SEDFN2105C
Single Line ESD Protection Diode with Low Capacitance

Revision:A

General Description

The SEDFN2105C 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.

Applications

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

Features

- Equivalent to 0201 package
- Low Body Height: 0.28mm
- Small package for use in portable electionics
- Low Leakage current
- These are Pb−Free Devices

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

Functional diagram

DFN0603-D

Absolute Ratings (T_{amb}=25°C)

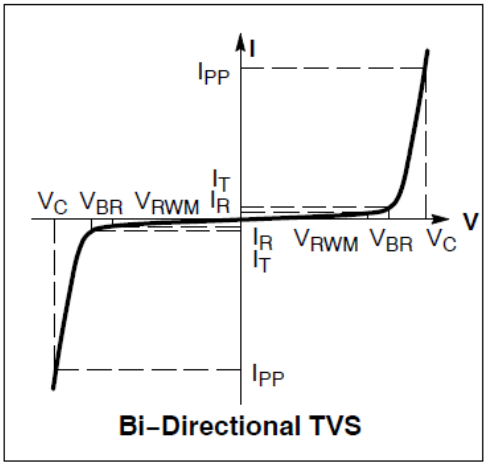
Symbol	Parameter	Value	Units
	IEC 61000-4-2 (ESD) Contact	8	kV
P_D	Total Power Dissioation on FR-5 Board (Note 1)	200	mW
T_L	Maximum lead temperature for soldering during 10s	260	°C
T_{stg}	Storage Temperature Range	-55 to +155	°C
T_j	Maximum junction temperature	-55 to +155	°C

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 Parameter

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
I_T	Test Current
V_{BR}	Breakdown Voltage @ I_T



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
	Min.	Typ.	Max.				@Ipp_{MAX}=5.5A	Max. 0v bias
	V	V	V	mA	V	μA	V	pF
SEDFN2105C	5.6	7.0	8.5	1	5.0	1	12.5	15

1. V_{BR} is measured with a pulse test current I_T at an ambient temperature of 25℃.
2. Surge current waveform per Figure 5.
3. For test procedure see Figures 3 and 4.

Typical Characteristics

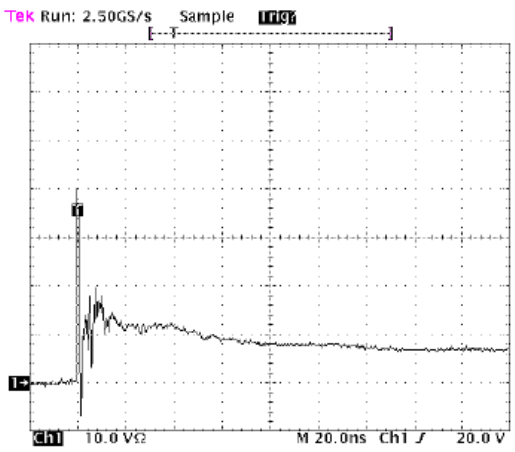


Figure 1.ESD Clamping Voltage Screenshot Positive 8 kV Contact per IEC61000-4-2

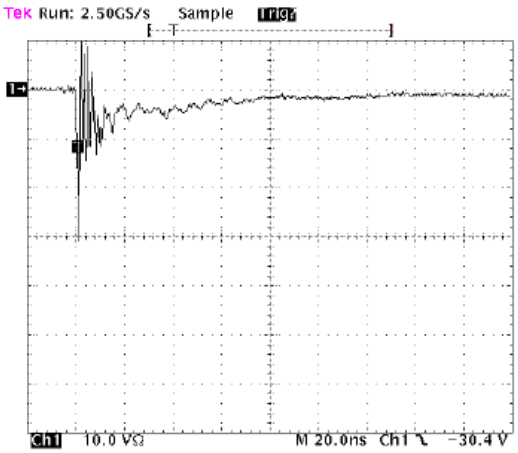


Figure 2.ESD Clamping Voltage Screenshot Negative 8 kV Contact per IEC61000-4-2

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

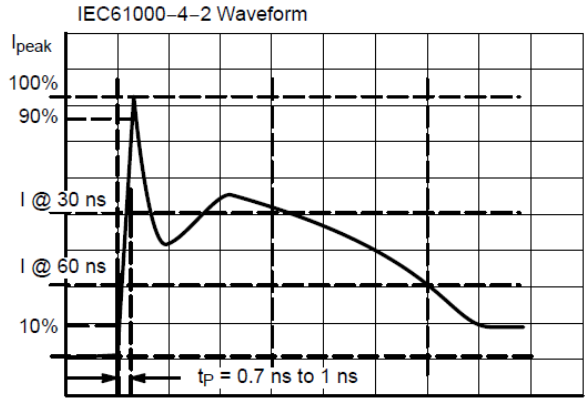


Figure 3.IEC 61000-4-2 Spec

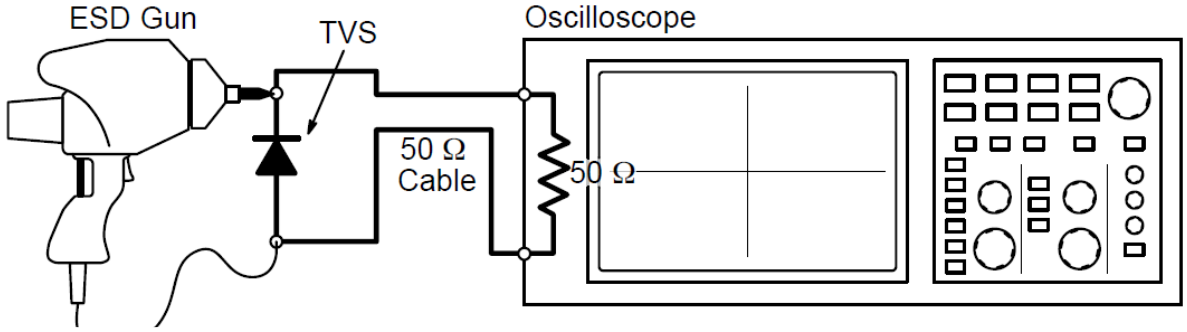


Figure 4. Diagram of ESD Test Setup

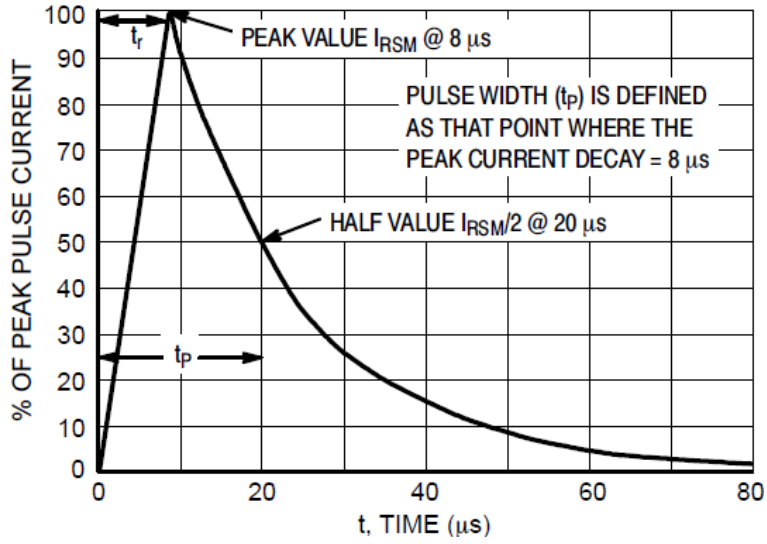
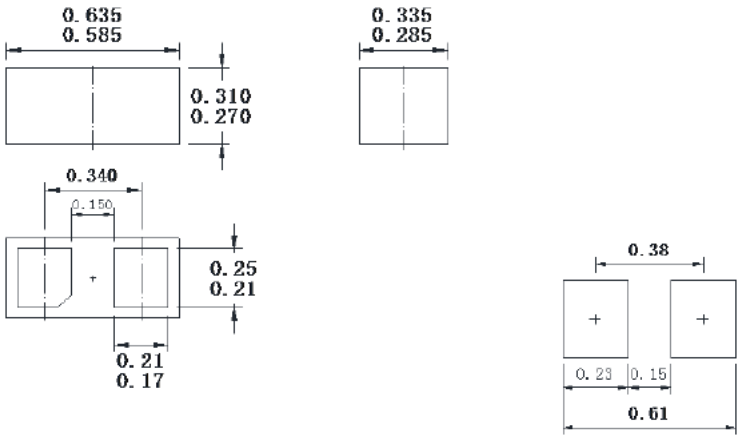


Figure 5.8*20 us Pulse Waveform

DFN10603-D Package Outline Dimensions

DIMENSION OUTLINE: Unit:mm



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