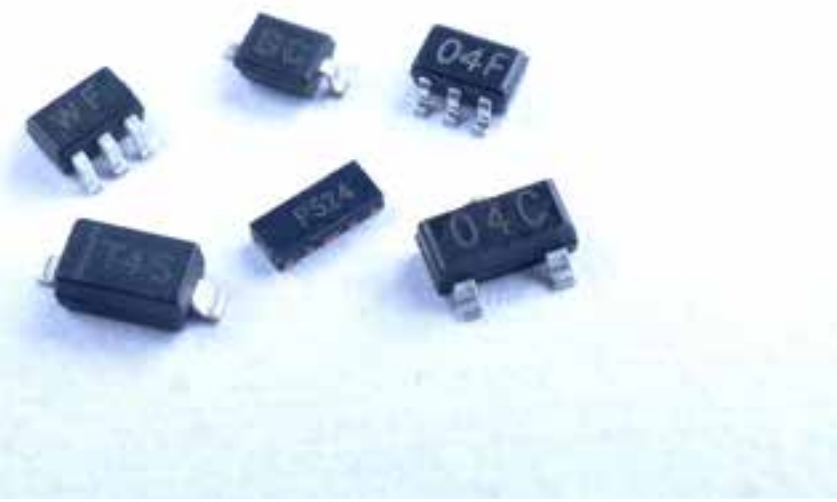
RUILON
瑞隆源电子



TVS/ESD Arrays

RLST143A053LV Series

361° Circuit Protection System

Revision:DEC-16

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

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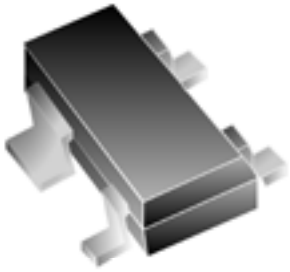
TVS/ESD Arrays - RLST143A053LV Series

Features

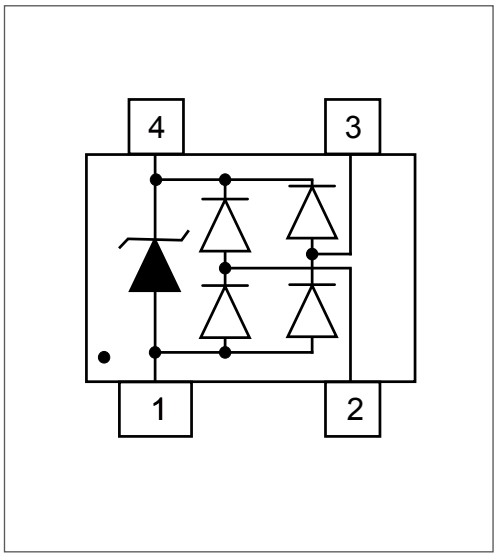


- 300 Watts Peak Pulse Power per Line (tp = 8/20μs)
- Working voltages: 5 V
- Low Leakage Current
- Low operating and clamping voltages
- Lead Free/RoHS compliant
- Solid-state silicon avalanche technology
- Provides ESD protection to IEC61000-4-2(ESD):
  ±15kV (air discharge)
  ±8kV (contact discharge)

Mechanical Characteristics

- SOT-143 package
- Molding compound flammability rating: UL 94V-0
- Quantity Per Reel : 3,000pcs
- Reel Size : 7 inch
- Lead Finish : Lead Free

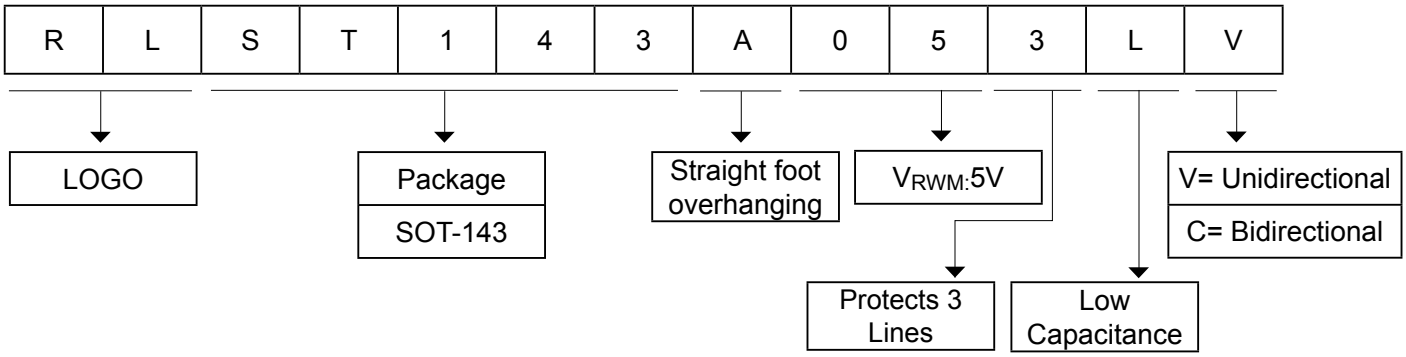
Pinout and Functional Block Diagram



Applications

- USB Power & Data Line Protection
- Ethernet 10 BaseT
- I^2C Bus Protection
- Video Line Protection
- T1/E1 secondary IC Side Protection
- Portable Electronics
- Microcontroller Input Protection
- WAN/LAN Equipment
- ISDN S/T Interface

Part Number Code



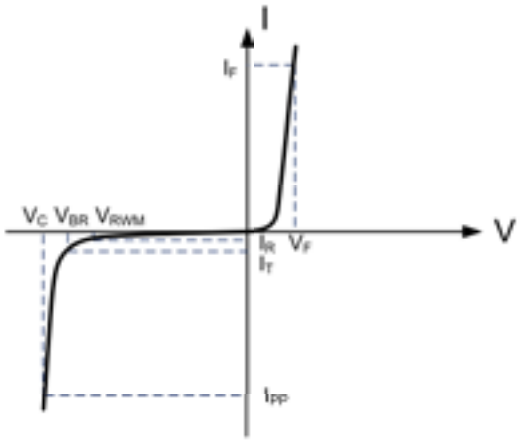
TVS/ESD Arrays - RLST143A053LV Series

Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (tp =8/20μs)	P_{PK}	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}	C_J@ 1 MHz
	V	V	V	A	μA	pF
RLST143A053LV	5	6	9.8	5	5	3

TVS/ESD Arrays - RLST143A053LV Series

Characteristic Curves

Fig1. 8/20μs Pulse Waveform

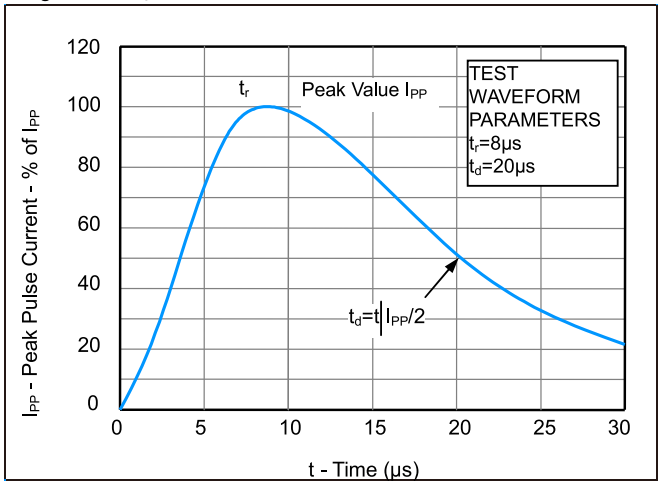


Fig2. ESD Pulse Waveform (acco rding to IEC 61000-4-2)

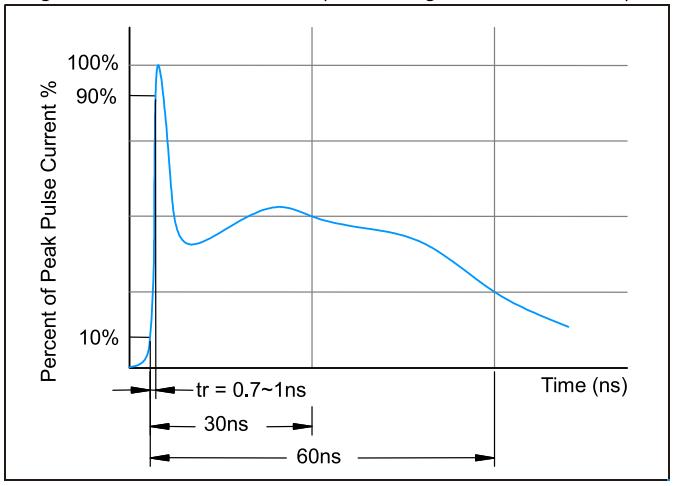


Fig3. Power Derating Curve

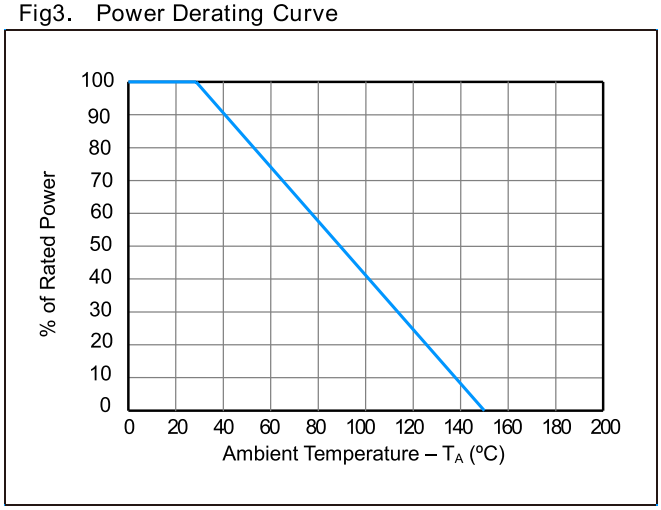
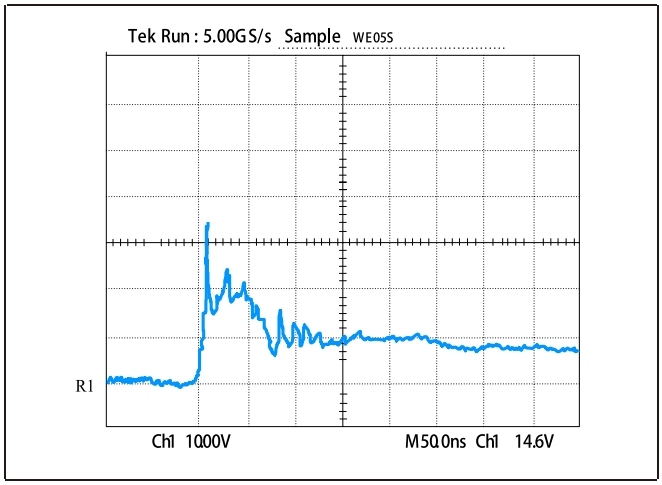
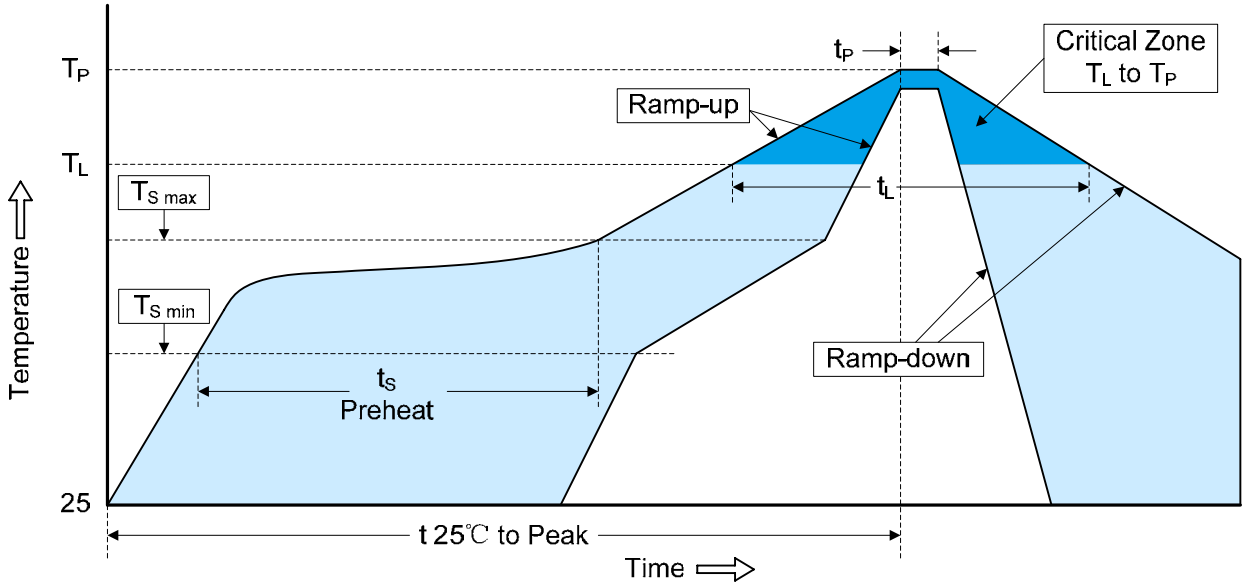


Figure 4: ESD Clamping(8kV Contact per IEC 61000-4-2)



TVS/ESD Arrays - RLST143A053LV Series

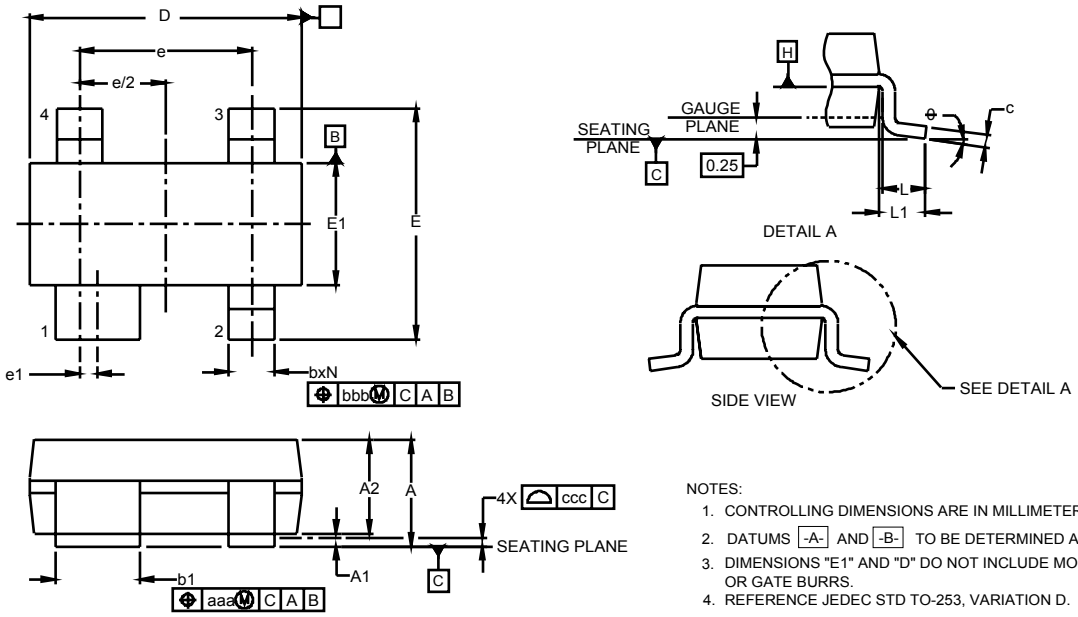
Recommended Soldering Conditions



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

TVS/ESD Arrays - RLST143A053LV Series

Package dimension SOT-143



NOTES:

1. CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).
2. DATUMS -A- AND -B- TO BE DETERMINED AT DATUM PLANE -H-
3. DIMENSIONS "E1" AND "D" DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
4. REFERENCE JEDEC STD TO-253, VARIATION D.

Dimensions						
DIM	Inches			Millimeters		
	Min	Nom	Max	Min	Nom	Max
A	0.031	-	0.048	0.80	-	1.22
A1	0.000	-	0.006	0.013	-	0.15
A2	0.029	0.035	0.042	0.75	0.90	1.07
b	0.011	-	0.020	0.30	-	0.51
b1	0.029	-	0.037	0.76	-	0.94
c	0.003	-	0.008	0.08	-	0.20
D	0.110	0.114	0.120	2.80	2.90	3.04
E	0.082	0.093	0.104	2.10	2.37	2.64
E1	0.047	0.051	0.055	1.20	1.30	1.40
e		0.075			1.92 BSC	
Ve1		0.008			0.20 BSC	
L	0.015	0.020	0.024	0.40	0.50	0.60
L1		(0.021)			(0.54)	
N		4			4	
θ	0°	-	8°	0°	-	8°
aaa		0.006			0.15	
bbb		0.008			0.20	
ccc		0.004			0.10	