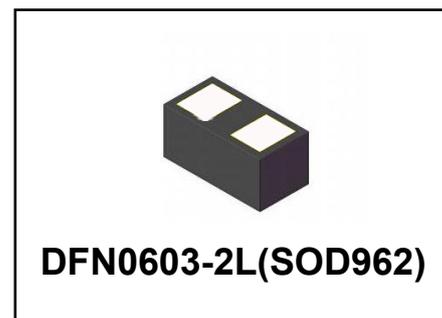


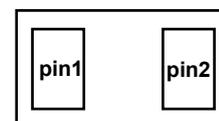
Description

- ◆ 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.



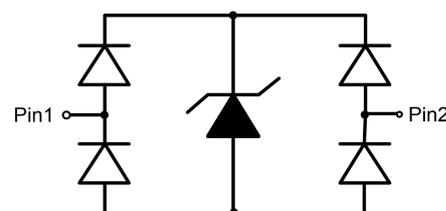
Features

- ◆ IEC61000-4-2(ESD): ±20KV Max Air
±20KV Max Contact
- ◆ IEC61000-4-4(EFT): 40A(5/50ns)
- ◆ IEC61000-4-5(Surge): 9A(8/20us)
- ◆ Line capacitance: 0.2pF(typical)@1MHz
- ◆ Very low reverse current: $I_R < 0.5\mu A$ (typical)
- ◆ Halogen free ,Lead free and RoHs



Application

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



Circuit Diagram

Order information

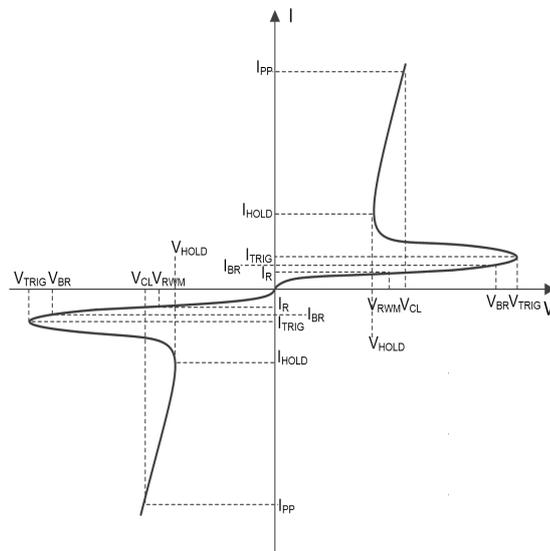
Model	Marking	Package	shipping
ESD3V3E002LA	a	DFN0603-2L	10000/Tape&Reel

Electrical characteristic(T=25°C, unless otherwise specified)

Parameter	Symbol	Conditions	Min.	TYP.	Max.	Units
Reverse stand-off voltage	V_{RWM}				± 3.3	V
Reverse leakage current	I_R	$V_{RWM}=3.3V$			0.5	μA
Reveres breakdown voltage	V_B	$I_T=1mA$	4.0			V
Reveres holding voltage	V_h	$I_h=100mA$	1.2		3.0	V
Dynamic resistance	R_{DYN}	$T_p=10/100ns$		0.23		
Clamping voltage	V_C	$I_{PP}=16A, t_p=10/100ns$		6.0		V
		$I_{pp}=9A, t_p=8/20\mu s$		6.0		V
Junction capacitance	C_J	$V_R=0V f=1MHz$		0.20	0.25	pF
		$V_R=0V f=1GHz$		0.15		pF

Electrical characteristic(T=25°C, unless otherwise specified)

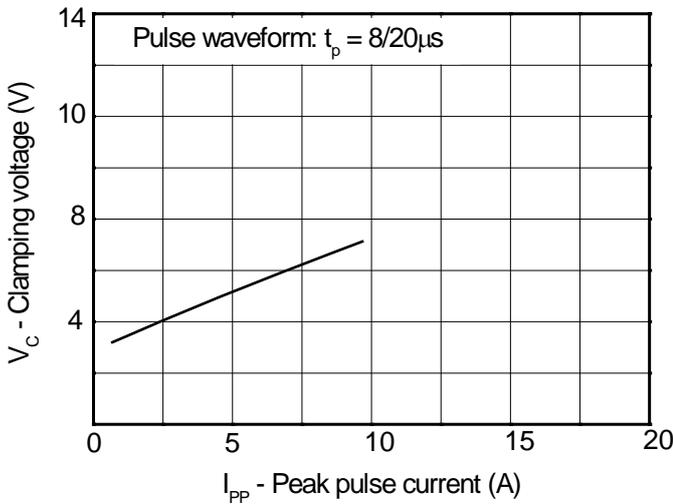
- V_{RWM} Reverse stand-off voltage
- I_R Reverse leakage current
- V_{CL} Clamping voltage
- I_{PP} Peak pulse current
- V_{TRIG} Reverse trigger voltage
- I_{TRIG} Reverse trigger current
- V_{BR} Reverse breakdown voltage
- I_{BR} Reverse breakdown current
- V_{HOLD} Reverse holding voltage
- I_{HOLD} Reverse holding current



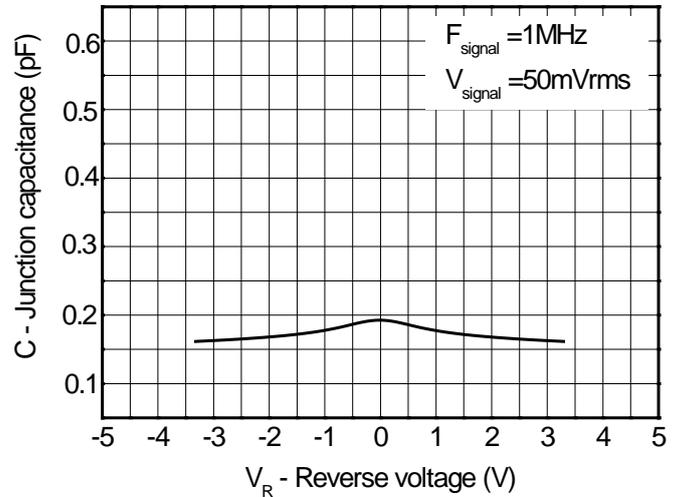
Maximum Rating

Rating	symbol	value	Units
Peak Pulse Current($t_p=8/20\mu s$)	I_{pp}	9.0	A
ESD per IEC61000-4-2(Contact)	V_{ESD}	± 20	KV
ESD per IEC61000-4-2(Air)		± 20	
Operating Temperature	T_J	-55~125	$^{\circ}C$
Storage Temperature	T_{STG}	-55~155	$^{\circ}C$

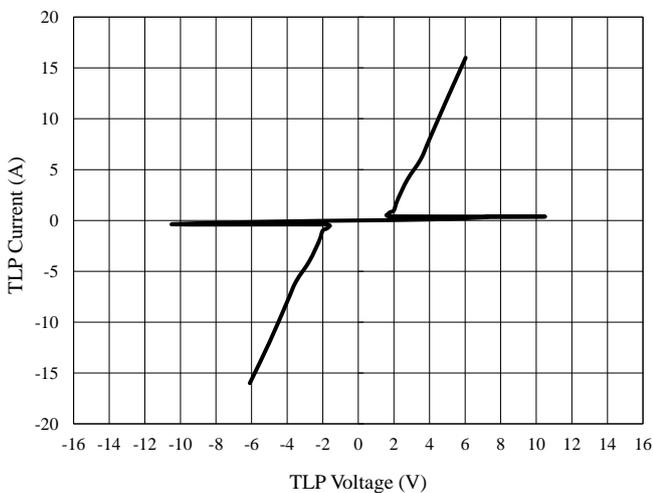
Typical characteristic



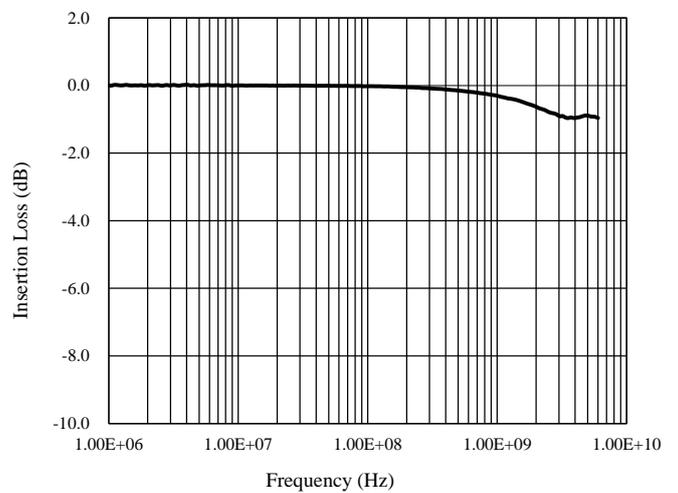
Clamping voltage vs. Peak pulse current



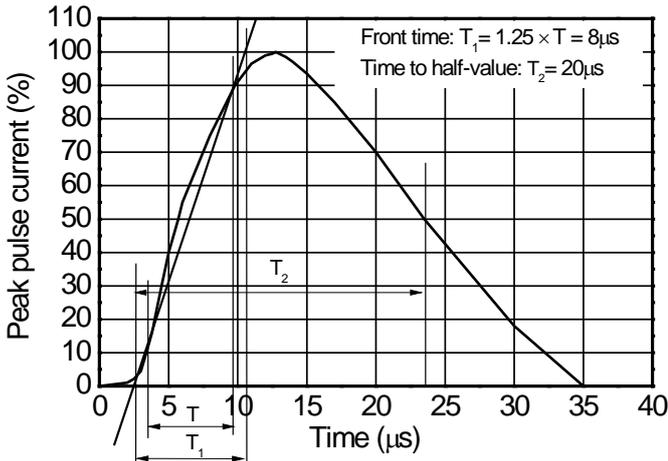
Capacitance vs. Reverse voltage



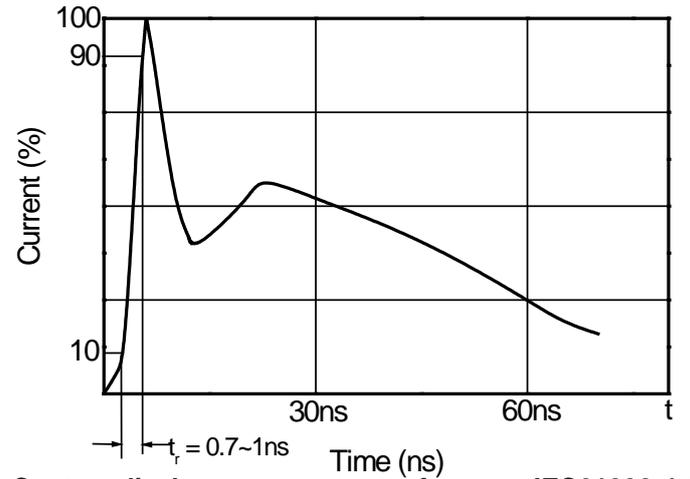
TLP Testing of I/O to I/O



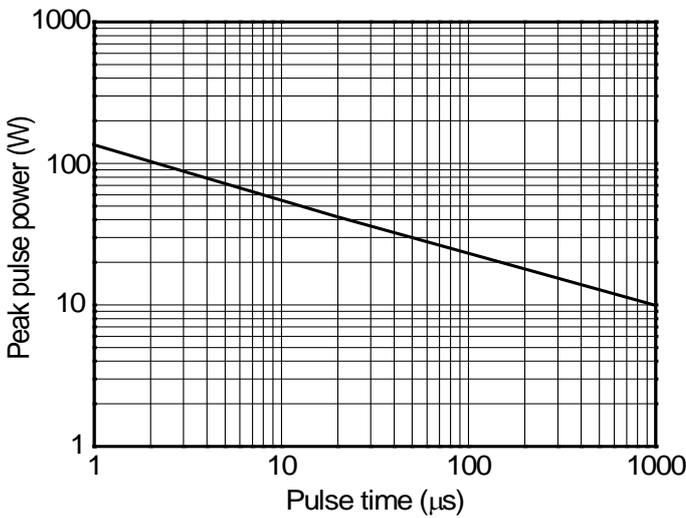
Insertion Loss S21 of I/O to I/O



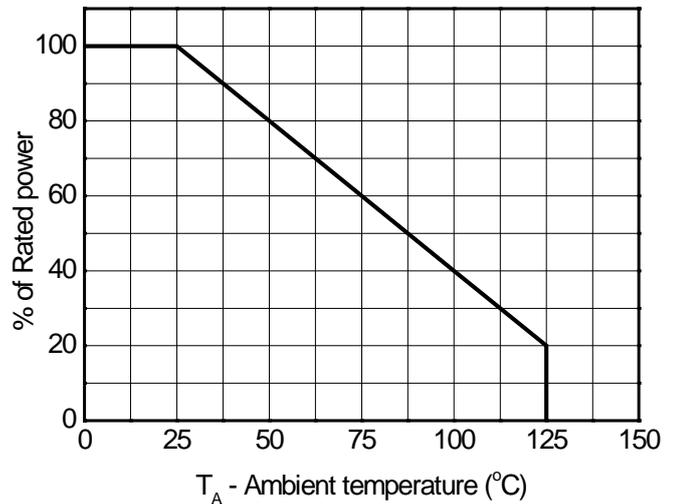
8/20μs waveform per IEC61000-4-5



Contact discharge current waveform per IEC61000-4-2



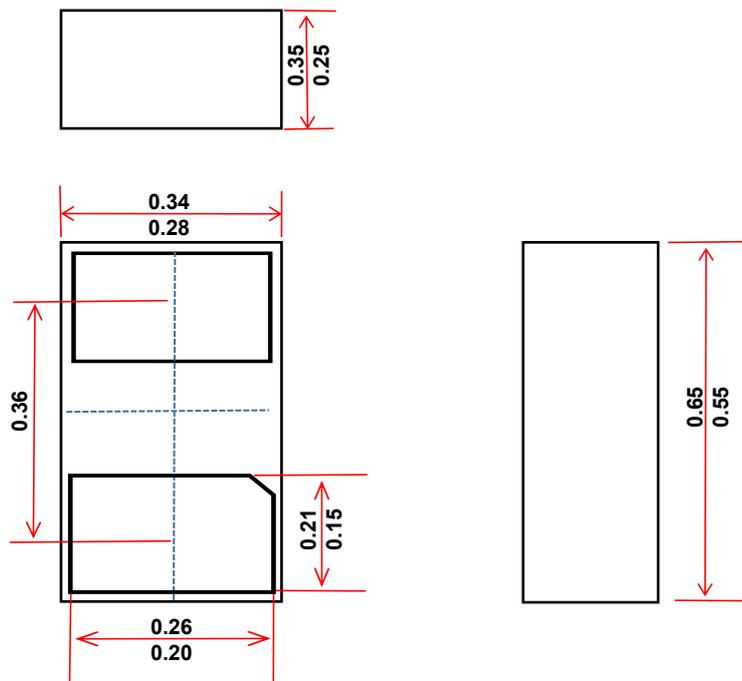
Non-repetitive peak pulse power vs. Pulse time



Power derating vs. Ambient temperature

Dimension outline Unit:mm

DFN0603-2L(SOD962)



Recommended Mounting Pad Layout Unit:mm

