

## V<sub>WM</sub>=5V, 2pF ESD Protection Diode

### FEATURES

- Meet IEC61000-4-2(ESD) ±15kV(air) , ±8kV(contact)
- Working Voltage: 5V
- Compliant to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

### APPLICATIONS

- High Speed Data Lines: USB 2.0 / VGA/ DVI /SDI
- Notebooks, Desktops and Servers
- Touch Panel

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
P <sub>PPSM</sub>	100	W
I <sub>PP</sub>	3	A
V <sub>WM</sub>	5	V
V <sub>(BR)</sub> at I <sub>R</sub> = 1 mA	6	V
V <sub>C</sub> at I <sub>PP</sub> = 3 A	15	V
Package	DFN1006L	
Configuration	Single dice	

### MECHANICAL DATA

- Case: DFN1006L
- Molding compound meets UL 94 V-0 flammability rating
- Moisture sensitivity level: level 1, per J-STD-020
- Packing code with suffix "G" means green compound (halogen-free)
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: As marked
- Weight: 0.742 mg (approximately)



ABSOLUTE MAXIMUM RATINGS (T <sub>A</sub> = 25°C unless otherwise noted)			
PARAMETER	SYMBOL	TESD5V0L1UC	UNIT
Marking code on the device		BH	
Rated random recurring peak Impulse power dissipation (tp=8/20µs waveform)	P <sub>PPSM</sub>	100	W
Peak impulse current (tp=8/20µs waveform)	I <sub>PP</sub>	3	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V <sub>ESD</sub>	±15 ±8	kV
Junction temperature range	T <sub>J</sub>	-55 to +150	°C
Storage temperature range	T <sub>STG</sub>	-55 to +150	°C

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Forward voltage per diode <sup>(1)</sup>	$I_R = 1 \text{ mA}$	$V_{(BR)}$	6	-	-	V
Rated working standoff voltage		$V_{WM}$	-	-	5	V
Reverse current <sup>(1)</sup>	$V_R = 5 \text{ V}$	$I_R$	-	-	0.1	$\mu\text{A}$
Clamping voltage <sup>(2)</sup>	$I_{PP} = 1 \text{ A}$	$V_C$	-	-	10	V
Clamping voltage <sup>(2)</sup>	$I_{PP} = 3 \text{ A}$	$V_C$	-	-	15	V
Junction capacitance	1 MHz, $V_R = 0\text{V}$	$C_J$	-	-	2	pF

**Notes:**

1. Pulse test with PW=30 ms
2.  $t_p = 8/20\mu\text{s}$  waveform

<b>ORDERING INFORMATION</b>				
PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
TESD5V0L1UC (Note 1)	RJ	G	DFN1006L	10K / 7" Reel

**Notes:**

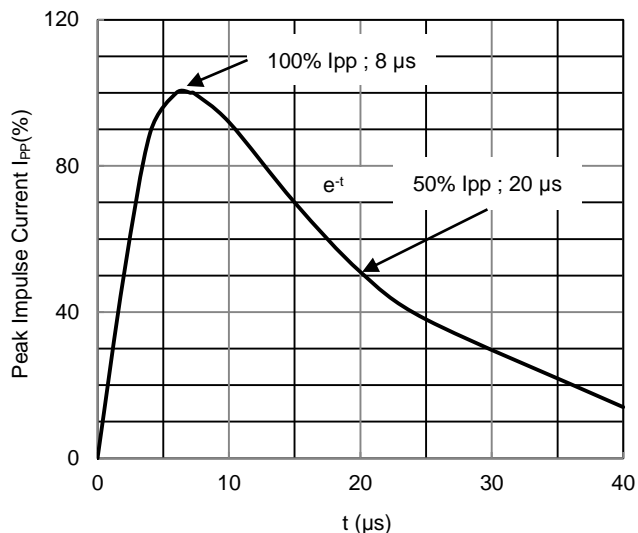
1. Whole series with green compound

<b>EXAMPLE</b>				
EXAMPLE P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
TESD5V0L1UC RJG	TESD5V0L1UC	RJ	G	Green compound

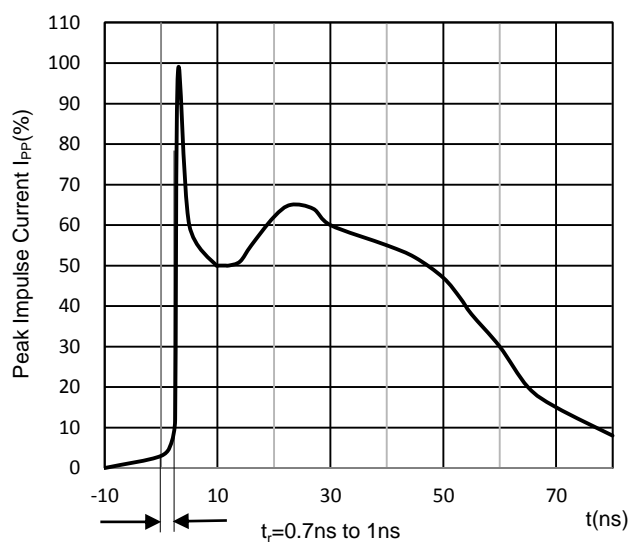
**CHARACTERISTICS CURVES**

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

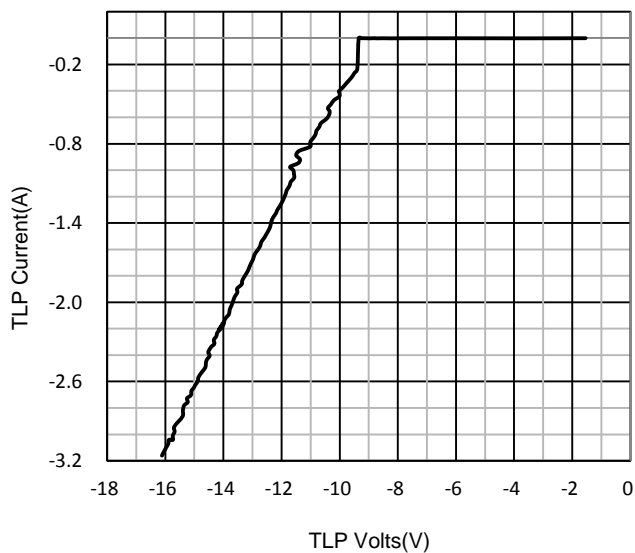
**Fig.1 8/20 $\mu\text{s}$  pulse waveform according to IEC 61000-4-5**



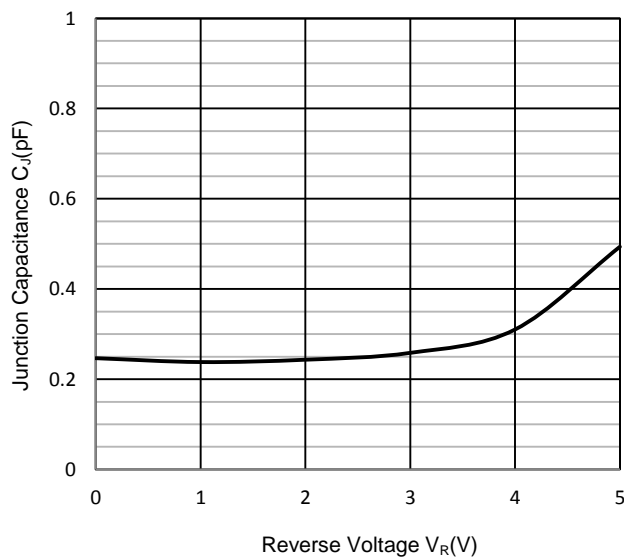
**Fig.2 ESD pulse waveform according to IEC 6100-4-2**



**Fig.3 TLP I-V Curve**

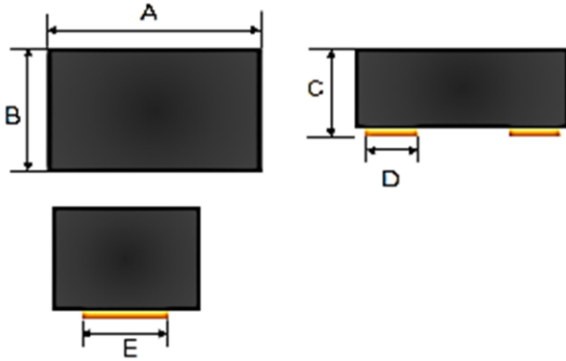


**Fig.4 Typical Junction Capacitance**



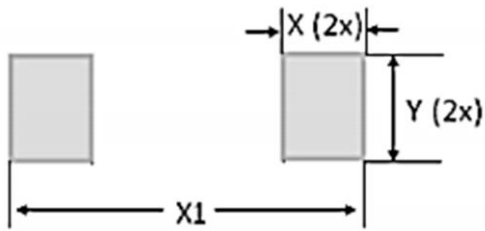
**PACKAGE OUTLINE DIMENSION**

DFN1006L



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	0.950	1.050	0.037	0.041
B	0.550	0.650	0.022	0.026
C	0.360	0.400	0.014	0.015
D	0.300 TYP.		0.012 TYP.	
E	0.500 TYP.		0.020 TYP.	

**SUGGESTED PAD LAYOUT**



DIM.	Unit (mm)	Unit (inch)
	Typ.	Typ.
X	0.354	0.014
X1	1.110	0.044
Y	0.354	0.014

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