

ESDFN2105VL

Single Line ESD Protection Diode with Low Capacitance

Description

The ESDFN2105VL is designed to replace multilayer varistors (MLVs) in portable applications such as cell phones, notebook computers, and PDA's. They feature large cross-sectional area junctions for conducting high transient currents, offer desirable electrical characteristics for board level protection, such as fast response time, lower operating voltage, lower clamping voltage and no device degradation when compared to MLVs.

Features

- Equivalent to 0201 package
- Low Capacitance 0.55pF
- Small package for use in portable electronics
- Low Leakage current
- These are Pb-Free Devices
- RoHS Compliant Package

Applications

- Cellular phones handsets and Accessories
- PDA's
- MP3 players
- Digital cameras
- Portable applications
- Mobile telephone

Complies with the following standards

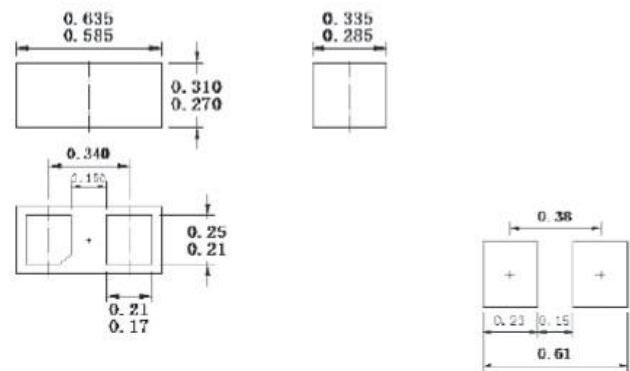
- IEC61000-4-2
- Level 4 15 kV (air discharge)
8 kV (contact discharge)
- MIL STD 883E - Method 3015-7 Class 3
- 25 kV HBM (Human Body Model)

Packing & Order Information

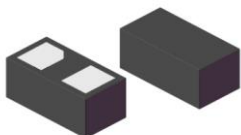
3,000/Reel

DIMENSION OUTLINE:

Unit:mm



Graphic symbol



RoHS
COMPLIANT

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MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Absolute Ratings (Tamb=25°C)

Symbol	Parameter	Value	Unit
	IEC 61000-4-2 (ESD) Contact	8	kV
P _D	Total Power Dissipation on FR-5 Board (Note 1)	200	mW
T _J	Maximum junction temperature	-55 to +155	°C
TSTG	Storage Temperature Range	-55 to +155	°C
TL	Maximum lead temperature for soldering during 10s	260	°C

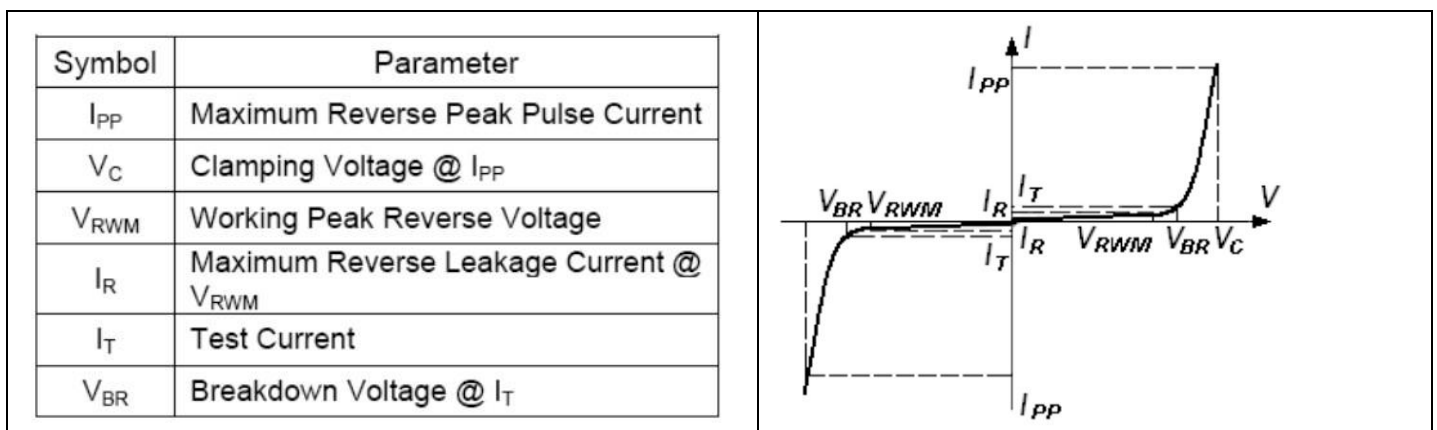
Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

1 . FR-5=1.0*0.75*0.62 in.

Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified. VF = 0.9V at IF = 10mA

Part Numbers	V _{BR}			I _T	V _{RWM}	I _R	V _c	C _j
	Min.	Typ.	Max.				@ I _{pp} MAX=2.5 A	Typ. 0v bias
	V						V	PF
ESDFN2105VL	6.0	7.0	8.5	1	5.0	1	18.4	0.5

- 1.VBR is measured with a pulse test current IT at an ambient temperature of 25°C
- 2.Surge current waveform per Figure 5.
- 3.For test procedure see Figures 3 and 4



■ Typical Device Characteristics

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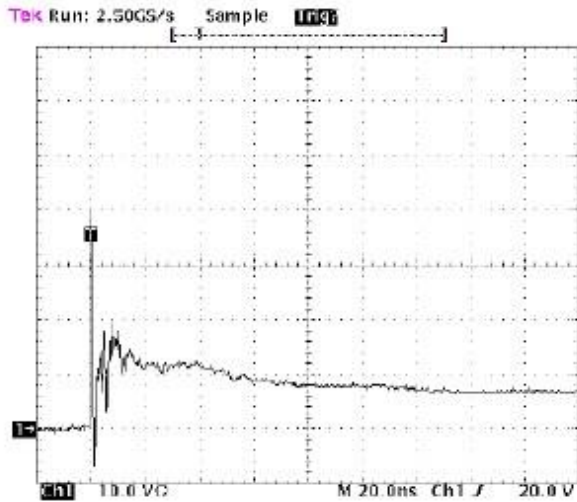


Figure 1.ESD Clamping Voltage Screenshot
Positive 8 kV Contact per IEC61000-4-2

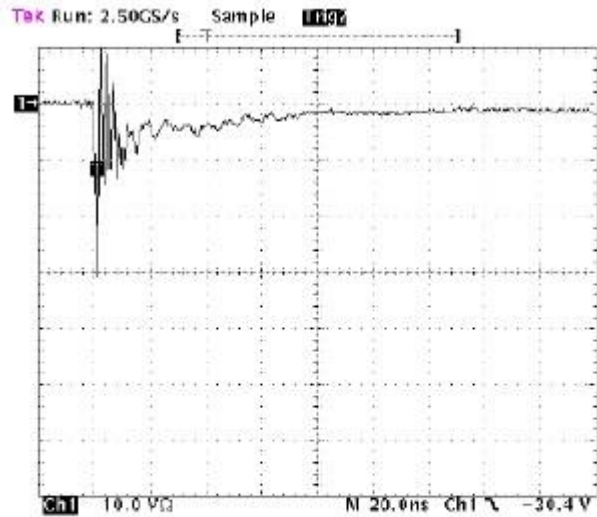


Figure 2.ESD Clamping Voltage Screenshot
Negative 8 kV Contact per IEC61000-4-2

IEC 61000-4-2 Spec.

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

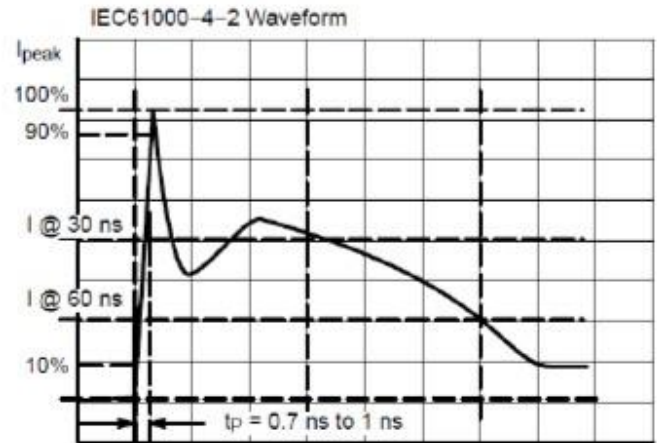


Figure 3. IEC61000-4-2 Spec

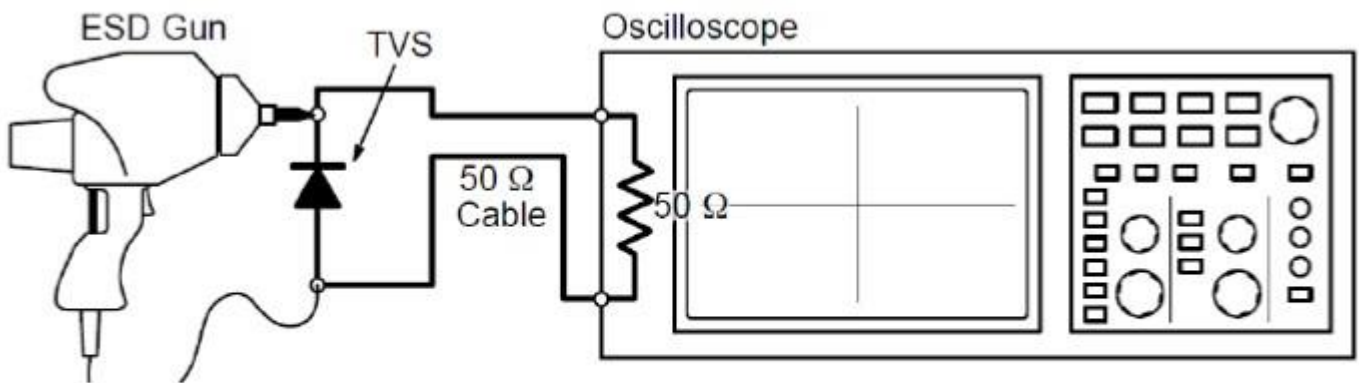


Figure 4. Diagram of ESD Test Setup

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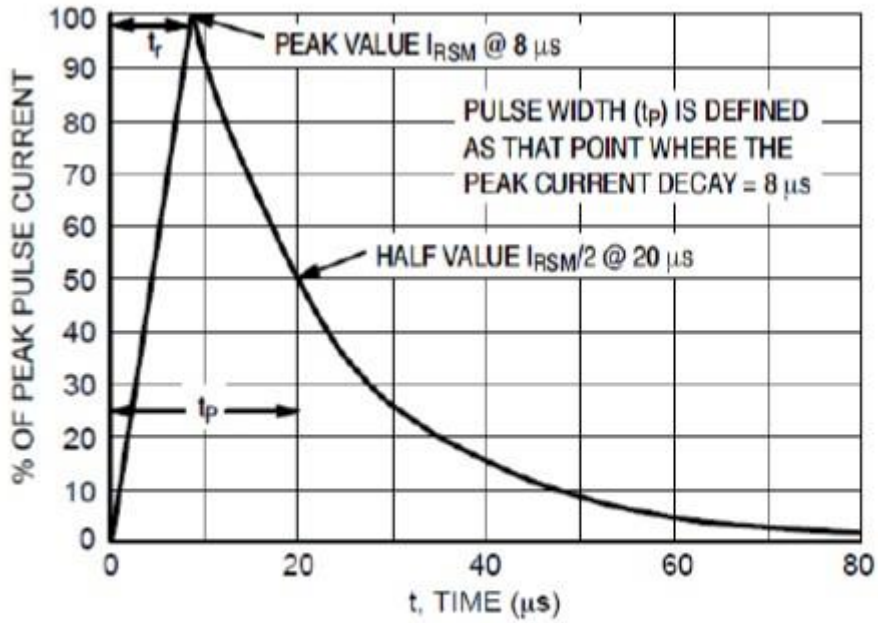


Figure 5.8*20 us Pulse Waveform

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