

Features

- ❑ IEC61000-4-2 (ESD) +/-30kV (air),
 +/-30KV(contact)
- IEC61000-4-4 (EFT) 40A (5/50 ns)
- ❑ 350 Watts Peak Pulse Power per (tp=8/20us)
- ❑ Protects one I/O line
- ❑ Working voltages : 5V,8V,12V,15V,18V,24V
 36V,48V
- ❑ Low leakage current
- ❑ ROHS compliant

Description

The TSxx11LB Series is designed for applications requiring transient overvoltage protection capability. They are intended for use in voltage and ESD sensitive equipment such as computers, printers, business machines, communication systems, medical equipment and other applications. These devices are ideal for situations where board space is at a premium.

This series has been specifically designed to protect sensitive components which are connected to power data and transmission lines from overvoltage caused by ESD(electrostatic discharge), CDE (Cable Discharge Events), and EFT (electrical fast transients).

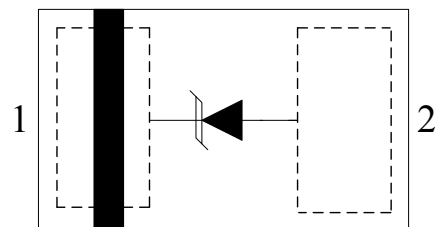
Applications

- ❑ 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

- ❑ uDFN-2L Package
- ❑ Flammability Rating: UL 94V-0
- ❑ Packaging: Tape and Reel
- ❑ High temperature soldering guaranteed:260°C /10s
- ❑ Reel size: 7 inch

Pin Configuration



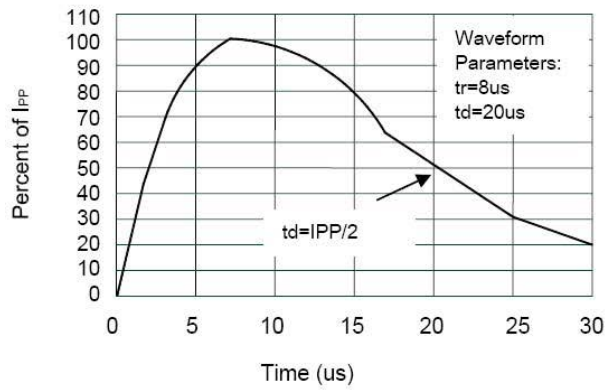
uDFN-2L
(Top View)

Absolute Maximum Rating

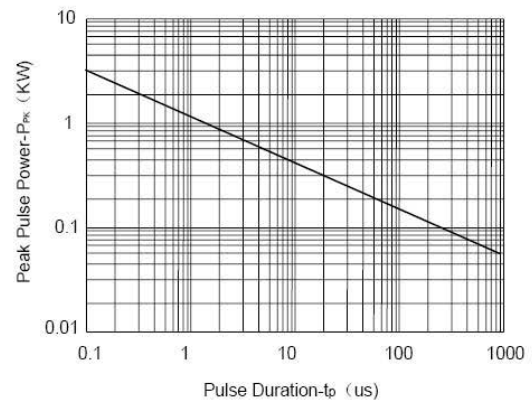
Symbol	Parameter	Value	Units
V_{ESD}	ESD per IEC 61000-4-2 (Air)	±30	kV
	ESD per IEC 61000-4-2 (Contact)	±30	
P_{PP}	Peak Pulse Power (8/20μs)	350	W
T_{OPT}	Operating Temperature	-55/+150	°C
T_{STG}	Storage Temperature	-55/+150	°C
T_L	Lead Soldering Temperature	260 (10 sec.)	°C

Electrical Characteristics (T = 25°C)

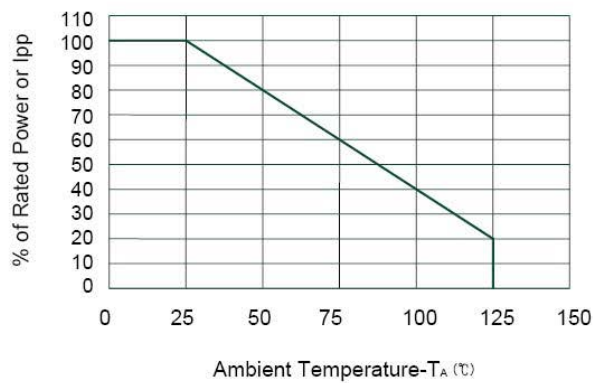
PART NUMBER	V _{RWM} (V) (max.)	V _B (V) (min.)	I _T (mA)	V _{C@1A} (V) (max.)	V _C (V) (max.) (@A)		I _R (μA) (max.)	C _T (pF) (max.)	DEVICE MARKING
TS0511LB	5	6.0	1	10	24	19	0.1	160	LB
TS0811LB	8	9.2	1	15	28	15	0.1	140	LC
TS1211LB	12	13.3	1	19	32	13	0.1	120	LD
TS1511LB	15	16.7	1	24	36	10	0.1	100	LJ
TS1811LB	18	20.4	1	28	45	8	0.1	80	LG
TS2411LB	24	26.7	1	36	50	7	0.1	60	LH
TS3611LB	36	40.0	1	50	60	6	0.1	40	LK
TS4811LB	48	52.0	1	65	70	5	0.1	40	LM



Pulse Waveform



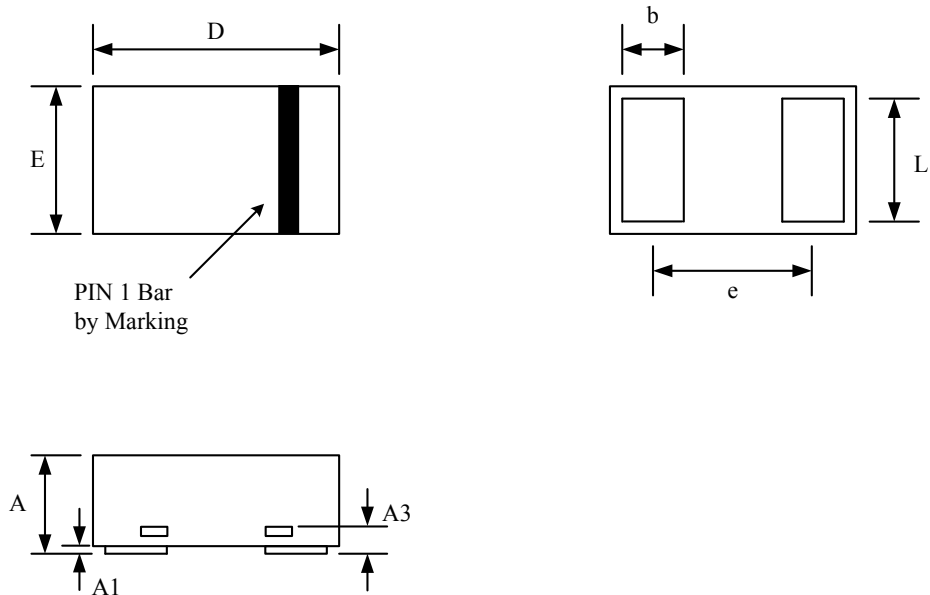
Non-Repetitive Peak Pulse Power vs. Pulse Time



Power Derating Curve

Package Outline Dimensions

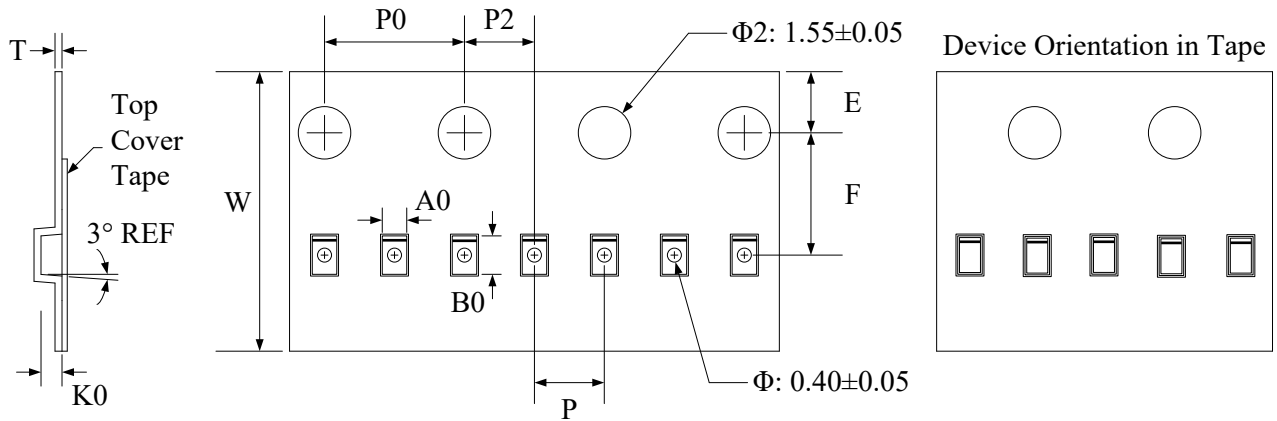
□ uDFN-2L Package



Package Dimensions (Controlling dimensions are in millimeters)

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Minimum	Maximum	Minimum	Maximum
A	0.400	0.550	0.016	0.022
A1	0.000	0.050	0.000	0.002
A3	0.125 REF		0.005 REF	
D	0.950	1.050	0.037	0.041
E	0.550	0.650	0.022	0.026
b	0.200	0.300	0.008	0.012
e	0.650 BSC		0.026 BSC	
L	0.450	0.550	0.018	0.022

Tape and Reel Specification



Symbol	W	A0	B0	K0	E	F	P	P0	P2	T
Dimensions (mm)	8.00±0.1	0.7±0.05	1.15±0.05	0.55±0.05	1.75±0.1	3.5±0.05	2.0±0.1	4.0±0.1	2.0±0.05	0.2±0.05

Ordering Information

Part Number	Working Voltage	Quantity Per Reel	Reel Size
TSxx11LB	xxV	10,000	7 Inch