

SEDFN05C
Single Line ESD Protection Diode

General Description

The SEDFN05C ESD protection diode 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 0402 package
- 75W Peak pulse power
- Small package for use in portable electronics
- Standoff voltage : 5V
- 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

25 kV HBM (Human Body Model)

Functional diagram



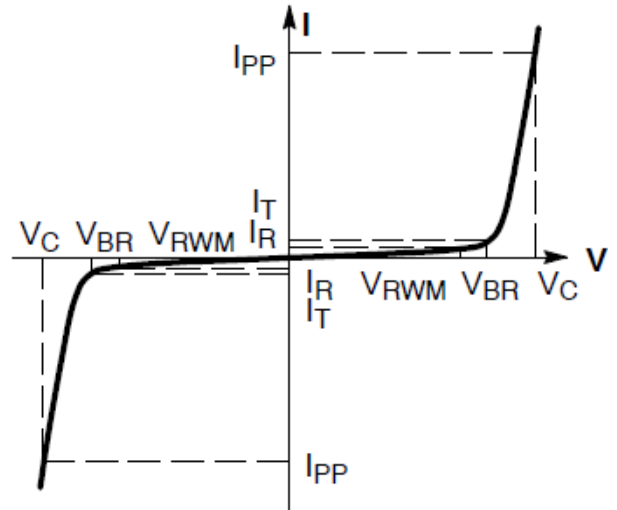
DFN1006-2

Maximum Ratings

Symbol	Parameter	Value	Unit
	IEC 61000-4-2 (ESD) Contact	8	kV
P _{PK}	Peak Pulse Power	75	W
I _{PP}	Peak Pulse Power	5	A
T _J , T _{STG}	Junction and Storage Temperature Range	-55 to 150	°C
T _L	Lead Solder Temperature – Maximum (10 Second Duration)	260	°C

Electrical Parameter

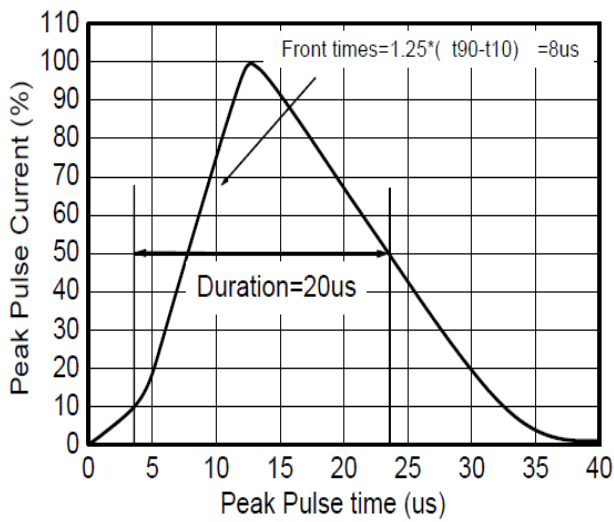
Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
I_T	Test Current
V_{BR}	Breakdown Voltage @ I_T



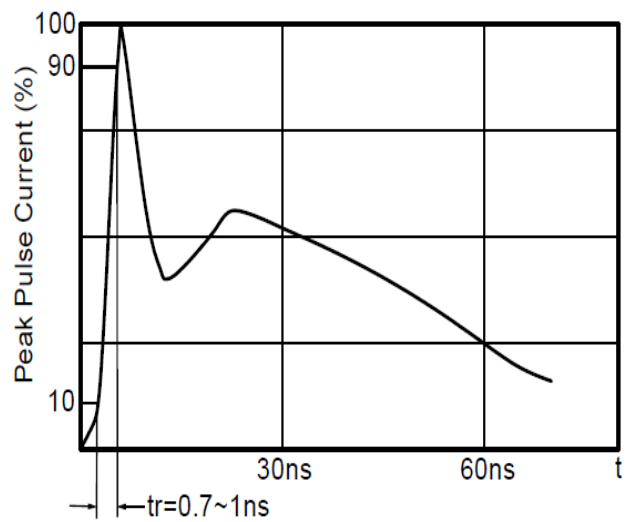
Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

Part Numbers	V_{BR}			I_T	V_{RWM}	I_R	C
	Min.	Typ.	Max.				Typ. 0v bias
SEDFN05CL	V	V	V	mA	V	μA	pF
	5.4	6.6	7.8	1	5.0	1	15

Typical Characteristics

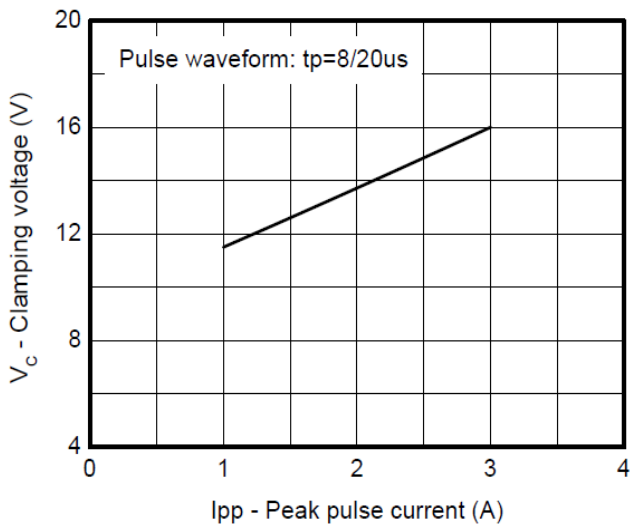


8/20us waveform

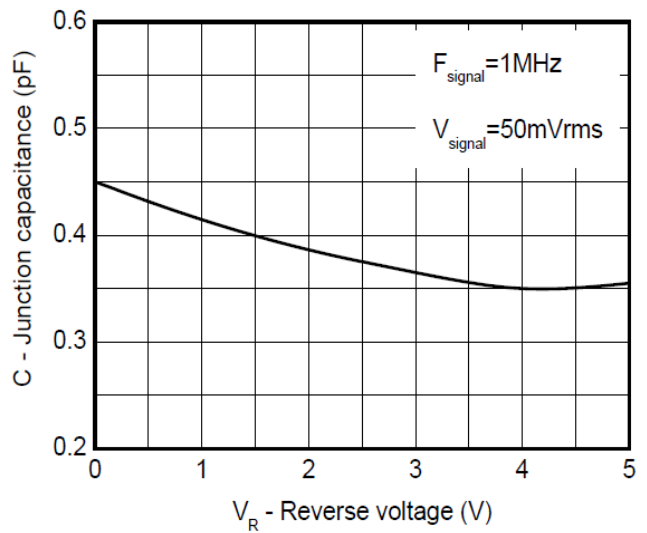


IEC61000-4-2 waveform

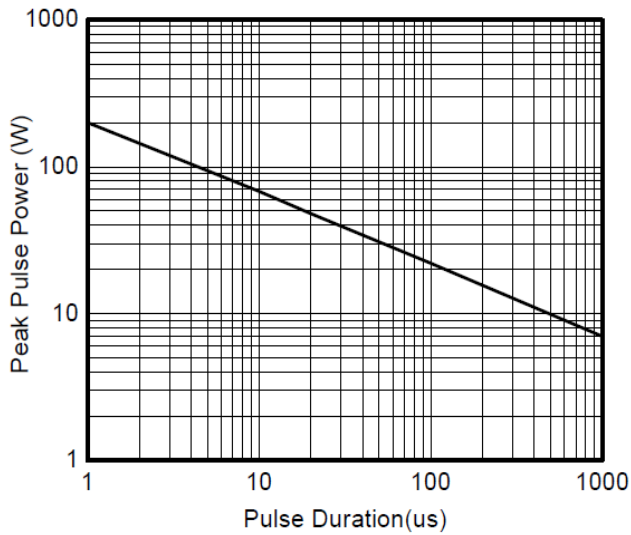
SEDFN05C



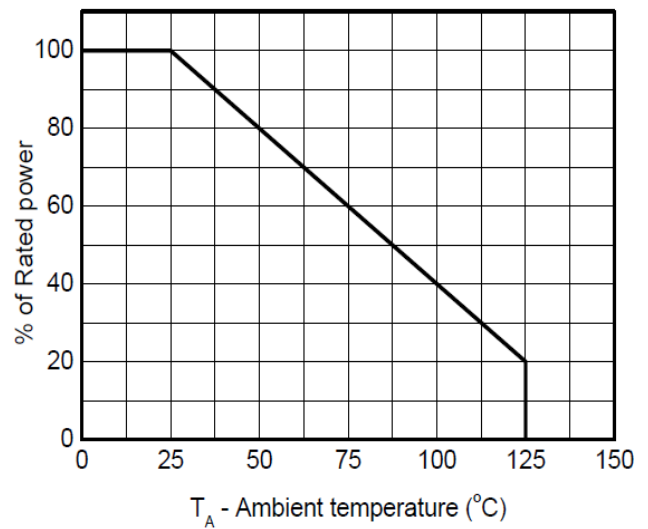
Clamping voltage vs. Peak pulse current



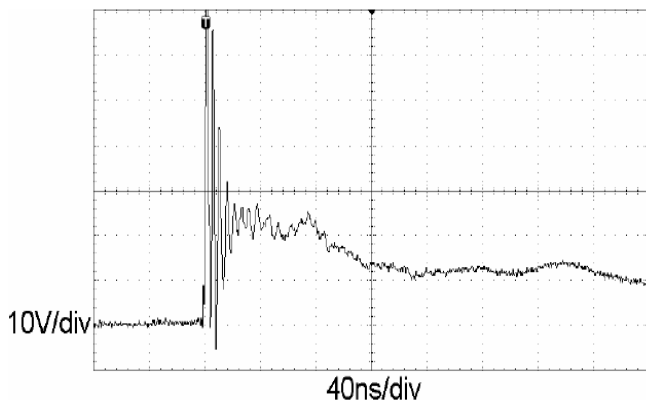
Capacitance vs. Reverse voltage



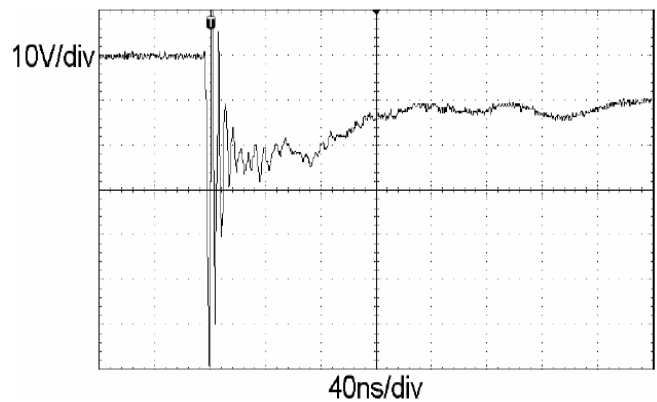
Non-Repetitive Peak Pulse Power vs. Pulse time



Power derating vs. Temperature

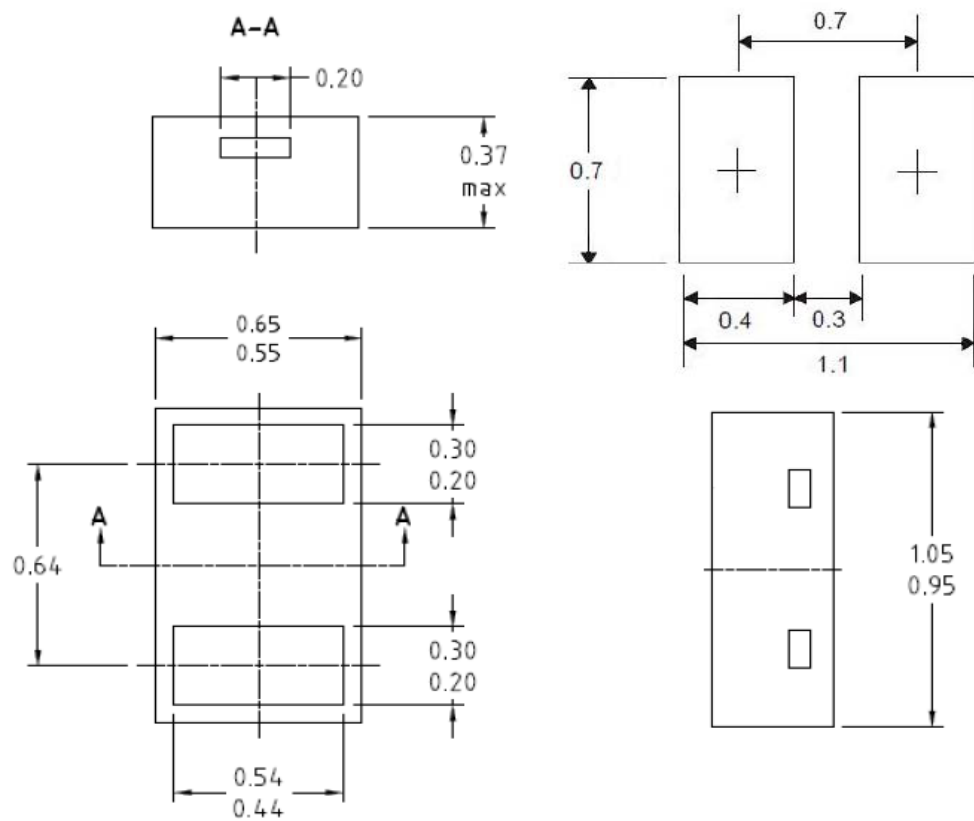


ESD clamping voltage
(IEC61000-4-2 +8KV contact)



ESD clamping voltage
(IEC61000-4-2 -8KV contact)

DFN1006-2 PACKAGE OUTLINE DIMENSIONS



Unit:mm

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