

RUILON

瑞隆源电子



TVS/ESD Arrays

RLST23Axx2LV Series

361° Circuit Protection
System

Revision:DEC-16

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

TVS/ESD Arrays - RLST23Axx2LV Series

Features

- 300 Watts Peak Pulse Power per Line ($t_p = 8/20\mu s$)
- Working voltages: 3.3V、 5V、 8V、 12V、 15V、 24V
- 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)



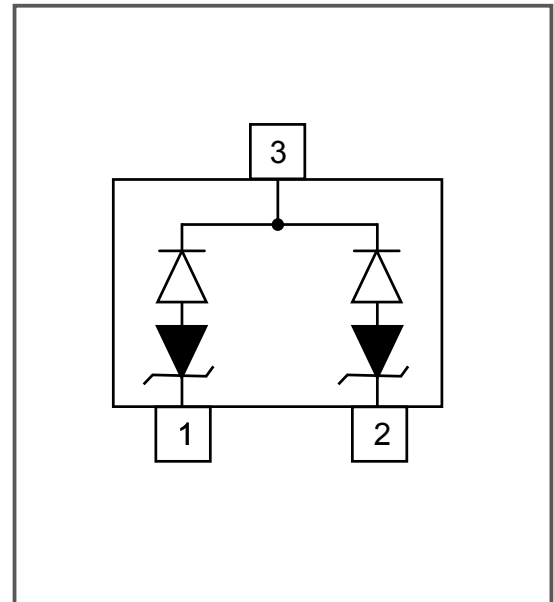
Mechanical Characteristics

- SOT-23 package
- Molding compound flammability rating: UL 94V-0
- Quantity Per Reel : 3,000pcs
- Reel Size : 7 inch
- Lead Finish : Lead Free

Applications

- High-Speed data lines
- Cellular handsets AND accessories
- Universal Serial Bus (USB) port protection
- Portable instrumentation
- LAN/WAN equipment
- Peripherals

Pinout and Functional Block Diagram



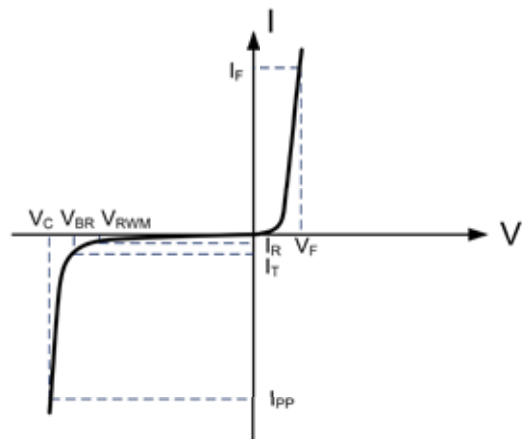
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Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (tp =8/20μs)	PPK	300	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



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
RLST23A032LV	3.3	4	7	15	40	0.6
RLST23A052LV	5	6	9.8	14	1	0.6
RLST23A082LV	8	8.5	13.4	11	1	0.6
RLST23A122LV	12	13.3	19	6	1	0.6
RLST23A152LV	15	16.7	24	5	1	0.6
RLST23A242LV	24	26.7	43	3	1	0.6

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Characteristic Curves

Fig1. 8/20 μ s Pulse Waveform

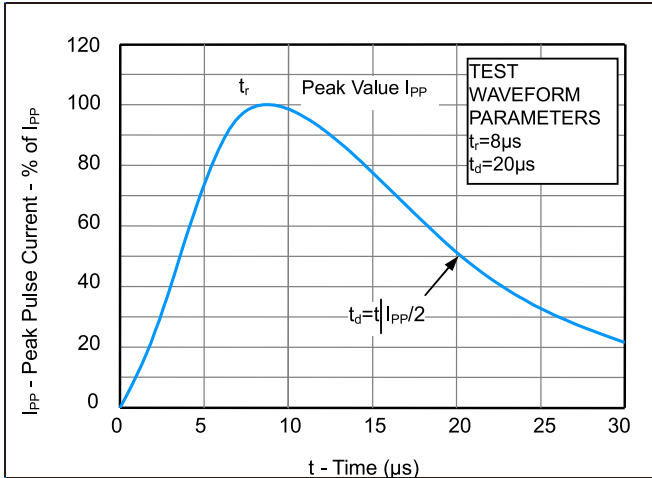


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

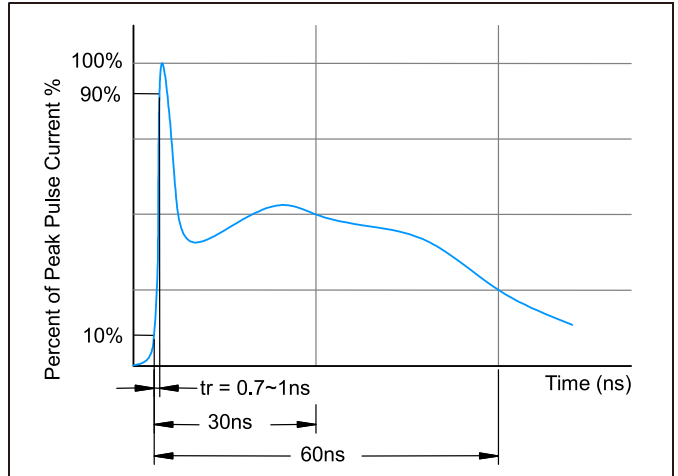


Fig3. Power Derating Curve

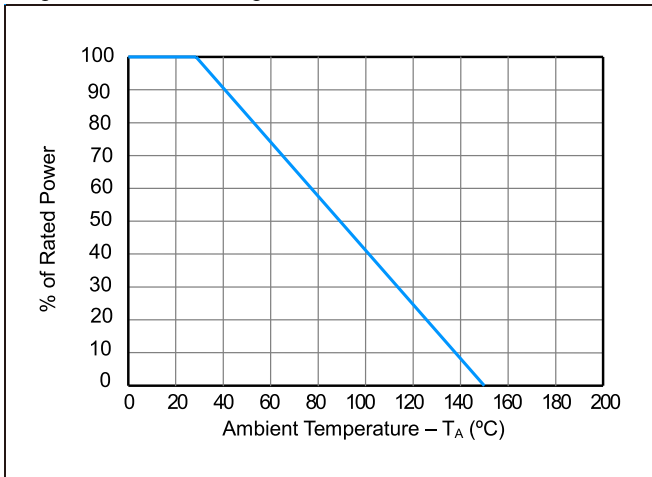
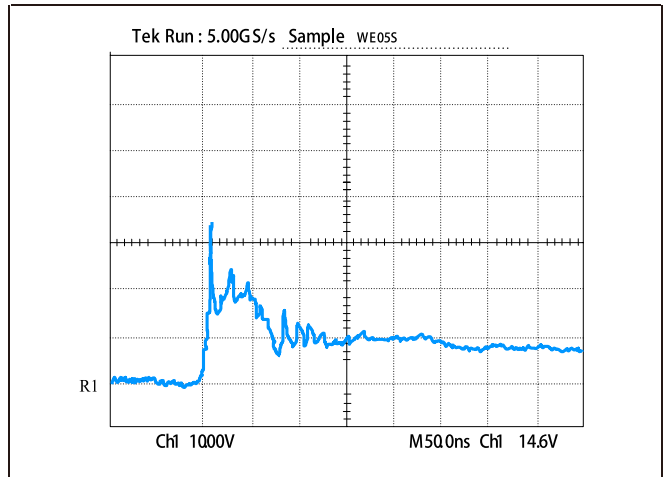
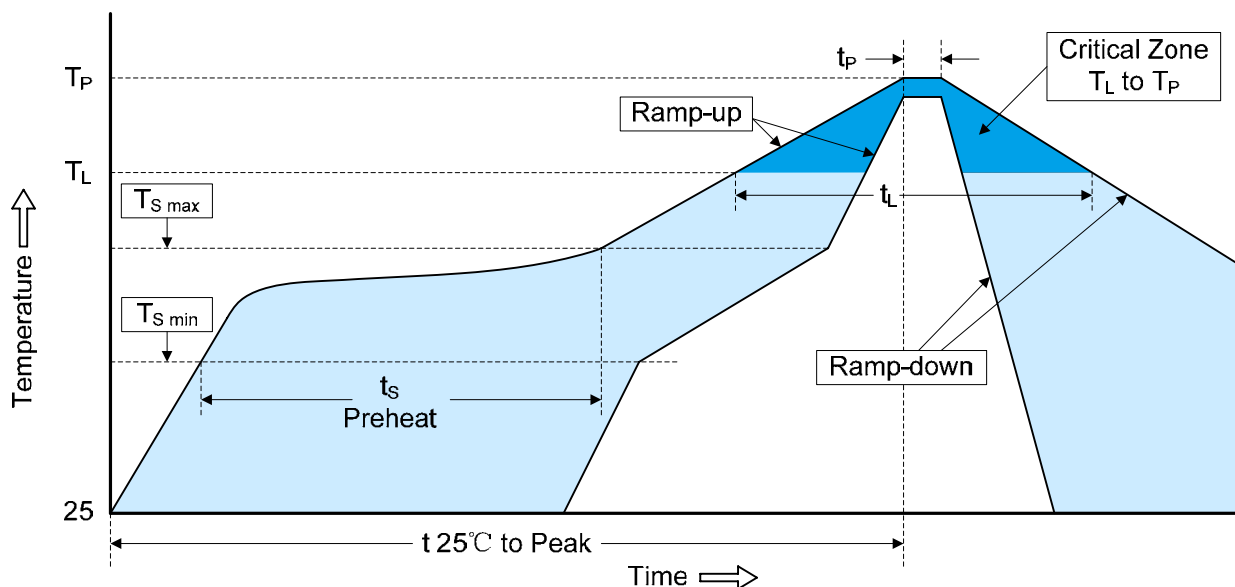


Figure 4: ESD Clamping (8kV Contact per IEC 61000-4-2)



TVS/ESD Arrays - RLST23Axx2LV Series

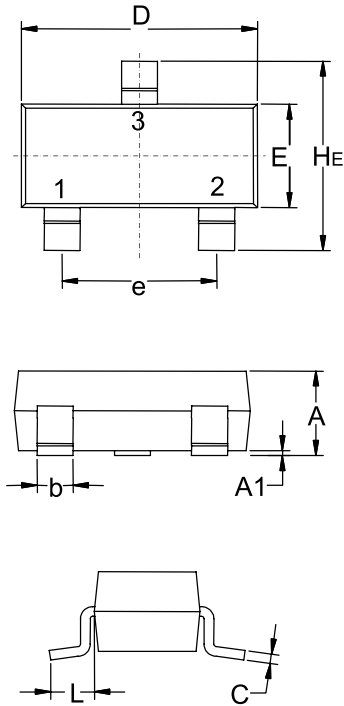
Recommended Soldering Conditions



Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3°C/second max.
Preheat	
-Temperature Min ($T_{S\ min}$)	150°C
-Temperature Max ($T_{S\ max}$)	200°C
-Time (min to max) (t_s)	60-180 seconds
$T_{S\ max}$ to T_L	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T_L)	217°C
-Time (t_L)	60-150 seconds
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 SOT-23



DIM	Dimensions					
	Inches			Millimeters		
	Min	Nom	Max	Min	Nom	Max
A	0.035	0.040	0.044	0.89	1.00	1.12
A1	0.001	0.002	0.004	0.01	0.06	0.10
b	0.015	0.018	0.020	0.37	0.44	0.50
C	0.003	0.005	0.007	0.09	0.13	0.18
D	0.110	0.114	0.120	2.80	2.90	3.04
E	0.047	0.051	0.055	1.20	1.30	1.40
e	0.070	0.075	0.081	1.78	1.90	2.04
L	0.014	0.021	0.029	0.35	0.54	0.69
HE	0.083	0.094	0.104	2.1	2.4	2.64

Part Number Code

