

Features

- Ultra low leakage: nA level
- Operating voltage: 24V
- Low clamping voltage
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 5A (8/20 μs)
- RoHS Compliant
- AEC-Q101 qualified

Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Networking and Telecom
- Serial and Parallel Ports
- Peripherals

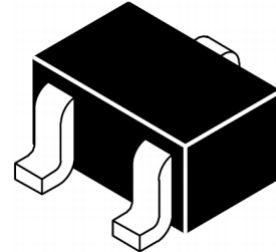
Mechanical Characteristics

- Package: SOT-323
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel: 3000 pcs
- Reel Size: 7 inch
- Device Marking: 24TL

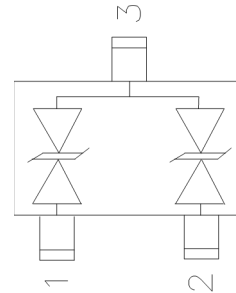
Absolute Maximum Ratings ($T_{\text{amb}} = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P _{pp}	160	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	$^\circ\text{C}$
Storage Temperature Range	T _{STJ}	-55 to +150	$^\circ\text{C}$

Dimensions SOT-323



Pin Configuration



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

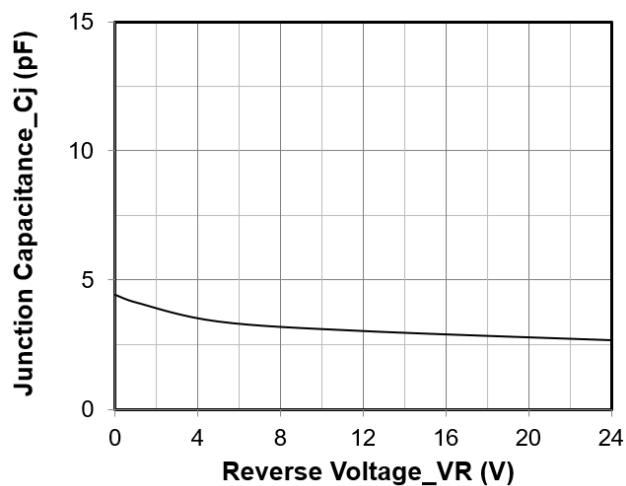
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			24	V	Any I/O pin to ground
Breakdown Voltage	VBR	26.5	30	36	V	IT = 1mA, any I/O pin to ground
Reverse Leakage Current	IR			0.2	μA	T = 25°C, VRWM = 24V, any I/O pin to ground
				0.3	μA	T = 125°C, VRWM = 24V, any I/O pin to ground
Clamping Voltage ⁽¹⁾	VC			25	V	I _{PP} = 1A (8 x 20μs pulse), any I/O pin to ground
				32	V	I _{PP} = 5A (8 x 20μs pulse), any I/O pin to ground
ESD Clamping Voltage ⁽²⁾	VC		26		V	I _{PP} = 4A, tp = 0.2/100ns (TLP)
			29.5		V	I _{PP} = 16A, tp = 0.2/100ns (TLP)
Dynamic Resistance ⁽³⁾	R _{DYN}		0.29		Ohm	tp = 0.2/100ns (TLP)
Junction Capacitance	CJ		5	9	pF	VR = 0V, f = 1MHz, any I/O pin to ground

(1) Measured using a constant current source.

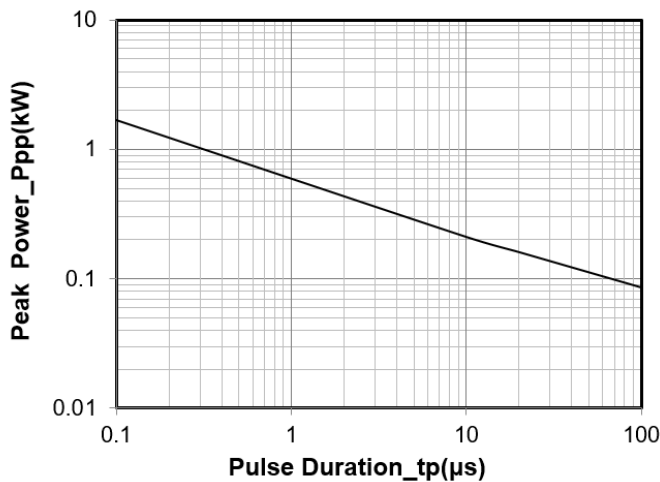
(2) Transmission Line Pulse Test (TLP) Settings: tp = 100ns, tr = 0.2ns

(3): Dynamic resistance calculated from ITLP = 4A to ITLP = 16A

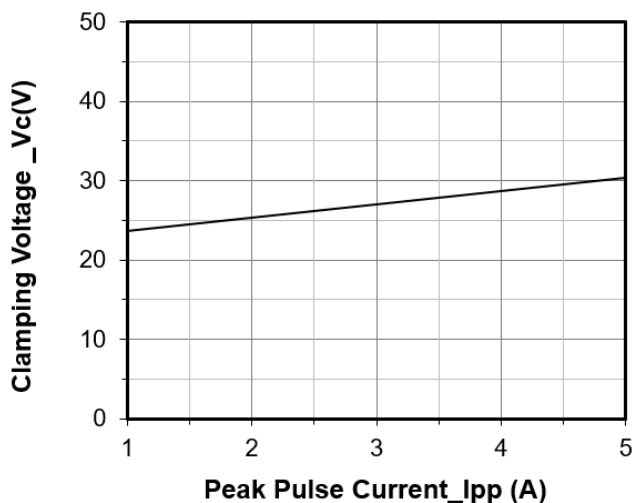
Typical Performance Characteristics (TA=25°C unless otherwise specified)



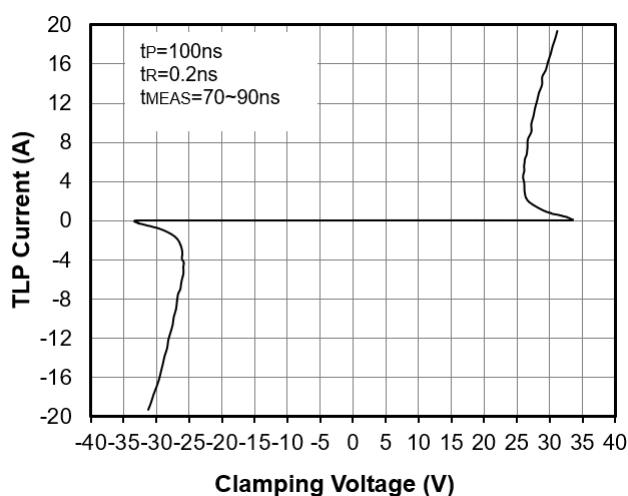
Junction Capacitance vs. Reverse Voltage



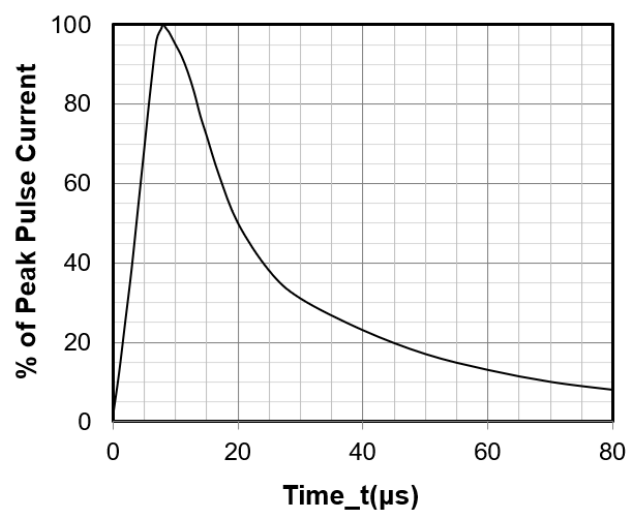
Peak Pulse Power vs. Pulse Time



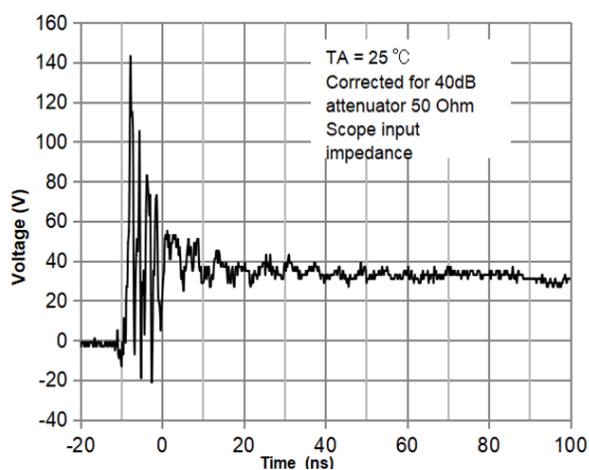
Clamping Voltage vs. Peak Pulse Current (tp = 8/20μs)



TLP Measurement



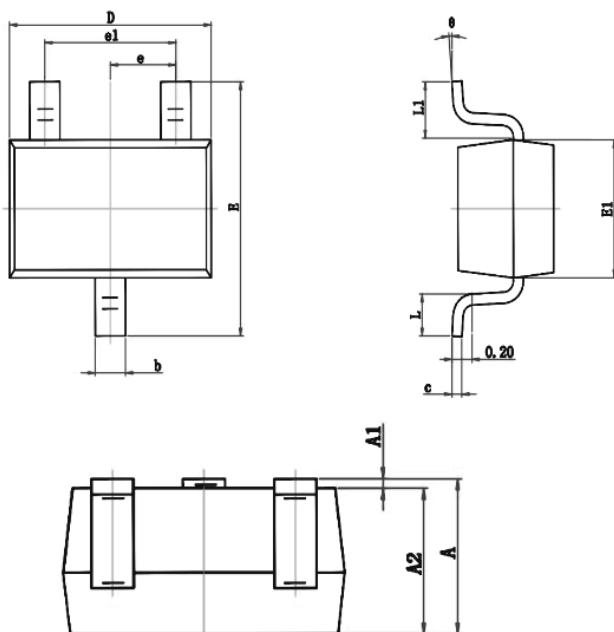
8X20μs Pulse Waveform



ESD Clamping Voltage

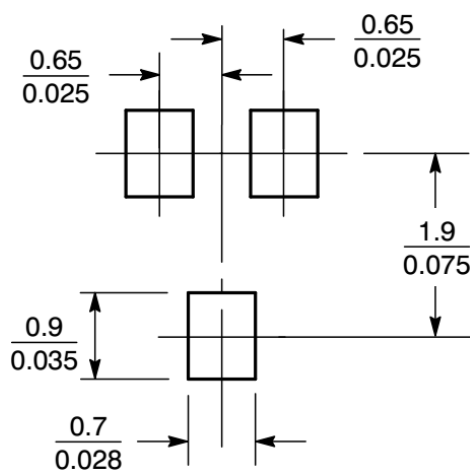
8 kV Contact per IEC61000-4-2

SOT-323 Package Outline Drawing



Symbol	Dim in mm		
	Min	Nor	Max
A	0.90	1.00	1.10
A1	0.00	0.05	0.10
A2	0.90	0.95	1.00
b	0.20	0.30	0.40
c	0.08	0.12	0.15
D	2.00	2.10	2.20
E	2.15	2.30	2.45
E1	1.15	1.25	1.35
e	0.650TPY.		
e1	1.2	1.3	1.4
L	0.26	0.36	0.46
L1	0.525REF.		
θ	0°	4°	8°

Suggested Land Pattern



NOTICE

Leiditech reserves the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. Leiditech does not assume any liability arising out of the application or use of any product described herein.

Shanghai Leiditech Electronic Technology Co., Ltd.

Email: sale1@leiditech.com

Tel : +86- 021 50828806

Fax : +86- 021 50477059