



TVS/ESD Arrays

RLSD92Q051LC Series

TVS/ESD Arrays - RLSD92Q051LC Series

Features

- 90 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)



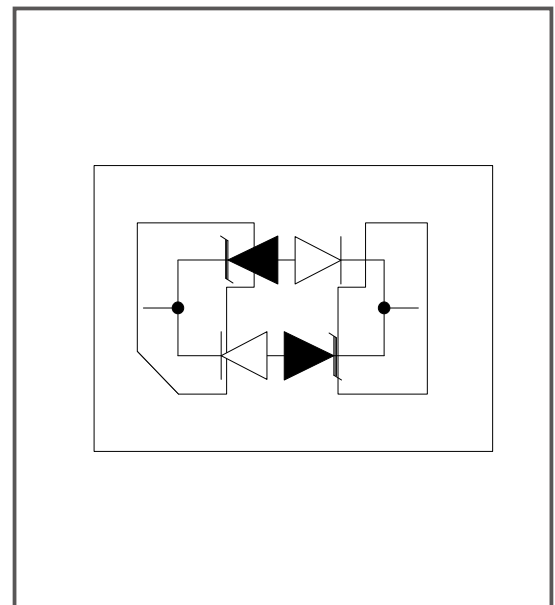
Mechanical Characteristics

- SOD-882 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel per EIA 481
- Quantity Per Reel : 10,000pcs
- Lead Finish: Matte tin
- RoHS Compliant

Applications

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

Pinout and Functional Block Diagram



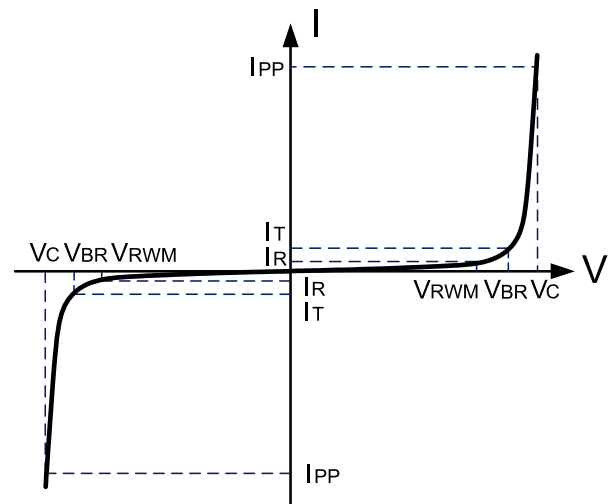
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Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (tp =8/20μs)	P _{pk}	90	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 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 _{RWM}	Typical Capacitance
	V _{RWM}	V _{BR} @1mA	V _C @1A	I _{PP}	I _R @V _{RWM}	DC=0V C _J @ 1 MHz
	V	V	V	A	μA	pF
RLSD92Q051LC	5	6	30	3	1	0.35

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Typical Characteristics

Fig1. 8/20 μ s Pulse Waveform

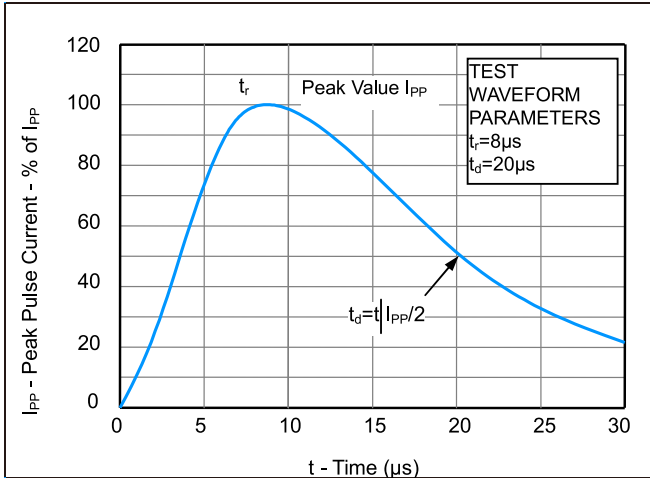


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

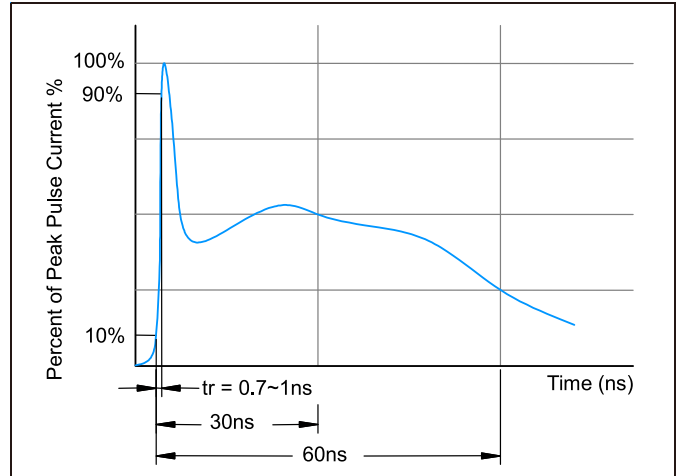


Fig3. Power Derating Curve

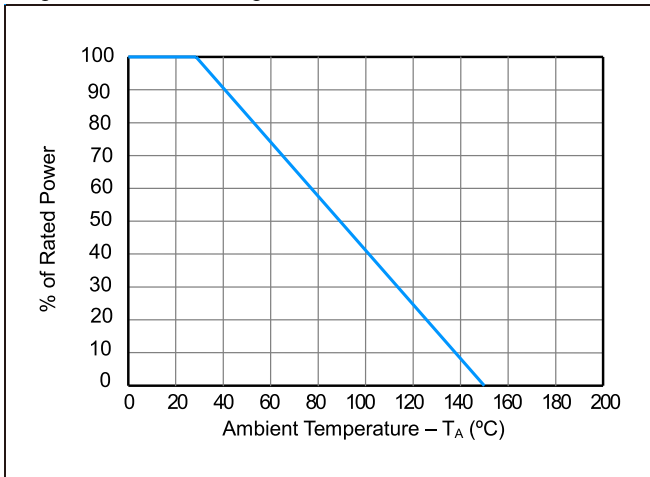
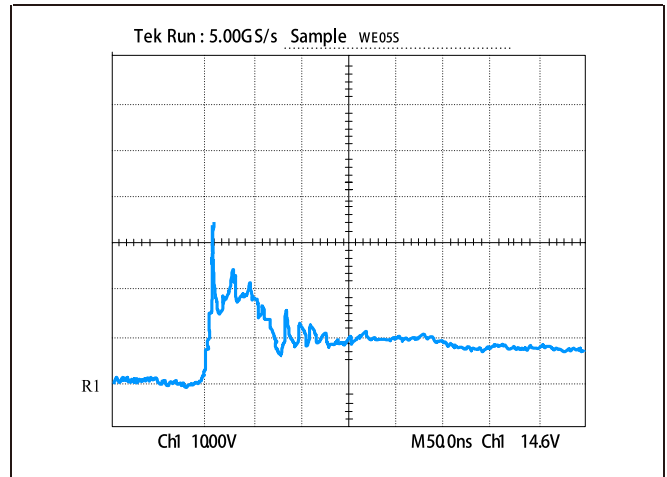
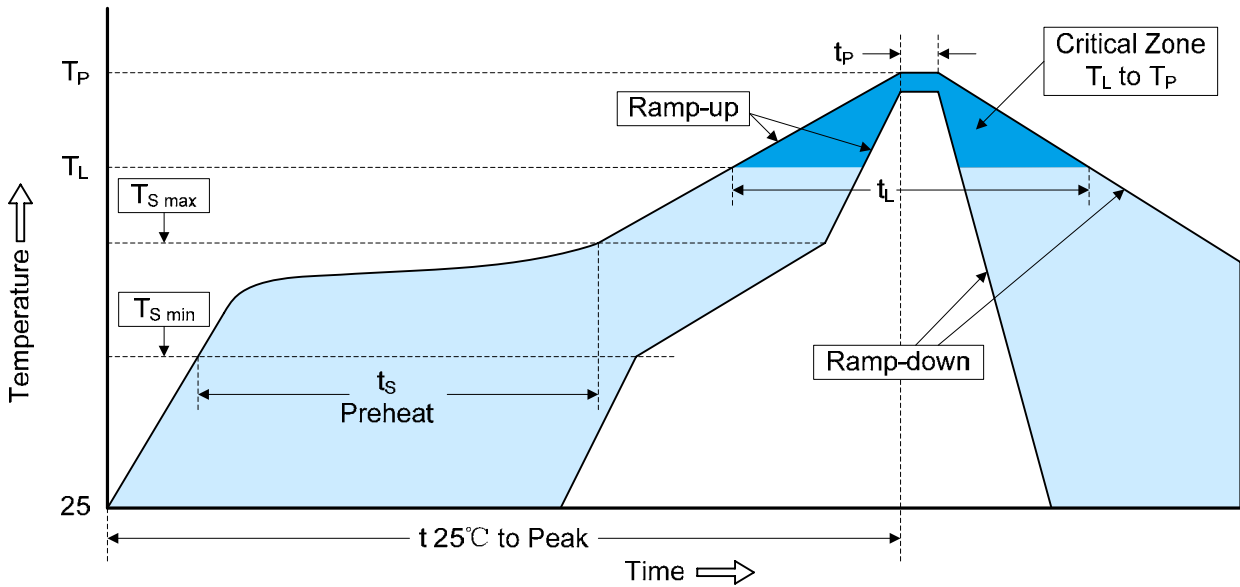


Figure 4: ESD Clamping (8kV Contact per IEC 61000-4-2)



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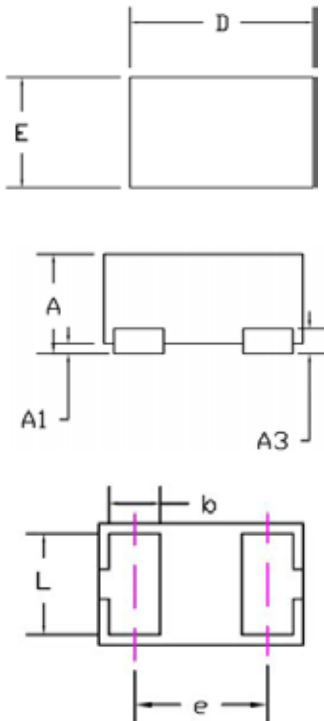
Recommended Soldering Conditions



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.

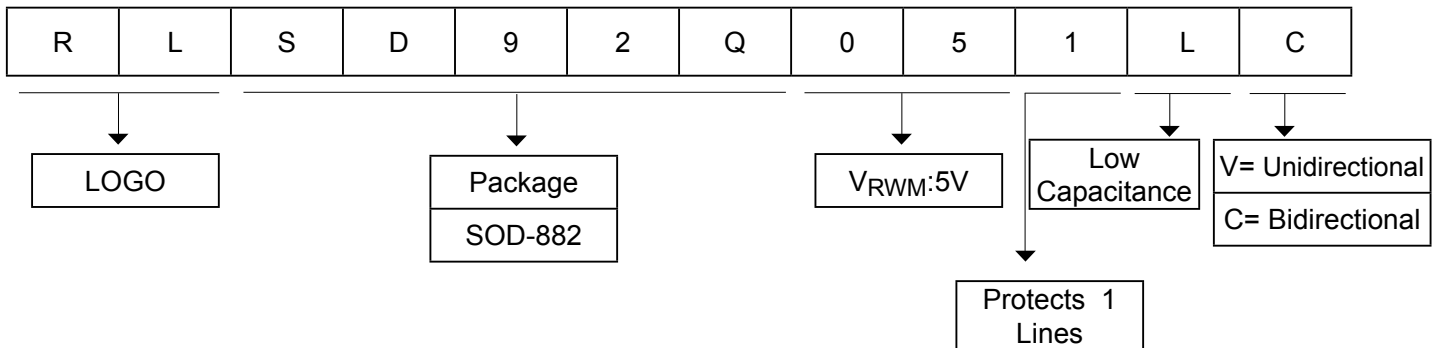
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Package dimension SOD-882



Dimensions			
PKG.	X1:Extreme thin (Millimeters)		
Ref.	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		

Part Number Code



Ordering Information

Part Number	Package	Min. Order Qty.
RLSD92Q051LC	SOD-882	10000pcs

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Tel: +86-755-8290 8296

Fax: +86-755-8290 8002

E-mail: jack@ruilon.com