



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)



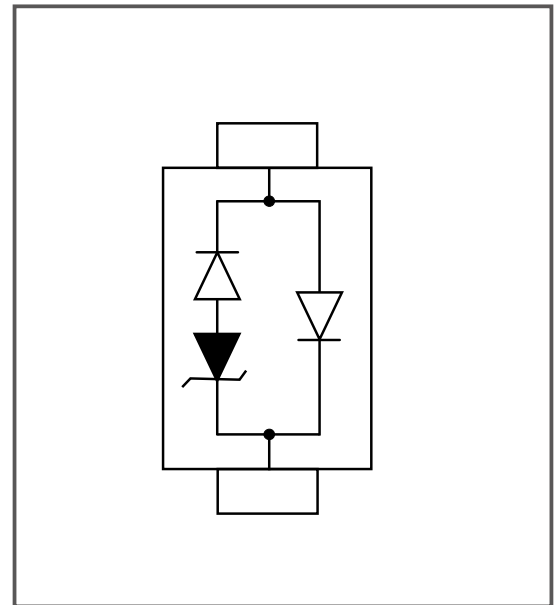
Mechanical Characteristics

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

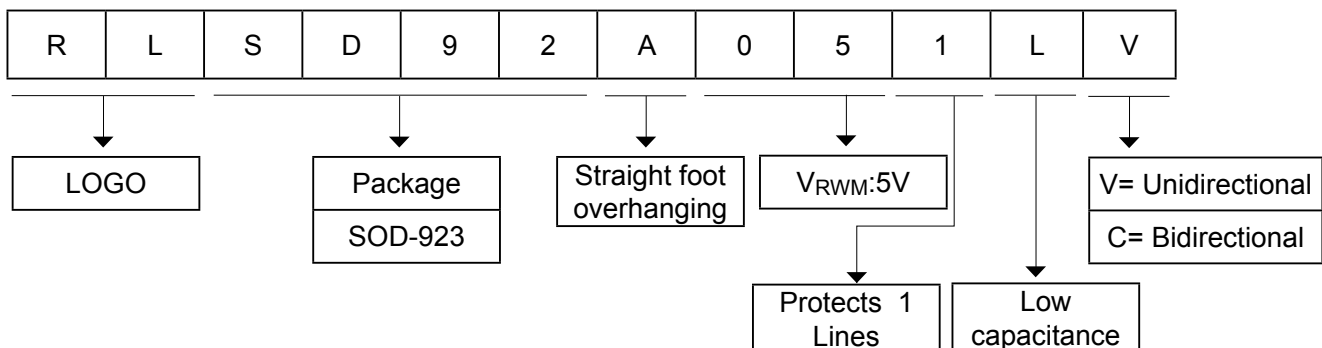
Applications

- 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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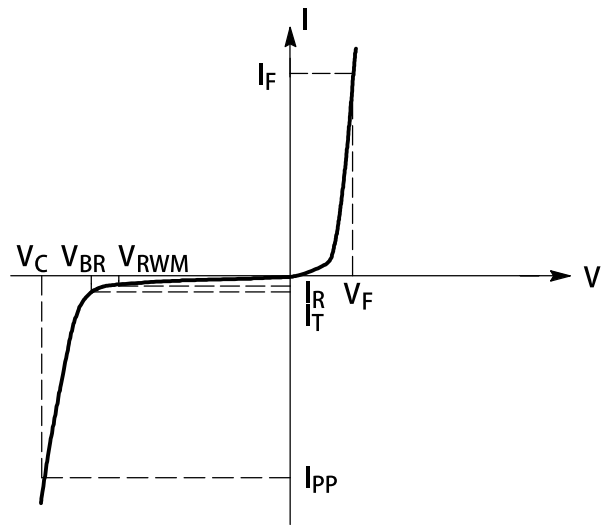
Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	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.)	$^{\circ}C$
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
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 $^{\circ}C$ 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}	$I_R@V_{RWM}$	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

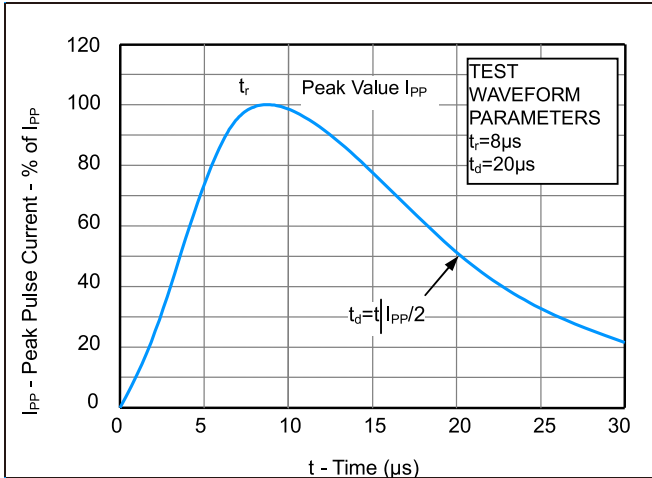


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

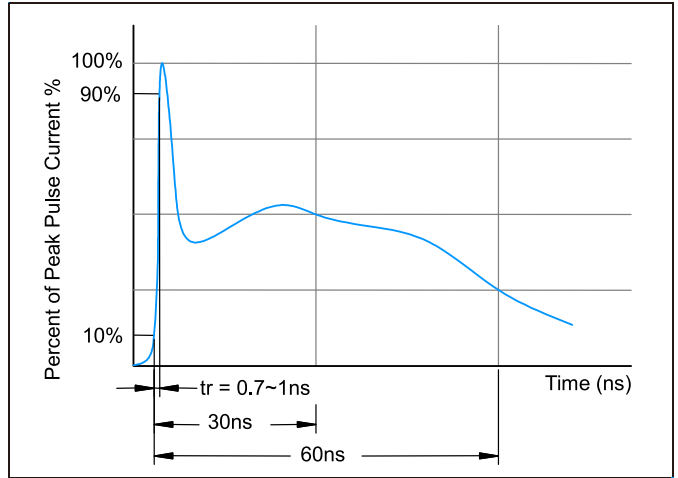


Fig3. Power Derating Curve

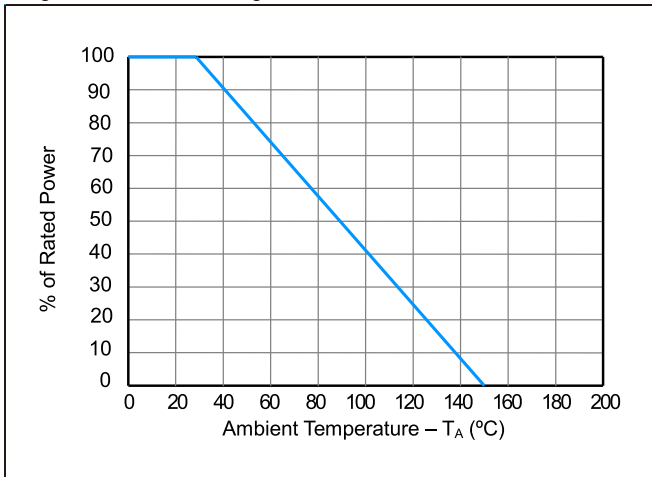
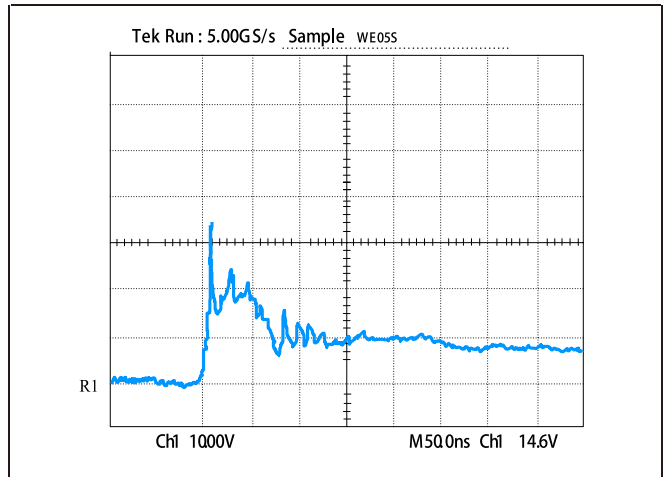
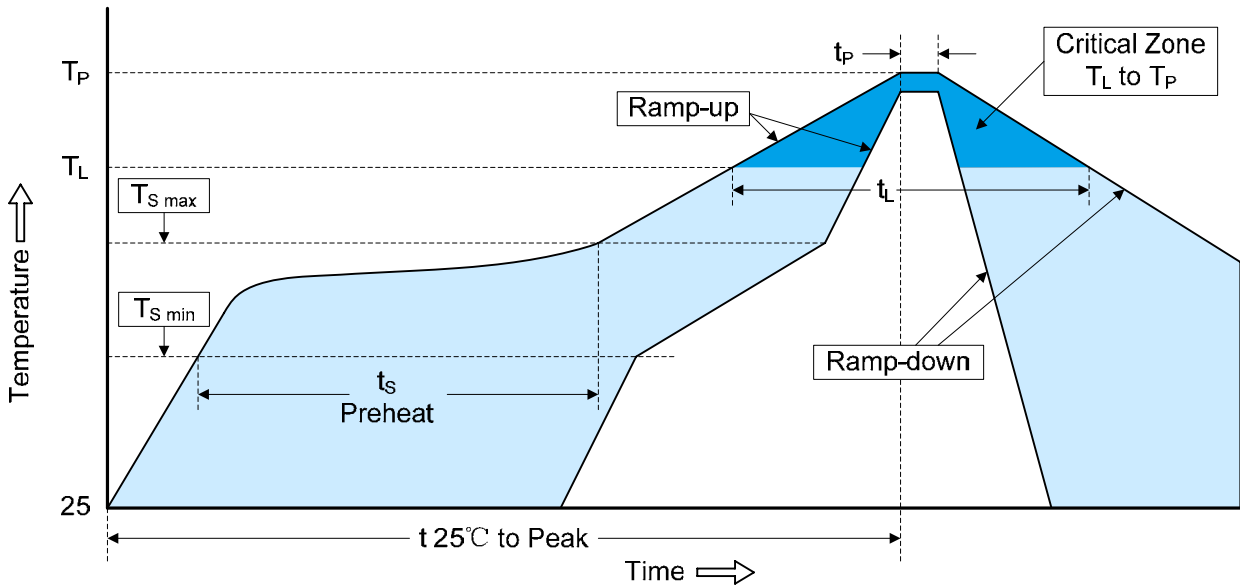


Figure 4: ESD Clamping (8kV Contact per IEC 61000-4-2)



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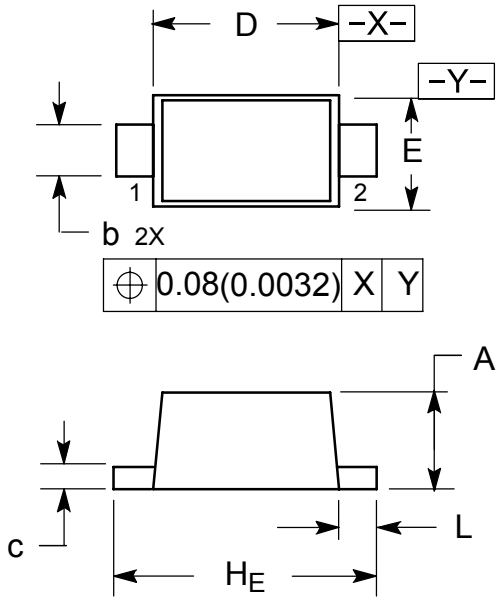
Recommended Soldering Conditions



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