <sub>ESD</sub>	±8	Kv
ESD Voltage (Air)	V <sub>ESD</sub>	±15	Kv
Lead Soldering Temperature	T <sub>L</sub>	260 (10 sec.)	°C
Operating Temperature	T <sub>J</sub>	-55 to +125	°C
Storage Temperature	T <sub>STG</sub>	-55 to +150	°C

### Electrical Parameters (T=25°C)

Symbol	Parameter
I <sub>PP</sub>	Maximum Reverse Peak Pulse Current
V <sub>C</sub>	Clamping Voltage @ I <sub>PP</sub>
V <sub>RWM</sub>	Working Peak Reverse Voltage
I <sub>R</sub>	Maximum Reverse Leakage Current @ V <sub>RWM</sub>
V <sub>BR</sub>	Breakdown Voltage @ I <sub>T</sub>
I <sub>T</sub>	Test Current
I <sub>F</sub>	Forward Current
V <sub>F</sub>	Forward Voltage @ I <sub>F</sub>



### Electrical Characteristics Per Lin (@ 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 <sub>RWM</sub>	Typical Capacitance
	V <sub>RWM</sub>	V <sub>BR</sub> @1mA	V <sub>C</sub> @1A	I <sub>PP</sub>	I <sub>R</sub> @V <sub>RWM</sub>	C <sub>J</sub> @ 1 MHz
	V	V	V	A	μA	pF
RLSD92Q051V	5	6	9.8	4	1	35

## TVS/ESD Arrays - RLSD92Q051V Series

### Typical Characteristics

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

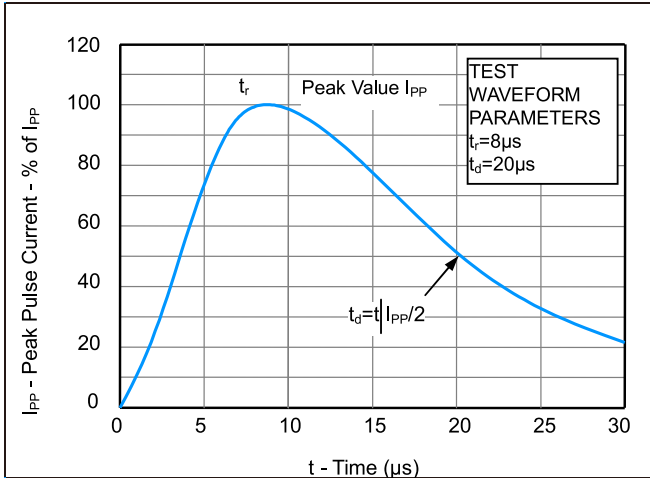


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

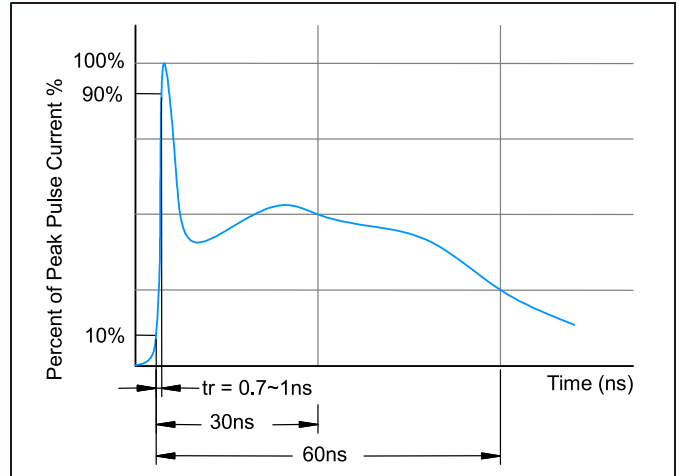


Fig3. Power Derating Curve

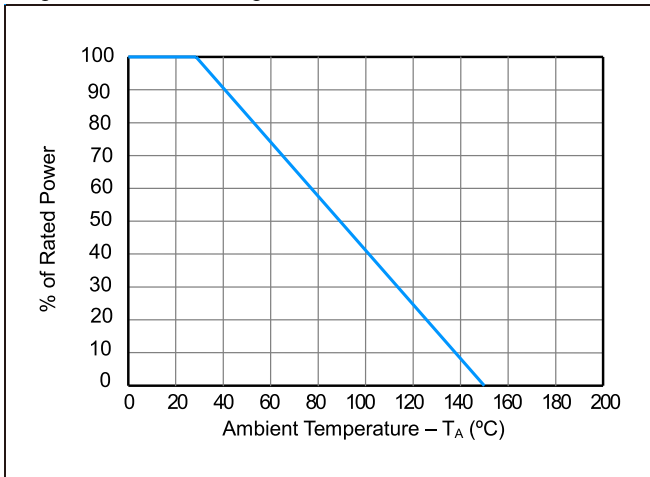
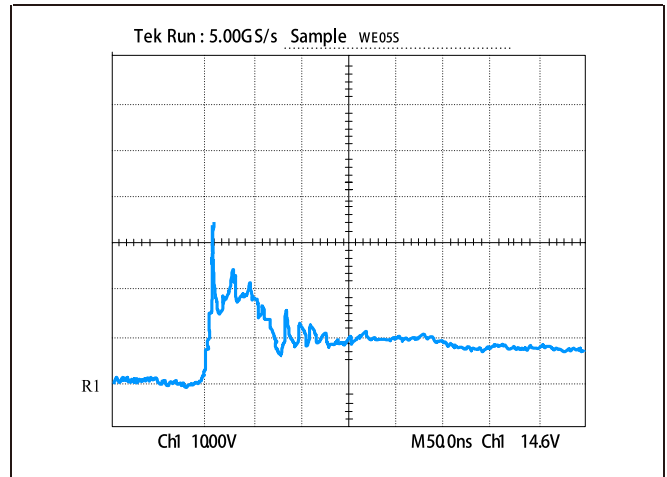
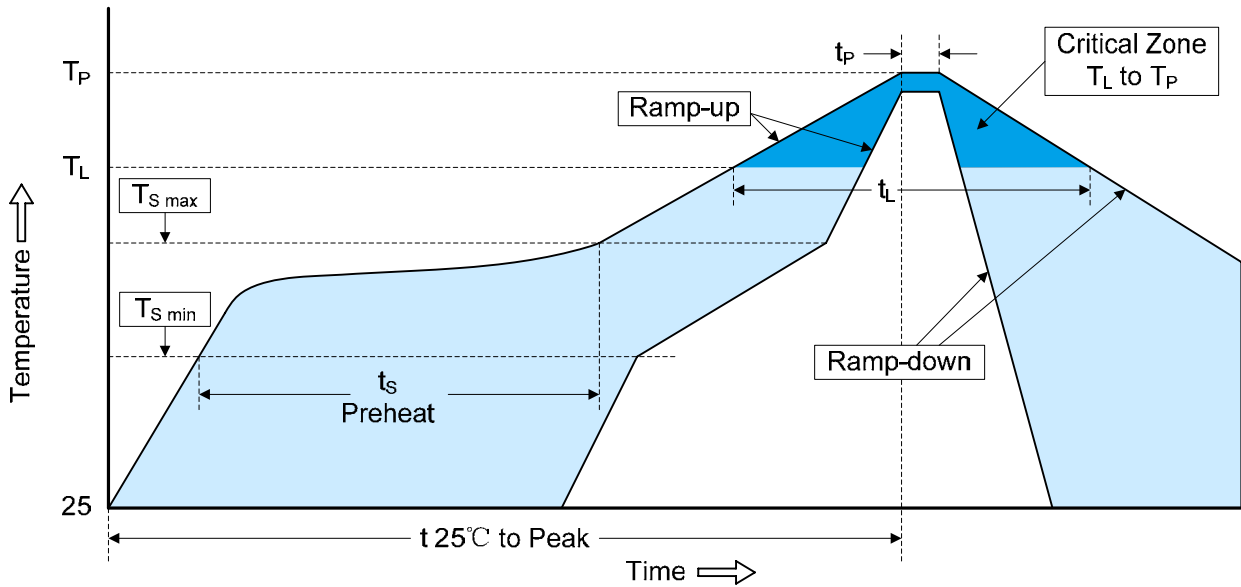


Figure 4: ESD Clamping (8kV Contact per IEC 61000-4-2)



## TVS/ESD Arrays - RLSD92Q051V Series

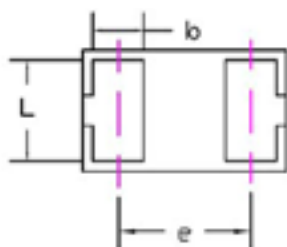
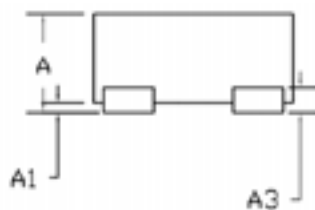
### Recommended Soldering Conditions



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 - RLSD92Q051V 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		