



TVS/ESD Arrays

RLSD92A051LV Series

TVS/ESD Arrays - RLSD92A051LV Series

Features

- 150 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)



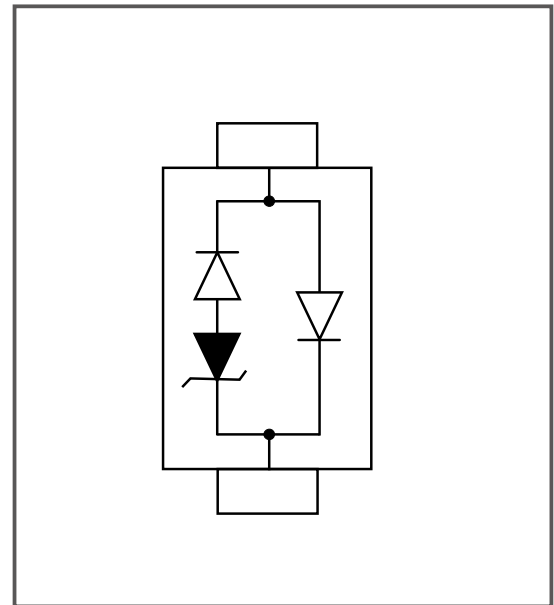
Mechanical Characteristics

- SOD-923 package
- Molding compound flammability rating: UL 94V-0
- Quantity Per Reel : 8,000pcs
- Reel Size : 7 inch
- Lead Finish : Lead Free

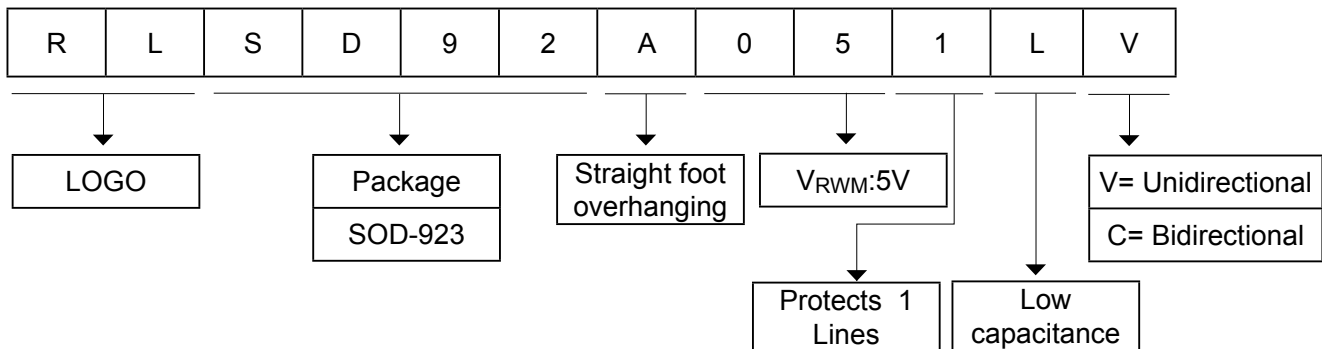
Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Pagers Peripherals

Pinout and Functional Block Diagram



Part Number Code



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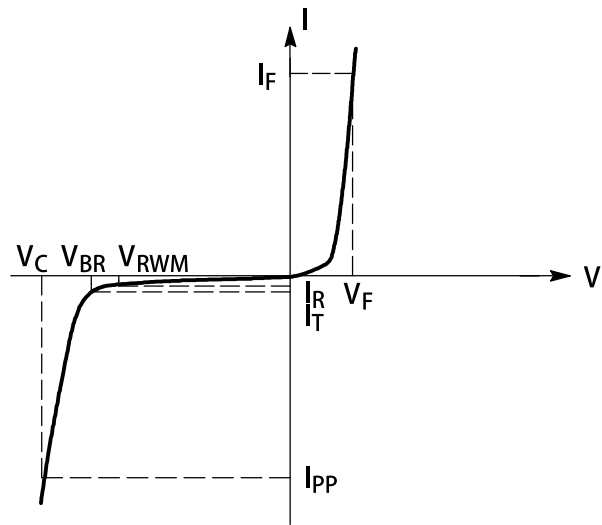
Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (tp =8/20μs)	P _{pk}	150	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
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
P _{pk}	Peak Power Dissipation
C	Capacitance @ V _R = 0 and f = 1.0 MHz

*See Application Note AND8308/D for detailed explanations of datasheet parameters.



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}}	DC=0V C _J @ 1 MHz
	V	V	V	A	μA	pF
RLSD92A051LV	5.0	6.0	9.8	1.0	1.0	0.5

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Typical Characteristics

Fig1. 8/20 μ s Pulse Waveform

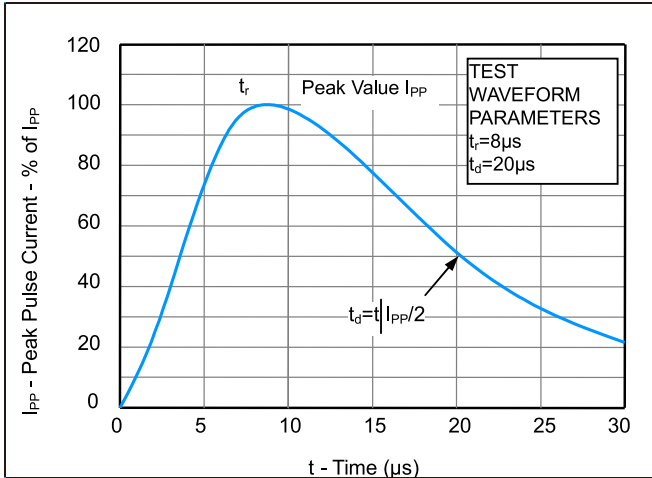


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

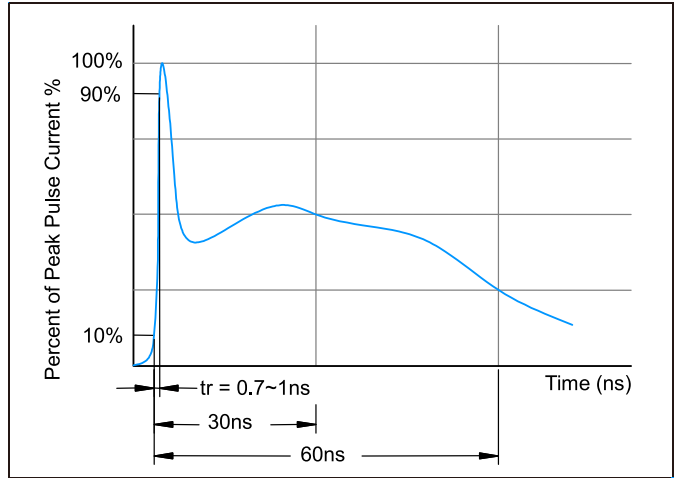


Fig3. Power Derating Curve

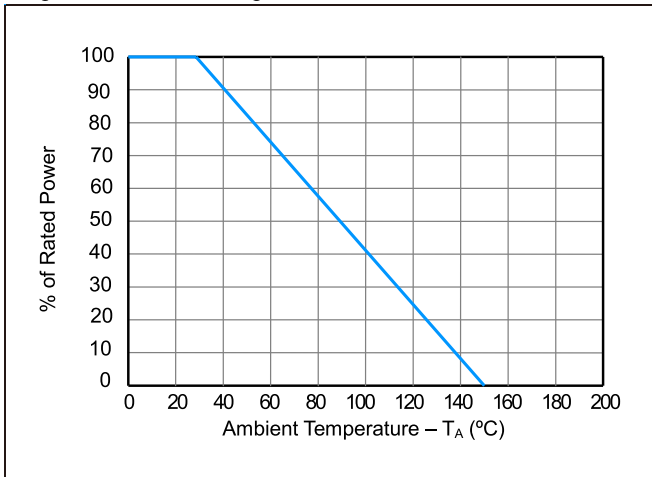
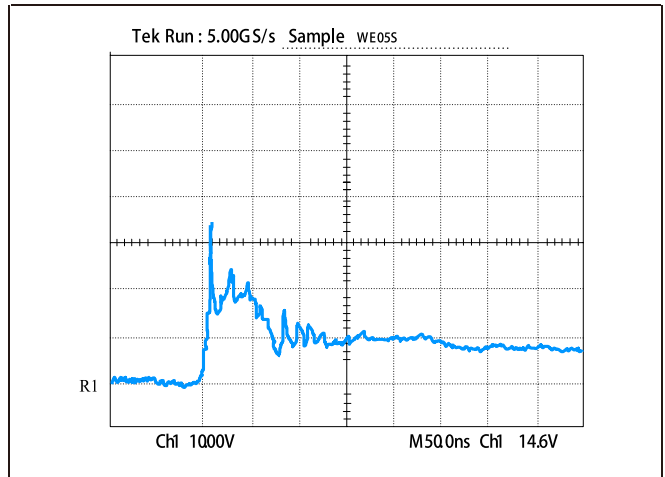
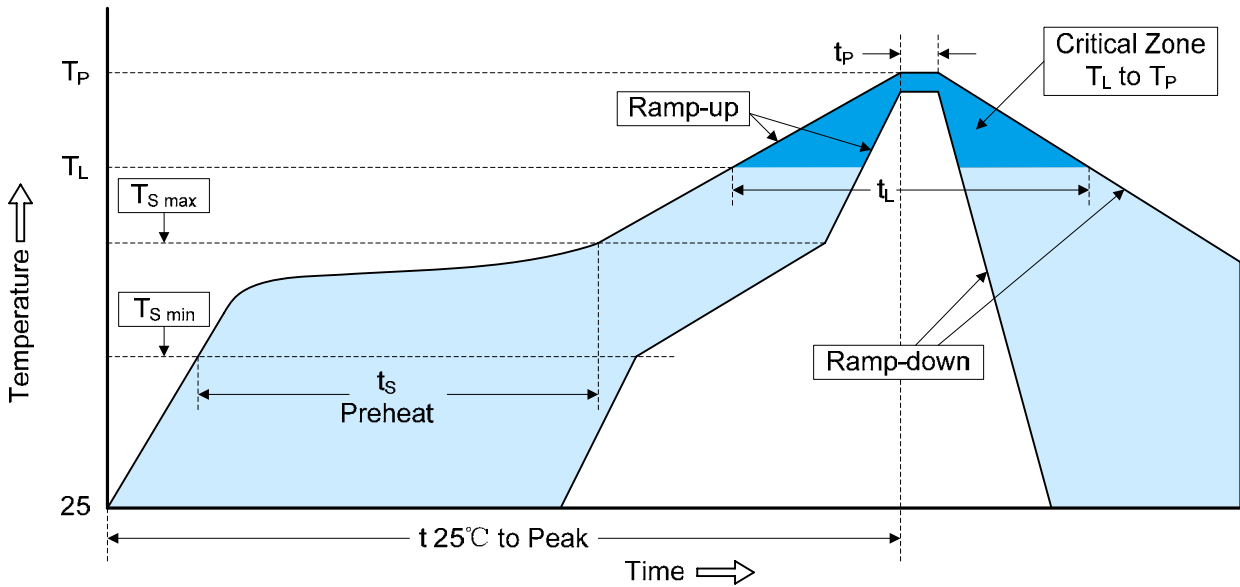


Figure 4: ESD Clamping (8kV Contact per IEC 61000-4-2)



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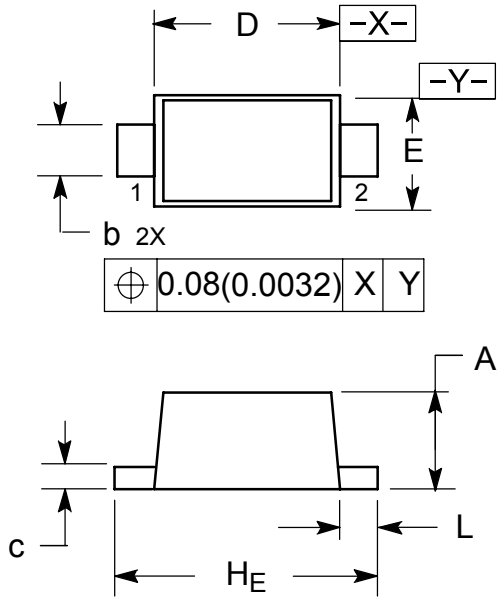
Recommended Soldering Conditions



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-923



DIM	Dimensions					
	Inches			Millimeters		
	Min	Nom	Max	Min	Nom	Max
A	0.014	0.016	0.017	0.36	0.40	0.43
b	0.006	0.008	0.010	0.15	0.20	0.25
C	0.003	0.005	0.007	0.07	0.12	0.17
D	0.030	0.031	0.038	0.75	0.80	0.85
E	0.022	0.024	0.026	0.55	0.60	0.65
H _E	0.037	0.039	0.041	0.95	1.00	1.05
L	0.002	0.004	0.006	0.05	0.10	0.15

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