

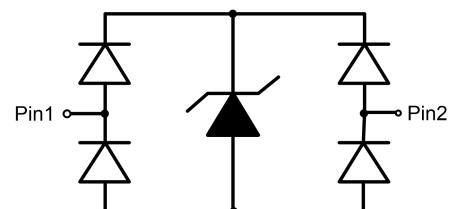
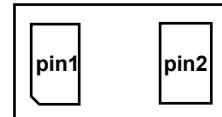
Description

- ◆ This low-power TVS (Transient Voltage Suppressor) is mainly used for signal and power supply to protect the back-stage circuit from ESD(Electrostatic Discharge) and EFT(Electrical Fast Transients) and improve the reliability of the product, because its extremely small package is suitable for various portable devices and mobile electronic devices.



Features

- ◆ IEC61000-4-2(ESD): $\pm 20\text{KV}$ Max Air
 $\pm 15\text{KV}$ Max Contact
- ◆ IEC61000-4-4(EFT): $40\text{A}(5/50\text{ns})$
- ◆ IEC61000-4-5(Surge): $4.0\text{A}(8/20\mu\text{s})$
- ◆ Line capacitance: 0.5 pF(typical) @ 1MHz
- ◆ Very low reverse current: $I_R < 0.2\mu\text{A(typical)}$
- ◆ Halogen free ,Lead free and RoHs



Circuit diagram

Application

- ◆ Cellular phones
- ◆ Portable devices
- ◆ Digital cameras
- ◆ Player
- ◆ Smart home
- ◆ Robot

Order information

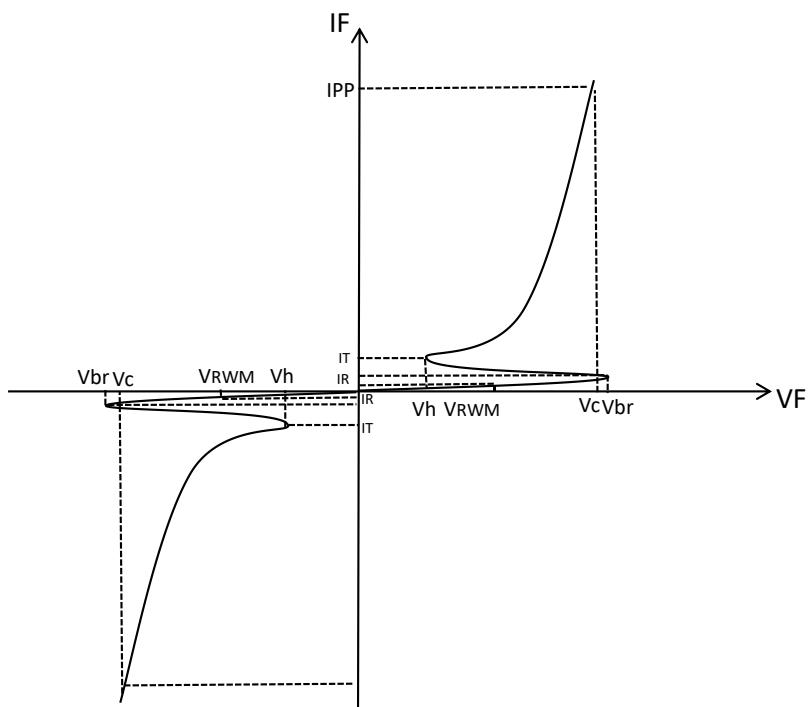
Model	Marking	Package	Shipping
ESD2D005LA	S1	DFN1006-2L	10000/Tape&Reel

Electrical characteristic($T=25^{\circ}\text{C}$, unless otherwise specified)

Parameter	Symbol	Conditions	Min.	TYP.	Max.	Units
Reverse stand-off voltage	V_{RWM}				± 2.0	V
Reverse leakage current	I_R	$V_{RWM}=2.0\text{V}$			0.2	μA
Reveres breakdown voltage	V_{BR}	$I_T=1\text{mA}$	6.5	8.5		V
Holding voltage	V_h	$I_T=100\text{mA}$	2.0		4.0	V
Clamping voltage	V_C	$I_{PP}=1\text{A}(8/20\mu\text{s})$		5.0		V
		$I_{PP}=4\text{A}(8/20\mu\text{s})$			6.0	V
Junction capacitance	C_J	$V_R=0\text{V} f=1\text{MHz}$		0.5	0.7	pF
		$V_R=0\text{V} f=1\text{GHz}$		0.3		pF

Electrical characteristic($T=25^{\circ}\text{C}$, unless otherwise specified)**Electrical performance curve**

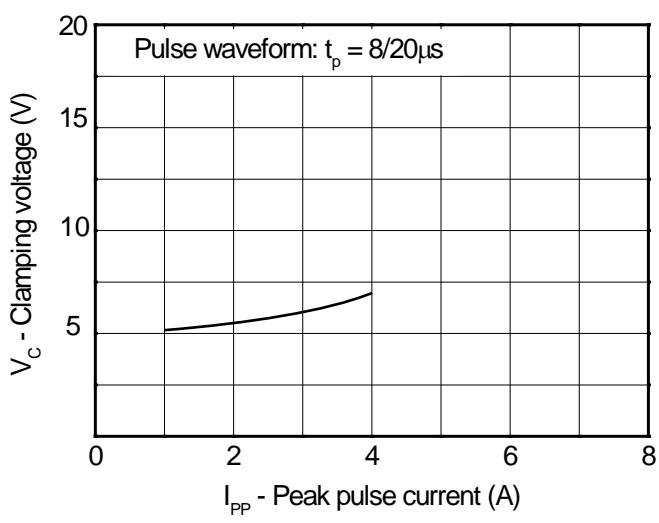
- V_F Forward voltage
 I_F Forward current
 V_R Reverse voltage
 I_R Reverse current
 R_{DYN} Dynamic resistance
 V_{RWM} Reverse working voltage max
 V_{t1} Trigger voltage
 V_h Holding voltage
 V_{CL} Clamping voltage
 V_{TLP} TLP voltage
 I_R Reverse leakage current
 I_{PP} Peak pulse current
 I_{TLP} TLP current
 I_T Test current



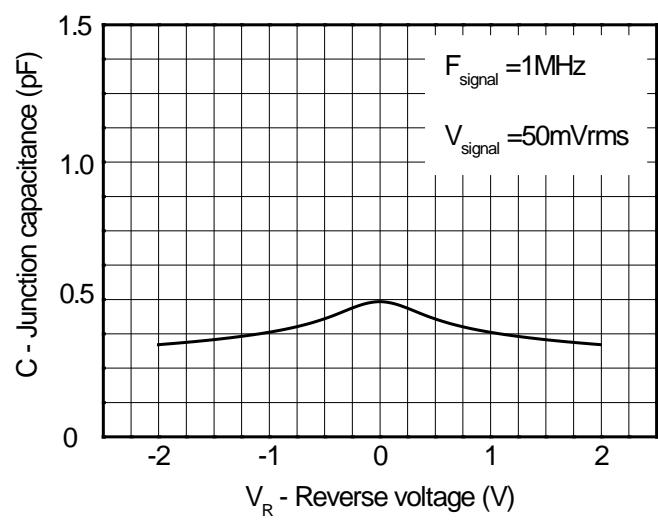
Maximum Rating

Rating	symbol	value	Units
Peak Pulse Current($t_p=8/20\mu s$)	I_{pp}	4.0	A
ESD per IEC61000-4-2(Contact)	V_{ESD}	± 15	KV
ESD per IEC61000-4-2(Air)		± 20	
Operating Temperature	T_J	-40~125	°C
Storage Temperature	T_{STG}	-55~150	°C

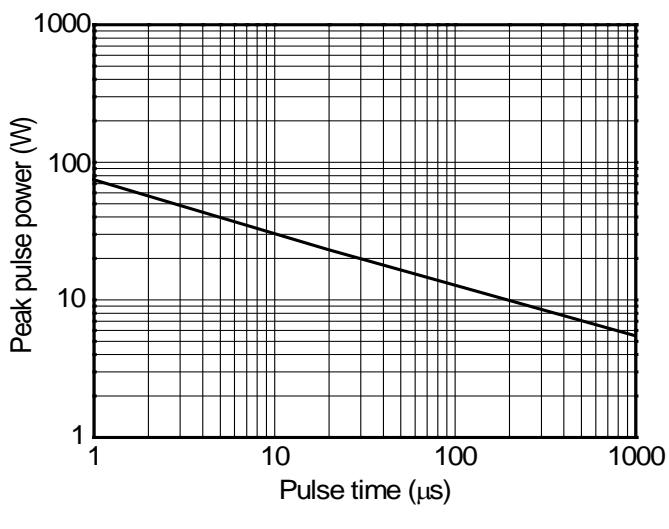
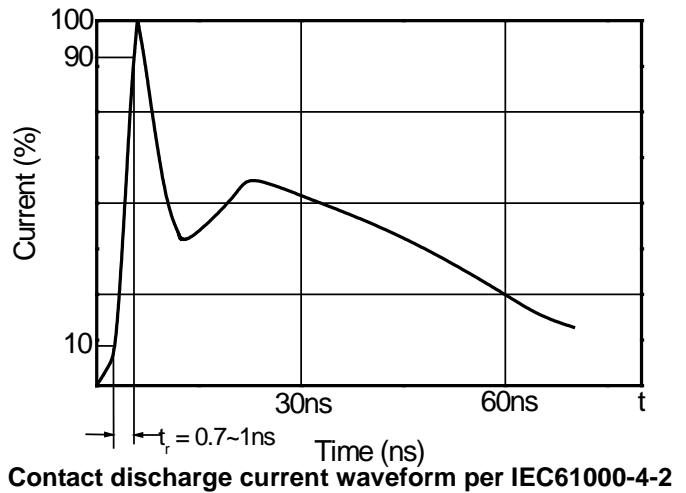
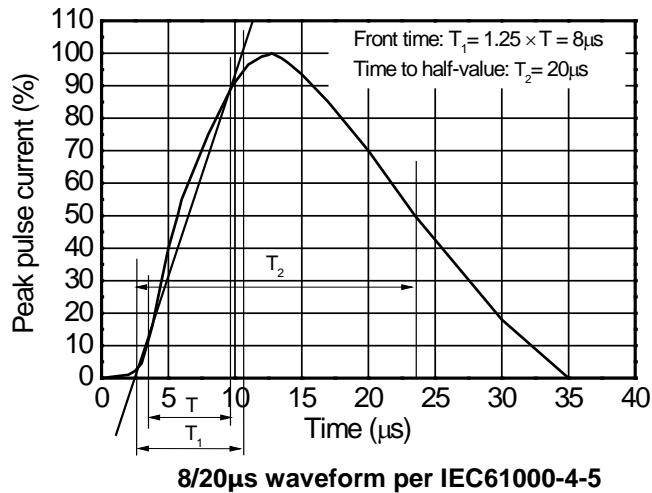
Typical characteristic



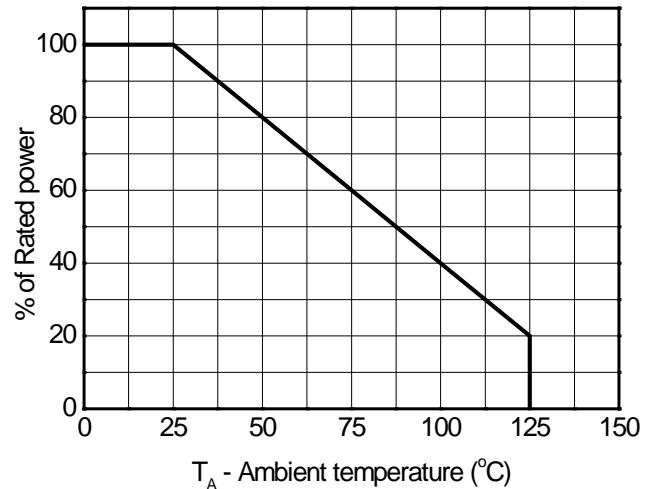
Clamping voltage vs. Peak pulse current



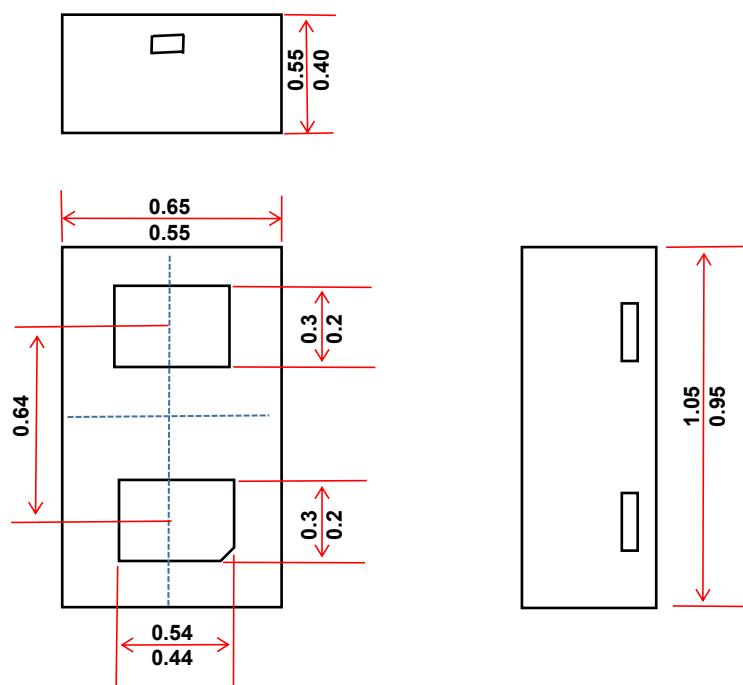
Capacitance vs. Reveres voltage



Non-repetitive peak pulse power vs. Pulse time



Power derating vs. Ambient temperature

Dimension outline Unit:mm**DFN1006-2L(SOD882)****Recommended Mounting Pad Layout** Unit:mm