

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

### FEATURES

- Meet IEC61000-4-2(ESD) ±15kV(air) , ±8kV(contact)
- Working Voltage: 5V
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- 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

### MECHANICAL DATA

- Case: DFN1006L
- Molding compound meets UL 94 V-0 flammability rating
- 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)

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 die	



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

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

PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Reverse breakdown voltage <sup>(1)</sup>	$I_R = 1 \text{ mA}$	$V_{(BR)}$	6	-	9.8	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	$f = 1 \text{ MHz}, V_R = 0\text{V}$	$C_J$	-	-	2	pF

**Notes:**

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

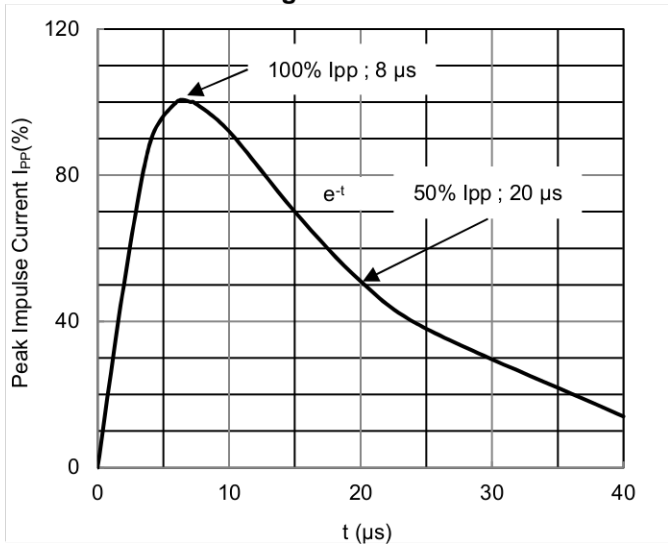
**ORDERING INFORMATION**

ORDERING CODE	PACKAGE	PACKING
TESD5V0L1UC RJG	DFN1006L	5K / 7" Reel

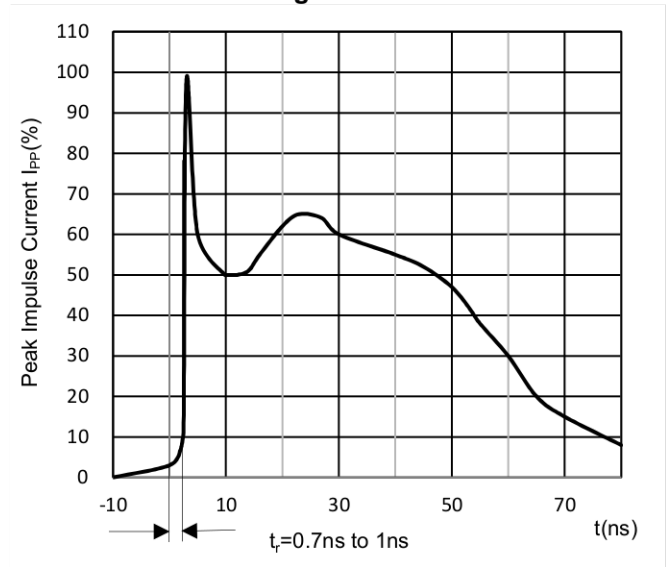
**CHARACTERISTICS CURVES**

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

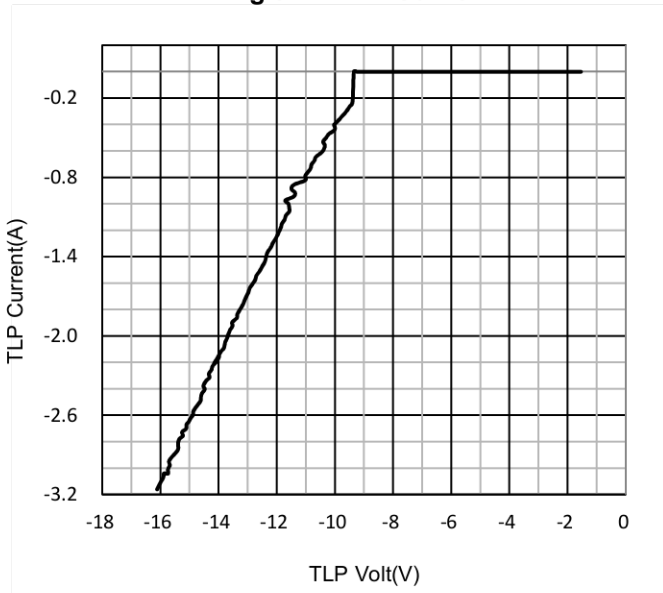
**Fig.1 8/20 $\mu\text{s}$  pulse waveform according to IEC 61000-4-5**



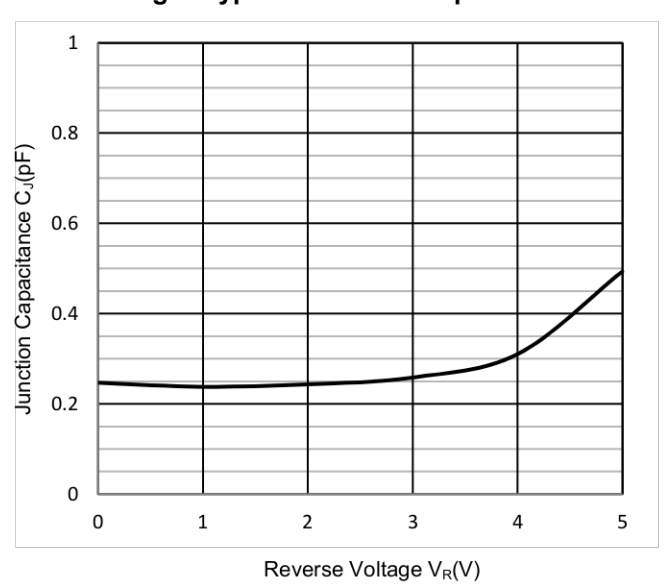
**Fig.2 ESD pulse waveform according to IEC 6100-4-2**



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

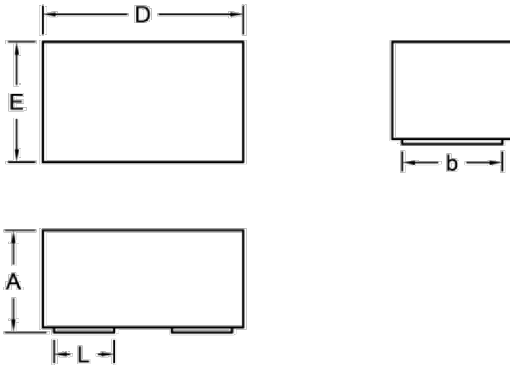


**Fig.4 Typical Junction Capacitance**



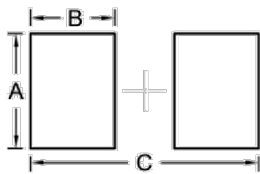
**PACKAGE OUTLINE DIMENSION**

DFN1006L



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	0.46	0.51	0.018	0.020
b	0.50 (TYP.)		0.020 (TYP.)	
D	0.95	1.05	0.037	0.041
E	0.55	0.65	0.022	0.026
L	0.30 (TYP.)		0.012 (TYP.)	

**SUGGESTED PAD LAYOUT**



Symbol	Unit (mm)	Unit (inch)
A	0.56	0.022
B	0.41	0.016
C	1.11	0.044

## Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Purchasers are solely responsible for the choice, selection, and use of TSC products and TSC assumes no liability for application assistance or the design of Purchasers' products.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.