

$V_{WM}=5V$, 2pF ESD Protection Diode

FEATURES

- Meet IEC61000-4-2(ESD) $\pm 15kV$ (air) , $\pm 8kV$ (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_{PPSM}	100	W
I_{PP}	3	A
V_{WM}	5	V
$V_{(BR)}$ at $I_R=1\text{ mA}$	6	V
V_C at $I_{PP}=3\text{ A}$	15	V
Package	DFN1006L	
Configuration	Single die	

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 ($T_A = 25^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	TESD5V0L1UC	UNIT
Marking code on the device		BH	
Rated random recurring peak Impulse power dissipation (tp=8/20 μs waveform)	P_{PPSM}	100	W
Peak impulse current (tp=8/20 μs waveform)	I_{PP}	3	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	± 15 ± 8	kV
Junction temperature range	T_J	-55 to +150	$^\circ\text{C}$
Storage temperature range	T_{STG}	-55 to +150	$^\circ\text{C}$

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

PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Forward voltage per diode ⁽¹⁾	$I_R = 1 \text{ mA}$	$V_{(BR)}$	6	-	-	V
Rated working standoff voltage		V_{WM}	-	-	5	V
Reverse current ⁽¹⁾	$V_R = 5 \text{ V}$	I_R	-	-	0.1	μA
Clamping voltage ⁽²⁾	$I_{PP} = 1 \text{ A}$	V_C	-	-	10	V
Clamping voltage ⁽²⁾	$I_{PP} = 3 \text{ A}$	V_C	-	-	15	V
Junction capacitance	1 MHz, $V_R = 0\text{V}$	C_J	-	-	2	pF

Notes:

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

ORDERING INFORMATION

PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
TESD5V0L1UC (Note 1)	RJ	G	DFN1006L	5K / 7" Reel

Notes:

1. Whole series with green compound

EXAMPLE

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 μs pulse waveform according to IEC 61000-4-5

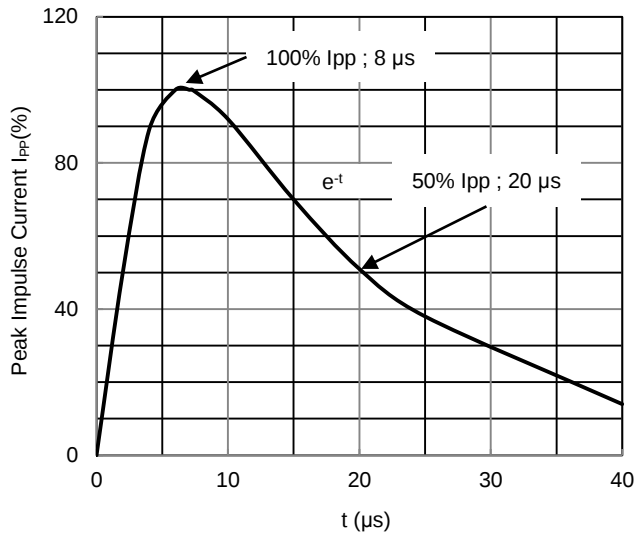


Fig.2 ESD pulse waveform according to IEC 6100-4-2

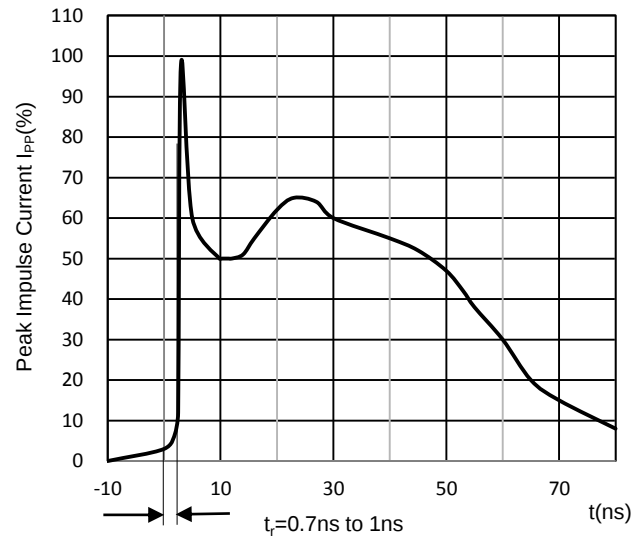


Fig.3 TLP I-V Curve

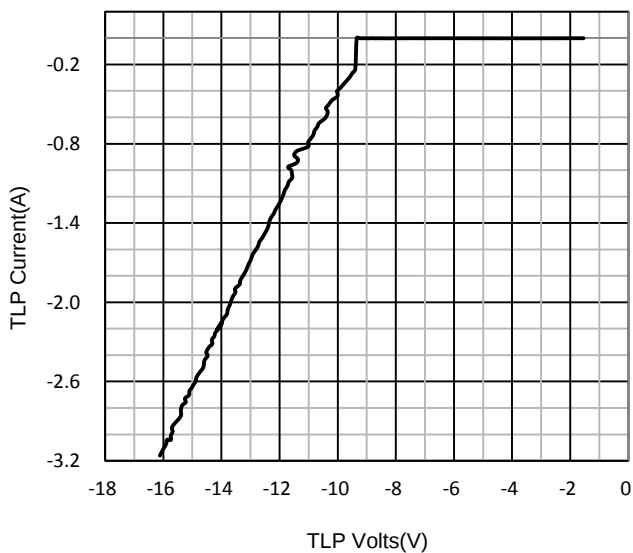
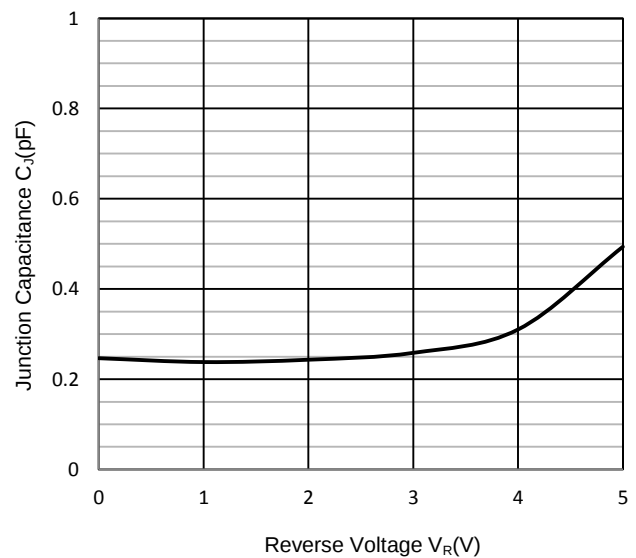
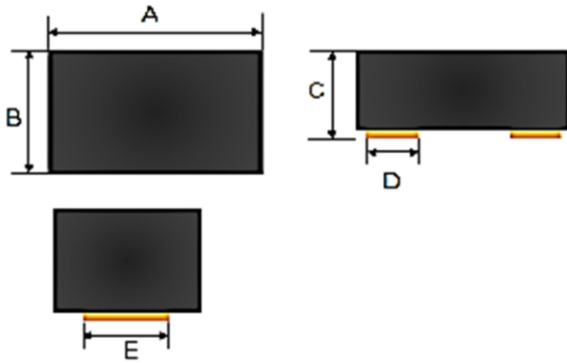


Fig.4 Typical Junction Capacitance



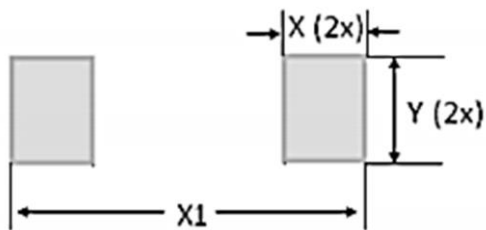
PACKAGE OUTLINE DIMENSION

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

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.

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.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Taiwan Semiconductor:](#)

[TESD5V0L1UC RJG](#)