Leiditech

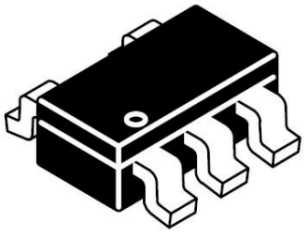
LC3354

4-Line Low Capacitance TVS Array

Features

- Ultra low leakage: nA level
- Operating voltage: 3.3V
- Low clamping voltage
- Complies with following standards:
  - – IEC 61000-4-2 (ESD) immunity test
    - Air discharge: ±30kV
    - Contact discharge: ±30kV
  - – IEC61000-4-4 (EFT) 40A (5/50ns)
  - – IEC61000-4-5 (Lightning) 22A (8/20μs)
- RoHS Compliant

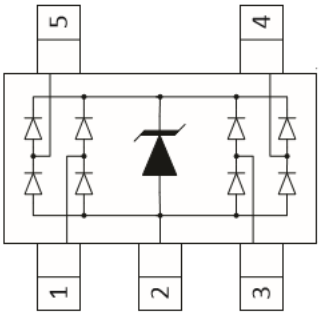
Dimensions SOT-25



Applications

- Central Office Equipment
- LVDS Interfaces
- MagJacks/Integrated Magnetics
- Notebook/Desktops/Service
- 10/100/1000 Ethernet

Pin Configuration



Mechanical Characteristics

- Package: SOT-25
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel:3,000pcs
- Reel Size:7inch
- Device Marking:54S2

Absolute Maximum Ratings(Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppp	300	W
ESD per IEC 61000−4−2 (Air)	V_{ESD}	±30	kV
ESD per IEC 61000−4−2 (Contact)		±30	
Operating Temperature Range	T_J	-55 to +125	℃
Storage Temperature Range	T_{STJ}	-55 to +150	℃

Electrical Characteristics(TA=25°C unless otherwise specified)

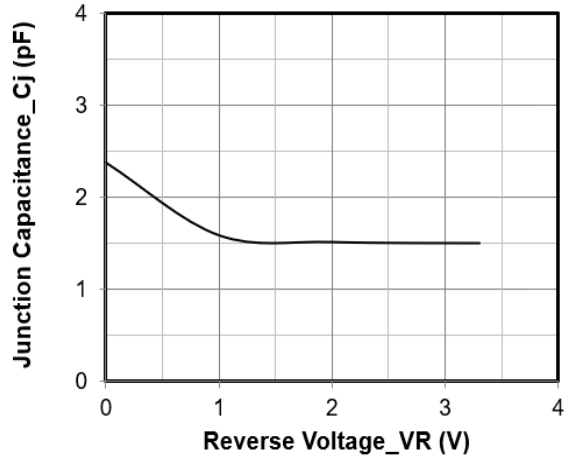
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}	Any I/O pin to ground			3.3	V
Breakdown Voltage	V_{PT}	I_T = 2μA, any I/O pin to ground	3.5			V
Snap-Back Voltage	V_{SB}	I_T = 50mA, any I/O pin to ground	2.8			V
Reverse Leakage Current	I_R	V_{RWM} = 3.3V, any I/O pin to ground			0.5	μA
Clamping Voltage	V_C	I_{PP} = 22A (8 x 20μs pulse), any I/O pin to ground			13.6	V
Clamping Voltage(1)	V_C	IPP = 1A, tp = 0.2/100ns (TLP) any I/O pin to ground		5.5		V
		IPP = 4A, tp = 0.2/100ns (TLP) any I/O pin to ground		6.5		V
		IPP = 16A, tp = 0.2/100ns (TLP) any I/O pin to ground		9.7		V
Dynamic Resistance(2)	R_{DYN}	tp = 0.2/100ns (TLP)		0.26		Ohm
Junction Capacitance	C_J	VR = 0V, f = 1MHz, between I/O pins		1.5		pF
		VR = 0V, f = 1MHz, any I/O pin to ground		3	5	pF

Notes : (1) Transmission Line Pulse Test (TLP) Settings: tp = 100ns, tr = 0.2ns.

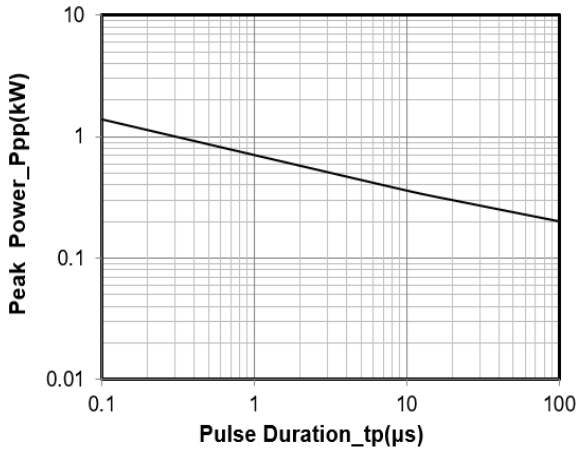
(2) Dynamic resistance calculated from ITLP = 4A to ITLP = 16A.

(3) I/O pins are Pin 1, 3, 4 and 5.

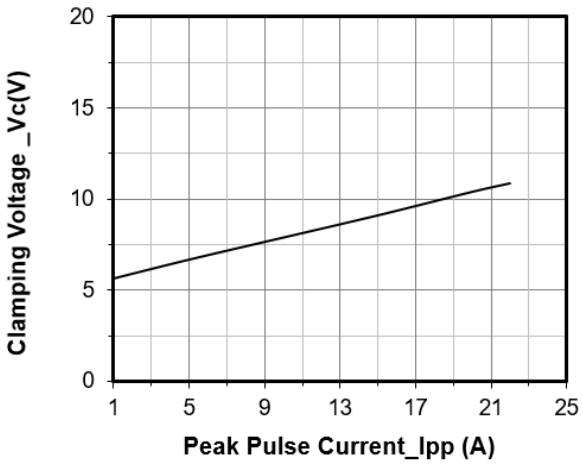
Typical Performance Characteristics(TA=25°C unless otherwise specified)



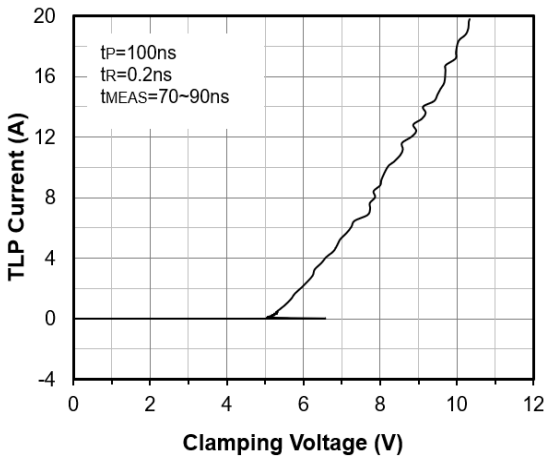
Junction Capacitance vs. Reverse Voltage



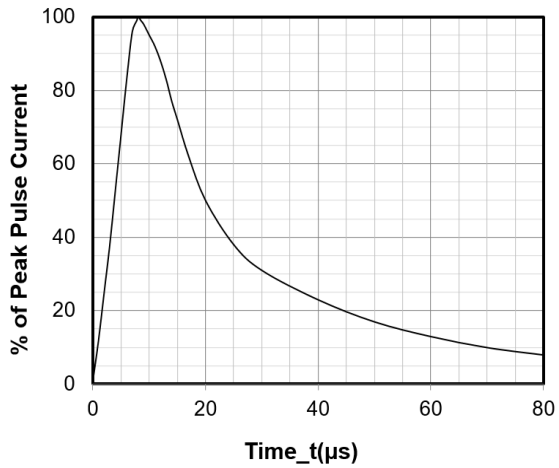
Peak Pulse Power vs. Pulse Time



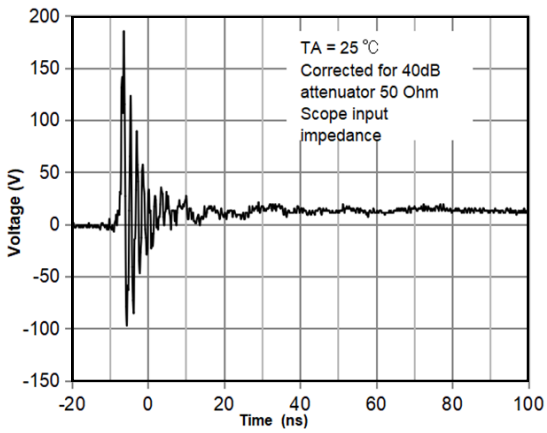
Clamping Voltage vs. Peak Pulse Current (tp = 8/20μs)



TLP Measurement



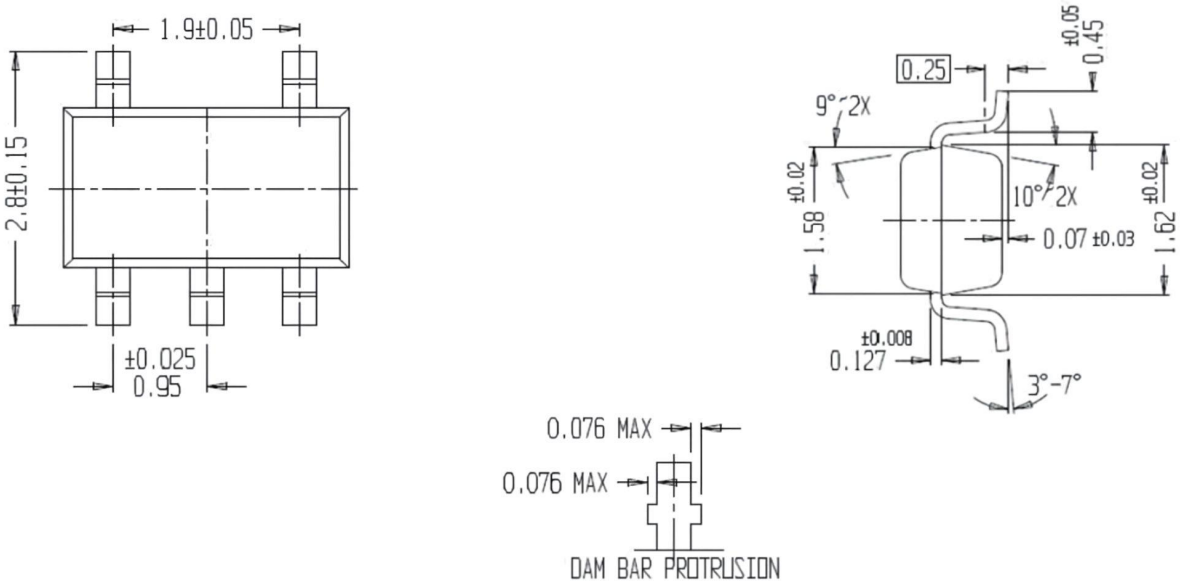
8 X 20μs Pulse Waveform

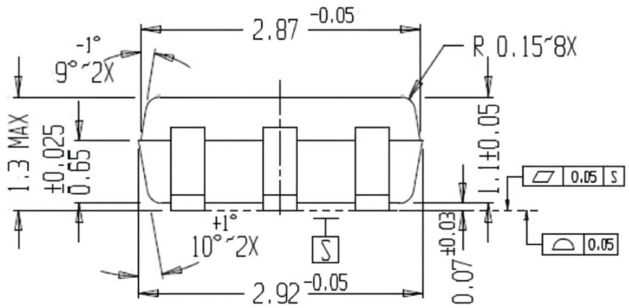


ESD Clamping Voltage

8 kV Contact per IEC61000−4−2

SOT-25 Package Outline Drawing





NOTICE

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