

TVS/ESD Arrays

RLST23A051~241LV Series

TVS/ESD Arrays - RLST23A051-241LV Series

Features

- 400 Watts peak pulse power ($t_p = 8/20\mu s$)
- Transient protection for high speed data lines to IEC 61000-4-2 (ESD) $\pm 15kV$ (air), $\pm 8kV$ (contact)
IEC 61000-4-4 (EFT) 40A (5/50ns)
IEC 61000-4-5 (Lightning) 24A (8/20 μs)
- 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-23 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel per EIA 481
- Lead Finish: Matte tin
- RoHS Compliant

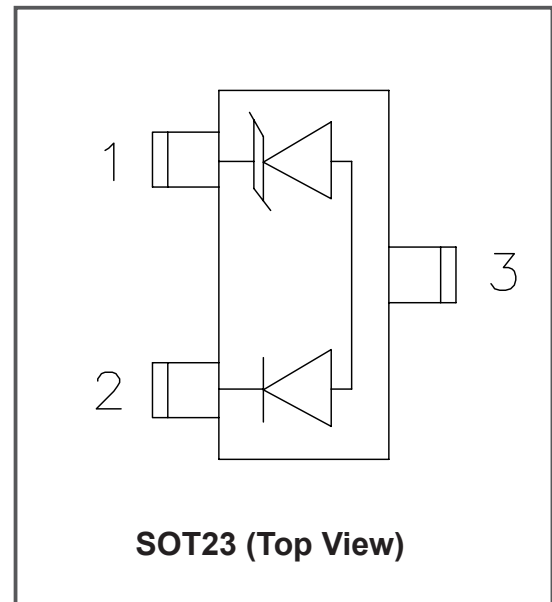
Applications

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

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



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Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (tp =8/20μs)	Ppk	400	Watts
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

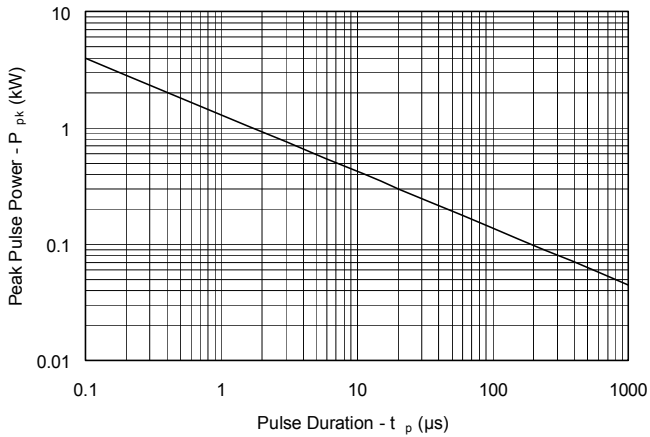
Electrical Characteristics Per Lin (@ 25°C Unless Otherwise Specified)

Type Number	Peak Power Dissipation @8/20μS Pppm	Reverse Stand-Off Voltage	Peak Pulse Voltage @8/20μS Pppm	Peak Pulse Current @8/20μS Pppm	Reverse Leakage @Vrwm	Maximum Capacitance @1MHZ
		Vrwm	Vc@IPP	IPP	IR@Vrwm	Co
		Max			Max	Max
	W	V	V	A	μA	BI(pF)
RLST23A051LV	400	5	9.8/11	1/5	5	1.2
RLST23A121LV	400	12	19/24	1/5	1	1.2
RLST23A151LV	400	15	24/30	1/5	1	1.2
RLST23A241LV	400	24	43/55	1/5	1	1.2

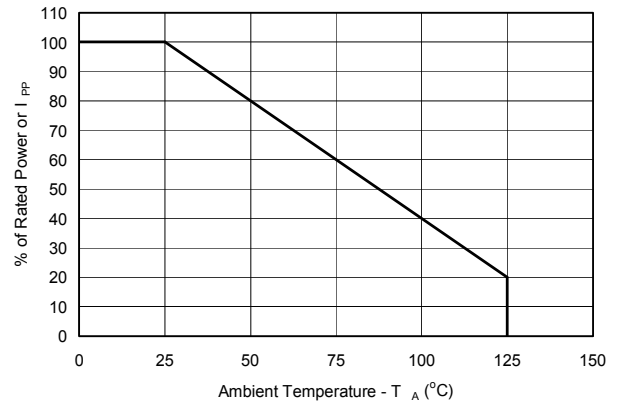
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Typical Characteristics

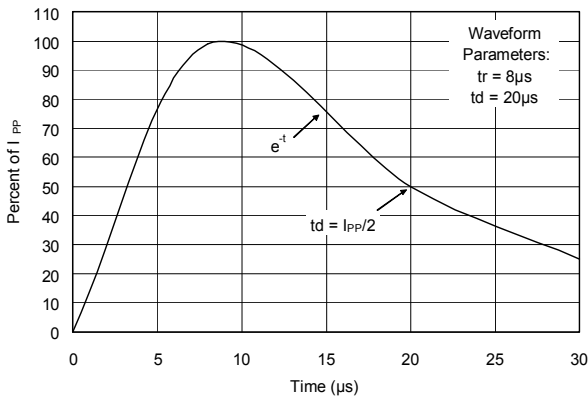
Non-Repetitive Peak Pulse Power vs. Pulse Time



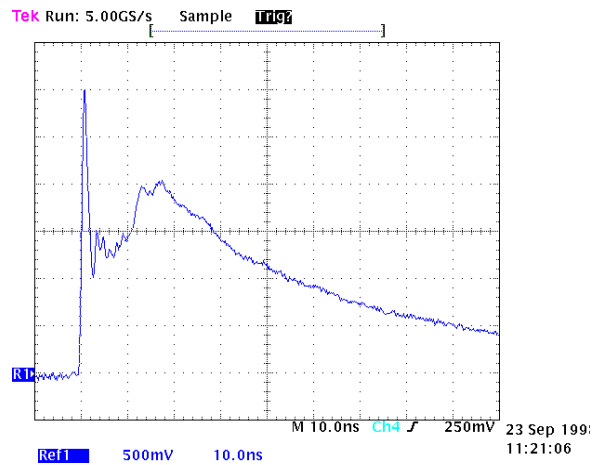
Power Derating Curve



Pulse Waveform



ESD Pulse Waveform (Per IEC 61000-4-2)

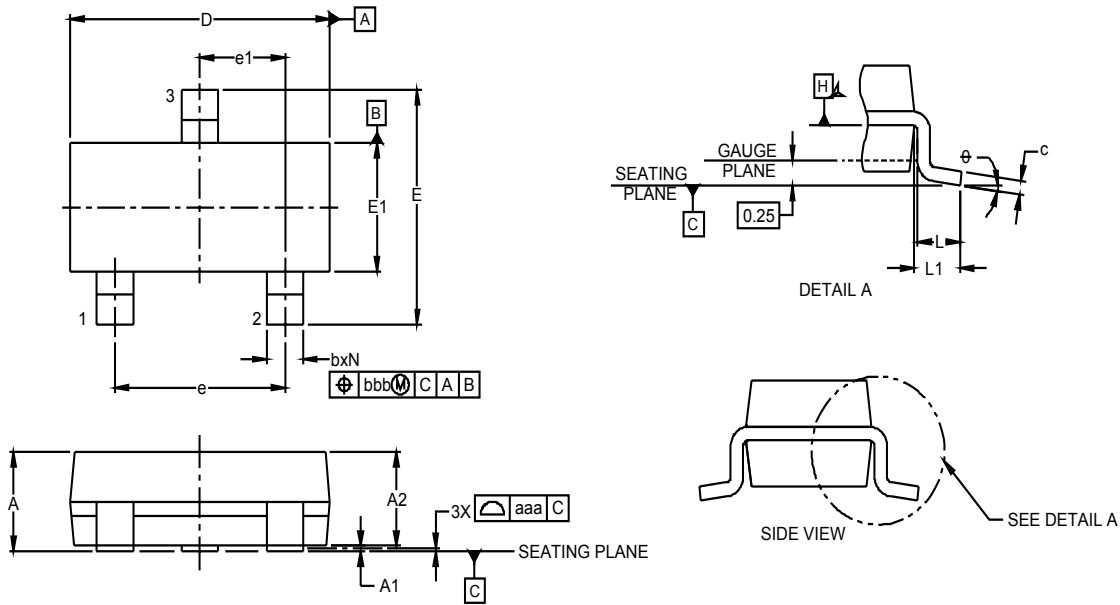


IEC 61000-4-2 Discharge Parameters

Level	First Peak Current (A)	Peak Current at 30 ns (A)	Peak Current at 60 ns (A)	Test Voltage (Contact Discharge) (KV)	Test Voltage (Air Discharge) (KV)
1	7.5	4	8	2	2
2	15	8	4	4	4
3	22.5	12	6	6	8
4	30	16	8	8	15

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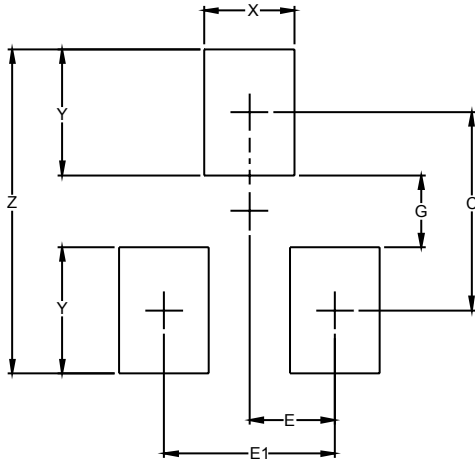
Package dimension SOT-23



Dimensions						
DIM	Inches			Millimeters		
	Min	Nom	Max	Min	Nom	Max
A	.035	-	.044	0.89	-	1.12
A1	-	-	.004	0.01	-	0.10
A2	.035	.037	.040	0.01	-	0.10
b	.012	-	.020	0.30	-	0.51
c	.003	-	.007	0.08	-	0.18
D	.110	.114	.120	2.80	2.90	3.04
E	.082	.093	.104	2.10	2.37	2.64
E1	0.47	.051	.055	1.20	1.30	1.40
e		.075			1.90 BCS	
e1		.037			0.95 BCS	
L	.015	.020	.024	0.40	0.50	0.60
L1		.022			(0.55)	
N		3			3	

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Land Pattern SOT-23

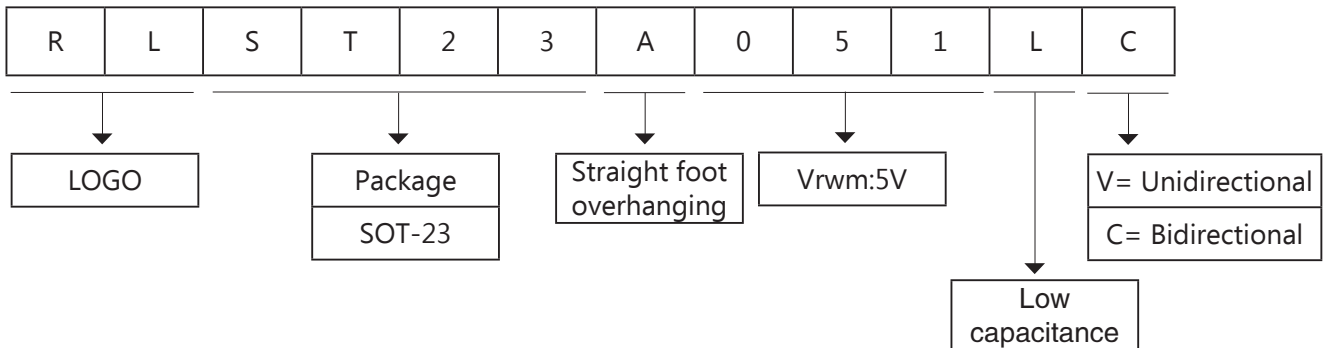


DIMENSIONS		
DIM	INCHES	MILLIMETERS
C	(.087)	(2.20)
E	.037	0.95
E1	.075	1.90
G	.031	0.80
X	.039	1.00
Y	.055	1.40
Z	.141	3.60

NOTES:

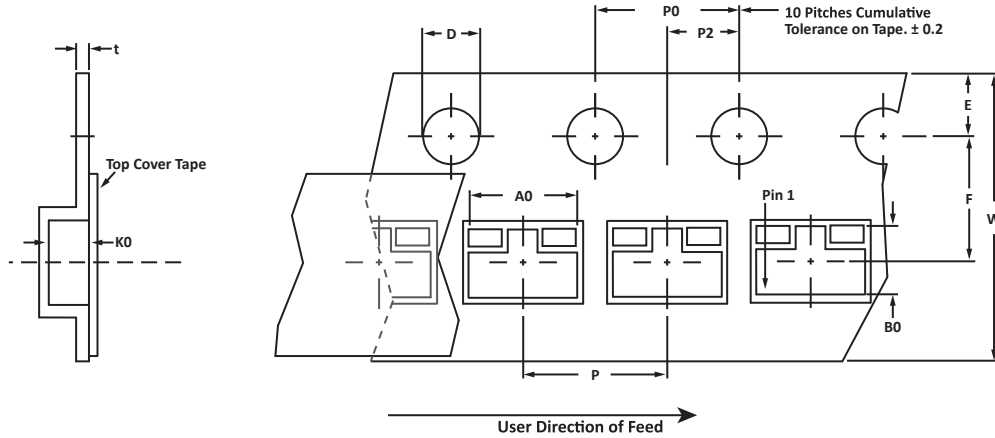
1. THIS LAND PATTERN IS FOR REFERENCE PURPOSES ONLY
CONSULT YOUR MANUFACTURING GROUP TO ENSURE YOUR
COMPANY'S MANUFACTURING GUIDELINES ARE MET.
2. REFERENCE IPC-SM-782A.

Part Number Code



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Tape and reel



SPECIFICATIONS

REEL DIA.	TAPE WIDTH	A0	B0	K0	D	E	F	W	P0	P2	P	tmax
178mm (7")	8mm	3.15 ± 0.10	2.77 ± 0.10	1.30 ± 0.10	1.55 ± 0.10	1.75 ± 0.10	3.50 ± 0.05	8.00 ± 0.30	4.00 ± 0.10	2.00 ± 0.05	4.00 ± 0.10	0.228

NOTES

1. Dimensions are in millimeters.
2. Surface mount product is taped and reeled in accordance with EIA-481.
3. Suffix - T7 = 7" Reel - 3,000 pieces per 8mm tape.
4. Suffix - T13 = 13" Reel - 10,000 pieces per 8mm tape.
5. Marking on Part - marking code (see page 2) and date code.

Package outline, pad layout and tape specifications per document number 06012.R2 8/10.

Ordering Information

Part Number	Package	Min. Order Qty.
RLST23A051-241LV	SOT-23	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

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