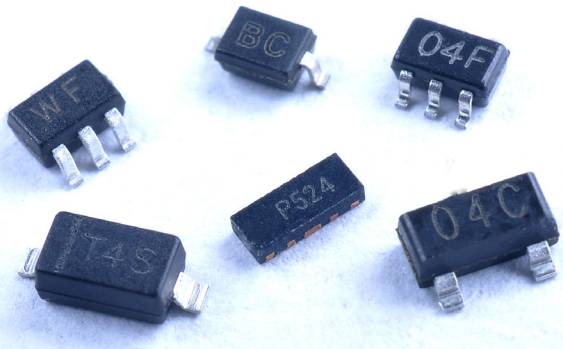
RUILON
ELECTRONICS



TVS/ESD Arrays

RLST143A053LV Series

361° Circuit Protection System

Specifications are subject to change without notice.

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

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TVS/ESD Arrays - RLST143A053LV Series

Features

- 500 Watts peak pulse power (tp = 8/20μs)
- Transient protection for high speed data lines to
  IEC 61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
  IEC 61000-4-4 (EFT) 40A (5/50ns)
  IEC 61000-4-5 (Lightning) 24A (8/20μs)
- One device protects one unidirectional line
- Two devices protect two high-speed line pairs
- Low capacitance
- Low leakage current
- Low operating and clamping voltages
- Solid-state EPD TVS process technology

Mechanical Characteristics

- SOT-143 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel per EIA 481
- Lead Finish: Matte tin
- RoHS Compliant

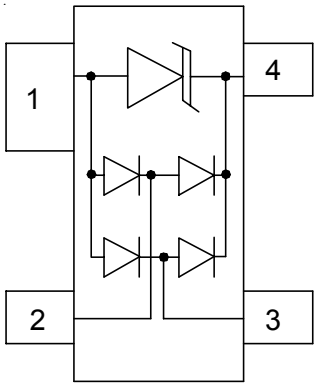
Applications

- USB Power & Data Line Protection
- Ethernet 10BaseT
- 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

Life Support Note

- Not Intended for Use in Life Support or Life Saving Applications
- The products shown herein are not designed for use in life sustaining or life saving applications unless otherwise expressly indicated

Pinout and Functional Block Diagram



SOT-143 (Top View)

TVS/ESD Arrays - RLST143A053LV Series

Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (t_p =8/20μs)	P_{PK}	500	Watts
Peak Pulse Current (t_p = 8/20μs)	I_{PP}	25	A
Peak Forward Voltage (I_F =1A, t_p=8/20μs)	V_{FP}	1.5	V
Lead Soldering Temperature	T_K	260 (10 sec.)	°C
Operating Temperature	T_J	-55 to +125	°C
Storage Temperature	T_{STG}	-55 to +150	°C

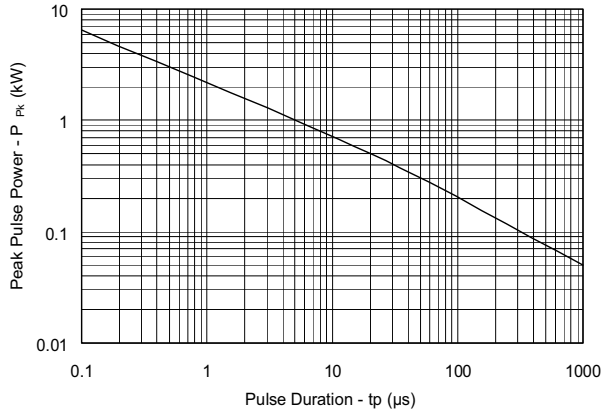
Electrlcal Characterlstlcs Per Lin (@ 25°C Unless Otherwise Specified)

Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}	-	-	-	5	V
Reverse Breakdown Voltage	V_{BR}	I_t=1mA	6	-	-	V
Reverse Leakage Current	I_R	V_{RWM}=5V ,T=25°C	-	-	5	μA
Clamping Voltage	V_C	I_{PP}=1A,t_p= 8/20μs	-	-	9.8	V
Clamping Voltage	V_C	I_{PP}=10A,t_p= 8/20μs	-	-	12	V
Clamping Voltage	V_C	Ipp=25A,t_p= 8/20μs	-	-	20	V
Junction Capacitance	C_j	Between I/O pins and Ground VR = 0V, f = 1MHz	-	6	10	pF
Junction Capacitance	C_j	Between I/O pins VR = 0V, f = 1MHz	-	3	-	pF

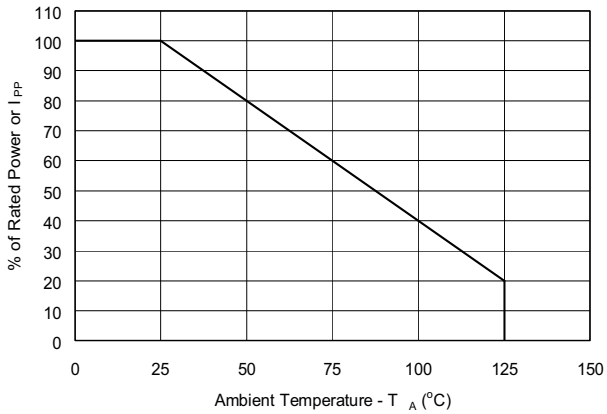
TVS/ESD Arrays - RLST143A053LV Series

Typical Characteristics

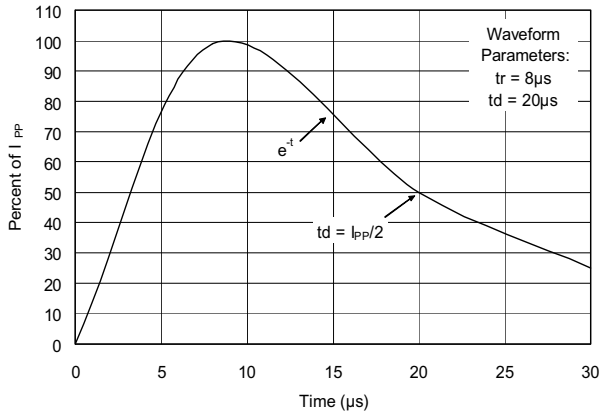
Non-Repetitive Peak Pulse Power vs. Pulse Time



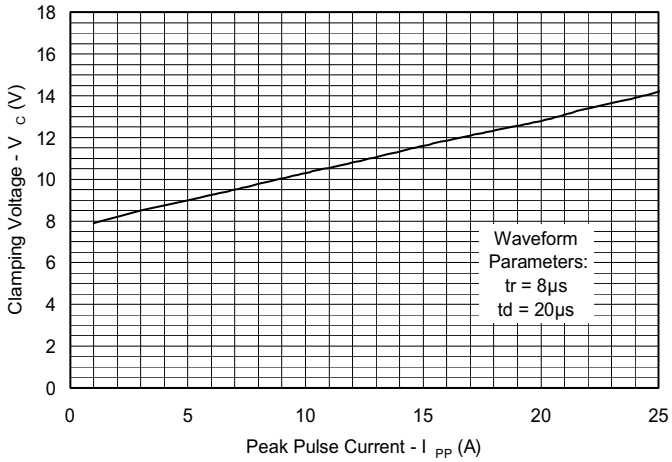
Power Derating Curve



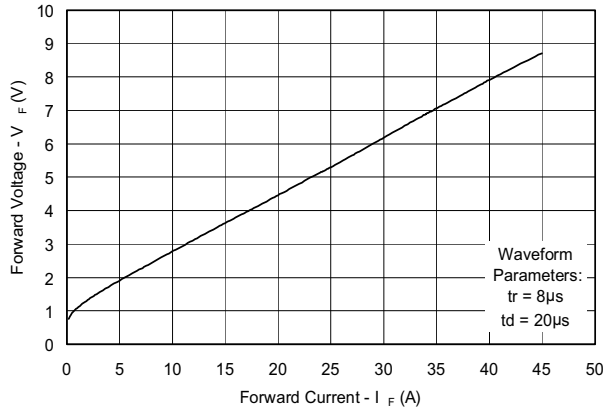
Pulse Waveform



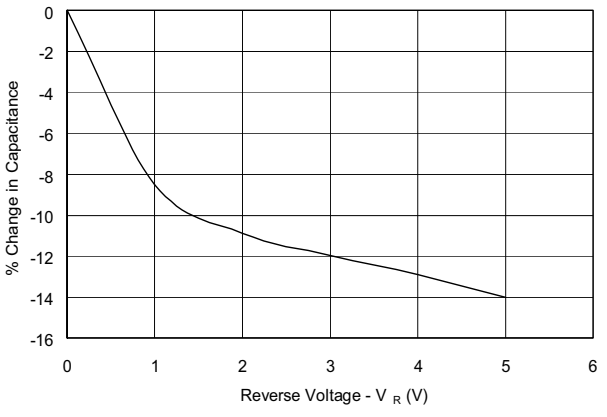
Clamping Voltage vs. Peak Pulse Current



Forward Voltage vs. Forward Current

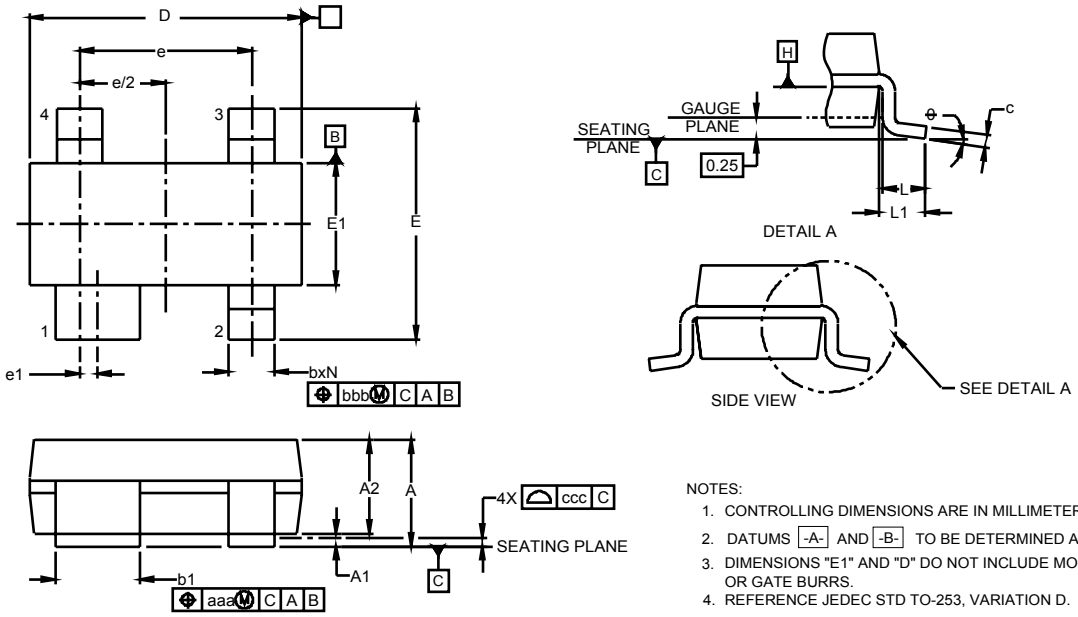


Capacitance vs. Reverse Voltage



TVS/ESD Arrays - RLST143A053LV Series

Package dimension SOT-143



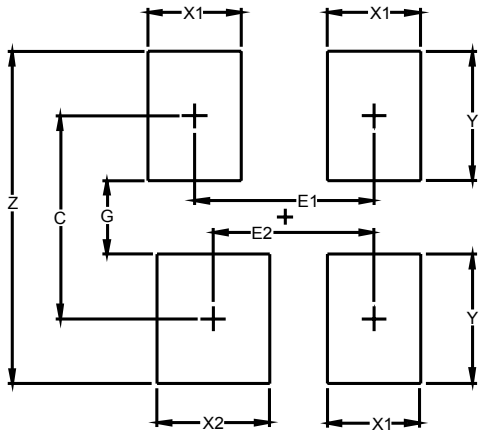
NOTES:

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
A	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	

TVS/ESD Arrays - RLST143A053LV Series

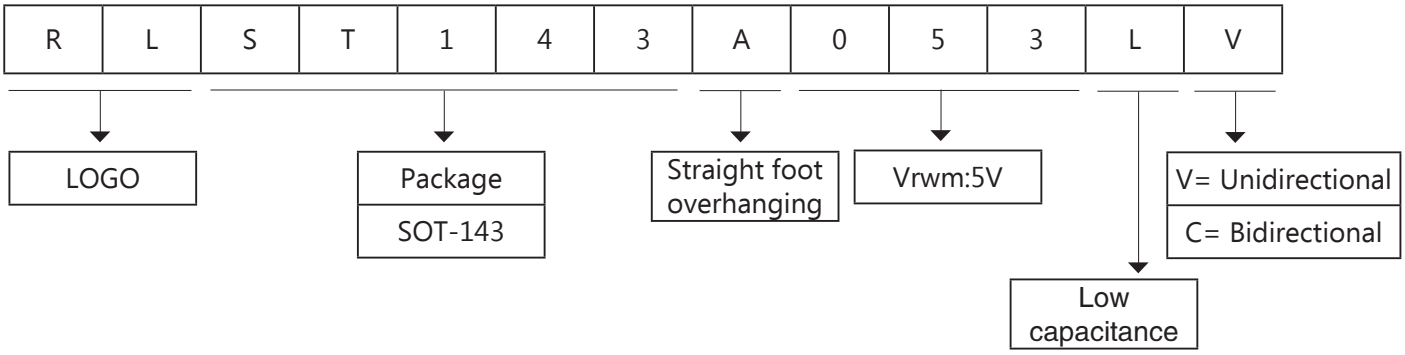
Soldering footprint



DIMENSIONS		
DIM	INCHES	MILLIMETERS
C	(0.087)	(2.20)
E1	0.076	1.92
E2	0.068	1.72
G	0.031	0.80
X1	0.039	1.00
X2	0.047	1.20
Y	0.055	1.40

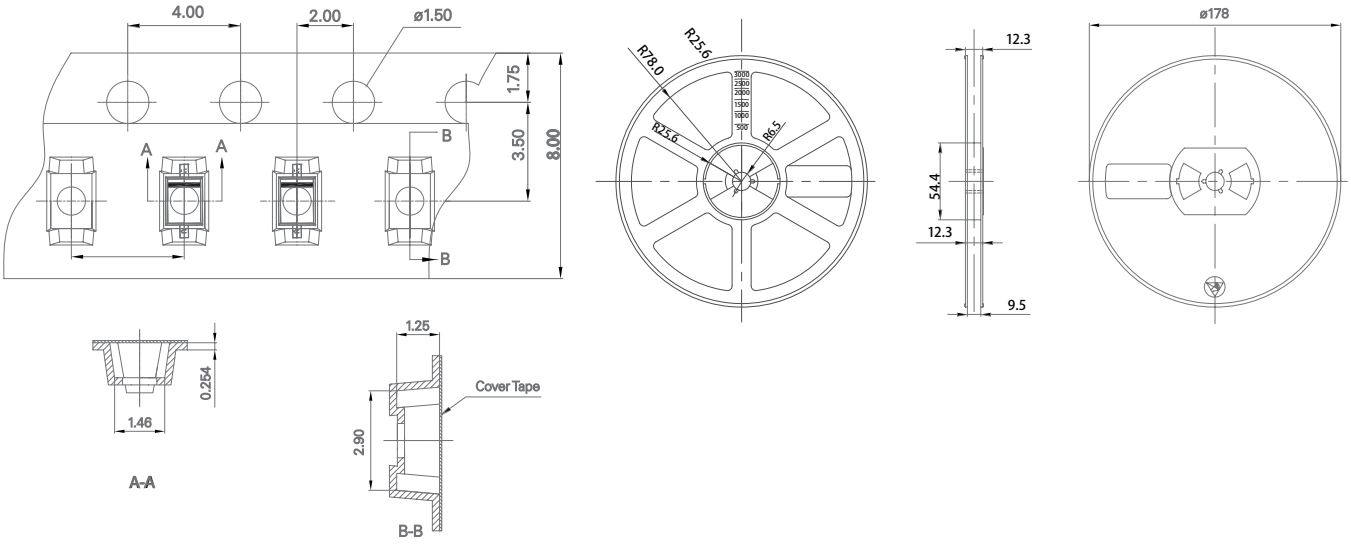
NOTES:
1. THIS LAND PATTERN IS FOR REFERENCE PURPOSES ONLY CONSULT YOUR MANUFACTURING GROUP TO ENSURE YOUR COMPANY'S MANUFACTURING GUIDELINES ARE MET.
2. REFERENCE IPC-SM-782A.

Part Number Code



TVS/ESD Arrays - RLST143A053LV Series

Ordering Information



Ordering Information

Part Number	Package	Min. Order Qty.
RLST143A053LV	SOT-143	3000pcs

Warehouse Storage Conditions of Products

Storage Conditions:

1. Storage Temperature: -10°C~+40°C
2. Relative Humidity:≤75%RH
3. Keep away from corrosive atmosphere and sunlight.
4. Period of Storage: 1 year

RuiLongYuan Electronics Co., Ltd.

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