

ESD PROTECTION DIODE

**STAND-OFF VOLTAGE – 12 to 24 Volts
POWER DISSIPATION - 150 Watts**

GENERAL DESCRIPTION

The L15ESDxVE2 is designed to protect sensitive semiconductor components from damage or upset due to Electro Static Discharge (ESD).

FEATURES

- Uni-directional ESD protection of one line.
- Max. peak pulse power: P_{pp}=150W at t_p = 8/20 us.
- ESD protection >25KV per MIL-STD-883C, method 3015-6 ; class 3.
- IEC 61000-4-2, level 4 (ESD) ; > ±27KV (air) ; ±27KV (contact).

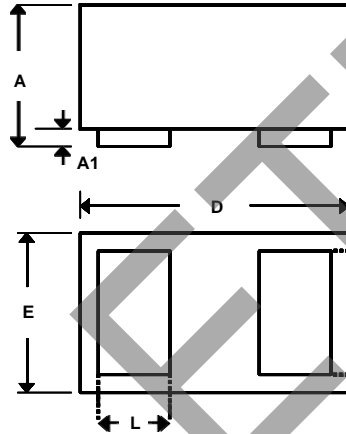
APPLICATION

- Computers and peripherals
- Communication system
- Audio & video equipment
- High-speed data lines
- Parallel ports

MECHANICAL DATA

- Case Material: "Green" molding compound UL flammability classification 94V-0 (No Br, Sb, Cl),
- Component in accordance to RoHs 2011/65/EU
- Dimension = DFN, 1.00 mm (L)* 0.6 mm (W)

SOD-882



SOD-882		
DIM.	MIN.	MAX.
A	0.47	0.53
A1	0.00	0.05
b	0.25	0.55
D	0.95	1.075
E	0.55	0.675
L	0.20	0.45
All dimension in millimeter		

PIN ASSIGNMENT	
1	Cathode
2	Anode

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

MAXIMUM RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Peak pulse power (8/20us waveform)	P _{PPM}	150	W
Peak pulse current (8/20us waveform)	I _{PP}	6	A
Operating junction temperature range	T _J	-55 to +125	°C
Storage temperature range	T _{STG}	-55 to +150	°C
Soldering temperature, t max = 10s	T _L	260	°C

ELECTRICAL CHARACTERISTICS

L15ESD12VE2

PARAMETER	TEST CONDITIONS	SYMBOL	MIN	TYP.	MAX	UNIT
Reverse standoff voltage	--	V_{RWM}	--	--	12	V
Reverse leakage current	$V_{DRM} = 12V$	I_{RM}	--	--	50	nA
Breakdown voltage	$I_R = 1\text{ mA}$	V_{BR}	14.2	--	15.8	V
Junction capacitance	$V_R = 0\text{ V}$, $f = 1\text{ MHz}$,	C_J	--	45	75	pF
Clamping voltage	$I_{PP} = 6\text{ A}$ (8/20 μs)	V_{CL}	--	--	25	V

L15ESD24VE2

PARAMETER	TEST CONDITIONS	SYMBOL	MIN	TYP.	MAX	UNIT
Reverse standoff voltage	--	V_{RWM}	--	--	24	V
Reverse leakage current	$V_{DRM} = 24V$	I_{RM}	--	--	50	nA
Breakdown voltage	$I_R = 1\text{ mA}$	V_{BR}	26.5	--	29.5	V
Junction capacitance	$V_R = 0\text{ V}$, $f = 1\text{ MHz}$,	C_J	--	25	50	pF
Clamping voltage	$I_{PP} = 3\text{ A}$ (8/20 μs)	V_{CL}	--	--	50	V

OBSOLETE

**RATING AND CHARACTERISTIC CURVES
L15ESDxVE2**

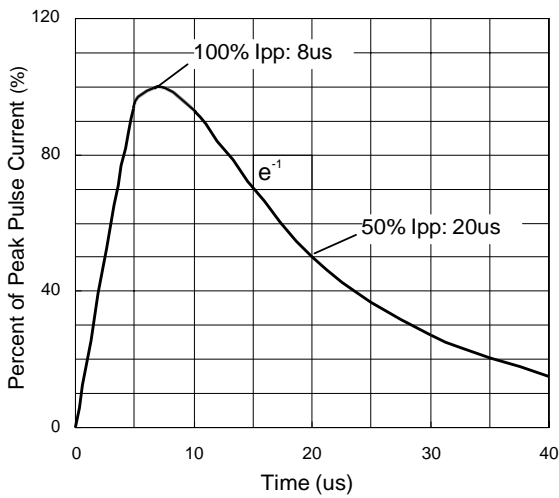


Figure 1. 8/20 us pulse waveform according to IEC 61000-4-5

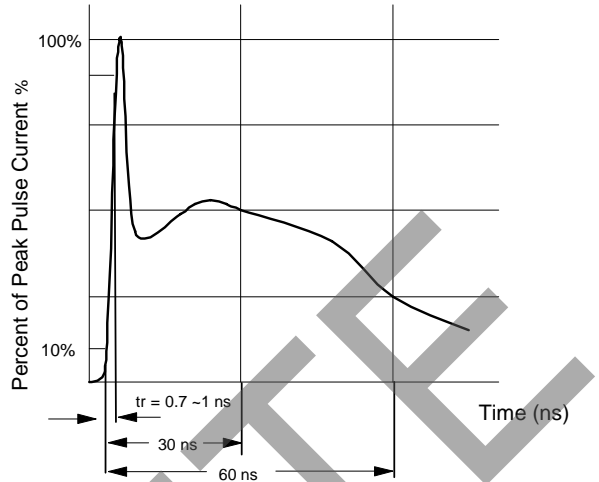


Figure 2. ESD pulse waveform according to IEC 61000-4-2

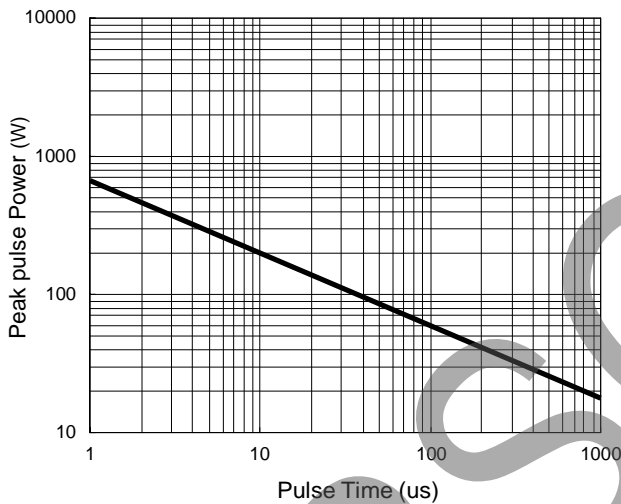


Figure 3. Power Dissipation versus Pulse Time

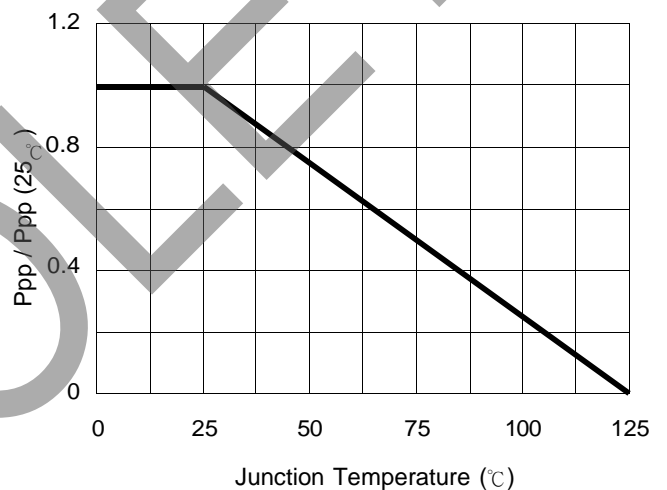


Figure 4. Peak pulse power versus TJ

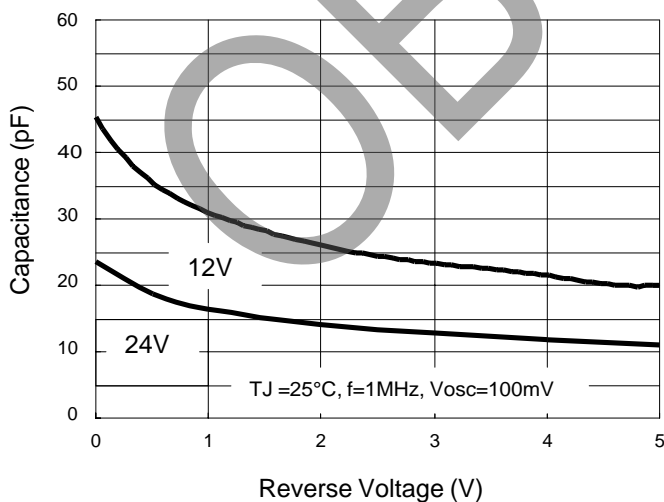


Figure 5. Typical Junction Capacitance

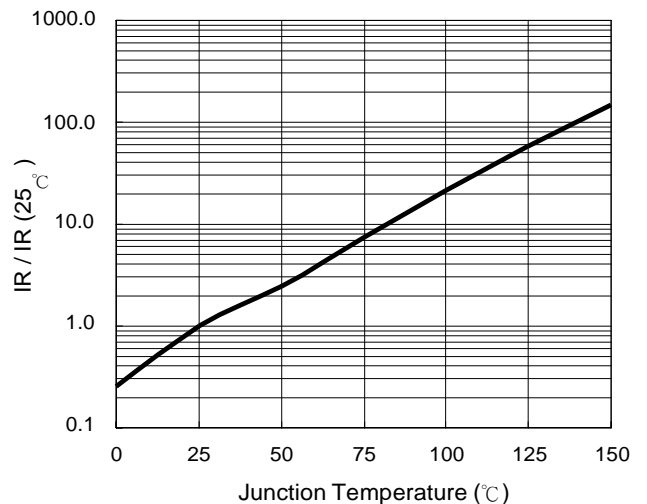


Figure 6. Reverse Leakage Current versus TJ

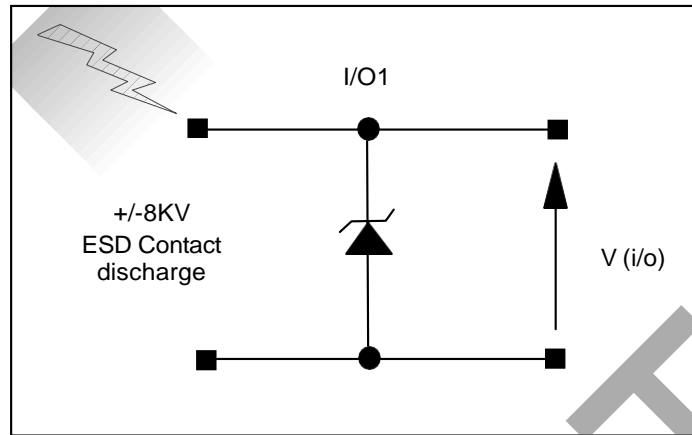


Figure 7. ESD Test Configuration

L15ESD12VE2

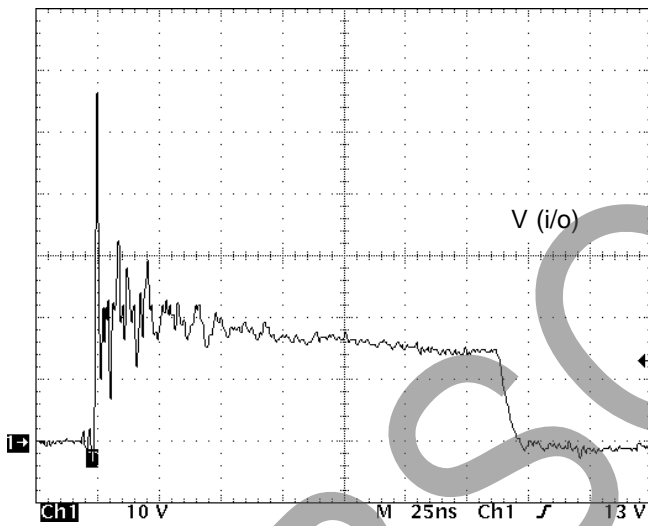


Figure 8. Clamped +8 kV ESD voltage waveform

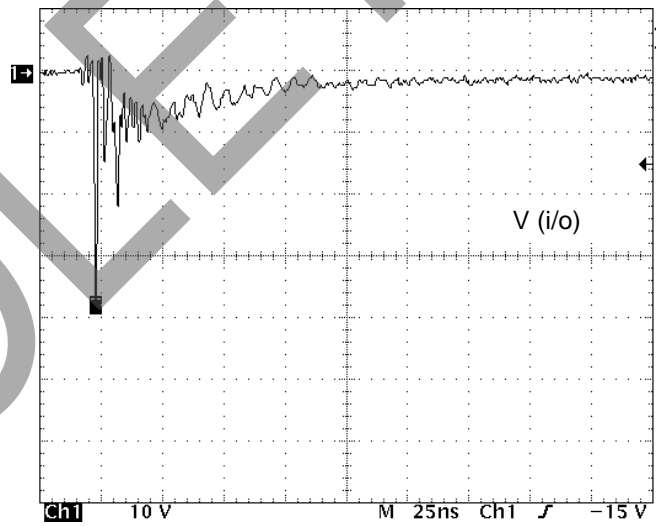


Figure 9. Clamped -8 kV ESD voltage waveform

L15ESD24VE2

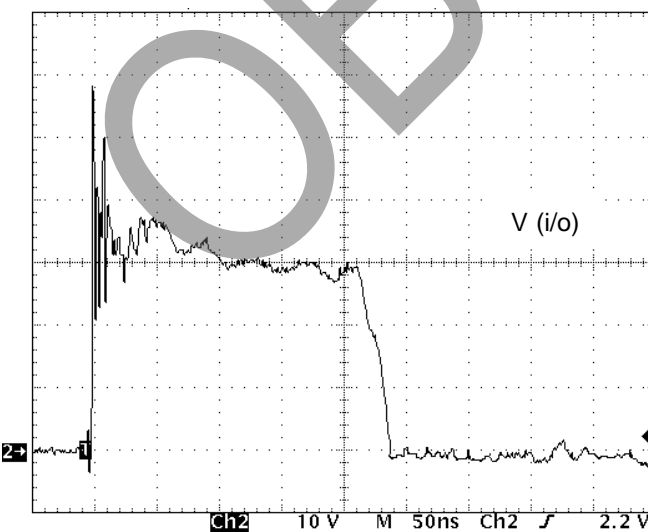


Figure 11. Clamped +8 kV ESD voltage waveform

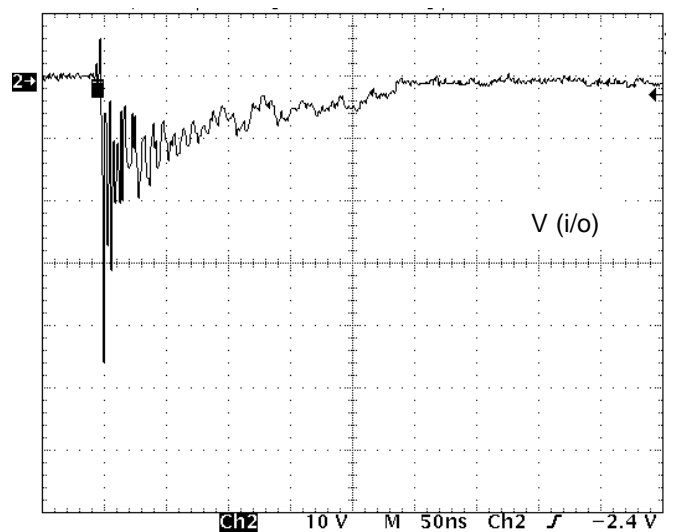
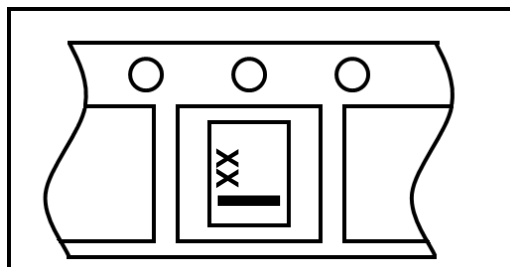


Figure 12. Clamped -8 kV ESD voltage waveform

MARKING AND PACKAGING INFORMATION
L15ESDxVE2



Marking and Orientation :

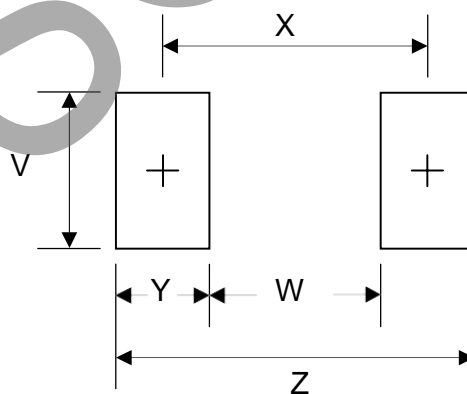


Marking: L15ESD12VE2, XX: MC
 L15ESD24VE2, XX: MO

Packaging Information :

DEVICE	Q'TY/REEL (PCS)	REEL DIA. (INCH)	Q'TY/BOX (PCS)	Q'TY/CARTON (PCS)
L15ESD12VE2 L15ESD24VE2	10K	7	150K	300K

SOD-882 Soldering Pad Layout :



Dim.	Millimeters	Inches
Z	1.30	0.051
X	0.75	0.029
W	0.20	0.007
Y	0.55	0.021
V	0.80	0.031

OBSOLETE - PART DISCONTINUED

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