

# ESD Suppressor 5V 2-Unidirectional DFN1006-3

ME52U15D023

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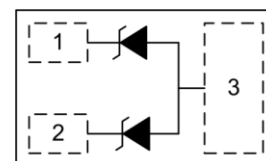
## FEATURE

- IEC 61000-4-2 ESD:  $\pm 20\text{KV}$  (Air)  $\pm 15\text{KV}$  (Contact)
- IEC 61000-4-4 EFT: 40A (5/50ns)
- IEC 61000-4-5 Lightning: 4A (8/20 $\mu\text{s}$ )
- Low Capacitance
- Low Clamping Voltage
- Solid-State Silicon-Avalanche Technology



## APPLICATION

- USB 3.0 Data Lines Protection
- Data and I/O Lines Protection
- Video Lines Protection
- Hand Held Portable Devices
- Destops and Notebooks



## MAXIMUM RATINGS AND CHARACTERISTICS

Parameter	Symbol	Value	Unit
ESD Voltage per IEC61000-4-2 (Contact discharge)	$V_{ESD}$	$\pm 15$	KV
ESD Voltage per IEC61000-4-2 (Air discharge)		$\pm 20$	KV
Operating & Storage Temperature Range	$T_J, T_{STG}$	-55~+150	$^{\circ}\text{C}$

## ELECTRICAL CHARACTERISTICS

Parameter	Condition	Symbol	Min.	Typ.	Max.	Unit
Reverse Stand-Off Voltage	--	$V_{RWM}$	--	--	5	V
Reverse Breakdown Voltage	$I_{BR}=1\text{mA}$	$V_{BR}$	5.5	--	--	V
Reverse Leakage Current	$V_R=5\text{V}$	$I_R$	--	--	50	nA
Clamping Voltage	$I_{PP}=1\text{A}, t_p=8/20\mu\text{s}$	$V_C$	--	--	10	V
	$I_{PP}=4\text{A}, t_p=8/20\mu\text{s}$		--	--	15	
Clamping Voltage TLP	$I_{PP}=8\text{A}, t_p=100\text{ns}$	$V_C$	--	16	--	V
	$I_{PP}=16\text{A}, t_p=100\text{ns}$		--	23.5	--	
Dynamic Resistance	$t_p=100\text{ns}$	$R_{DYN}$	--	0.94	--	$\Omega$
Off State Junction Capacitance	$V_{dc}=2.5, f=1\text{MHz}$ , Any I/O pins to GND	$C_J$	--	0.30	0.35	pF
	$V_{dc}=2.5, f=1\text{MHz}$ Between any I/O pins		--	0.20	--	

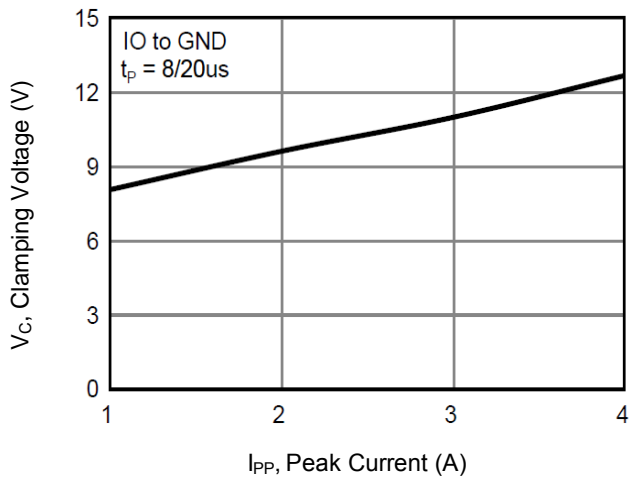
Notes:

1.  $T_J=25^{\circ}\text{C}$  unless otherwise specified

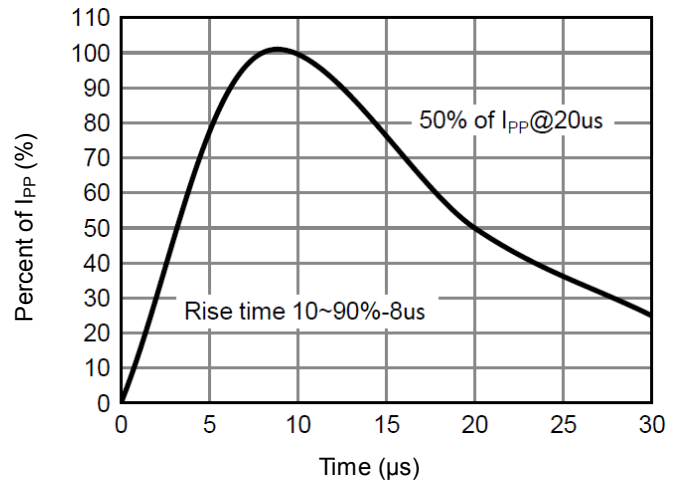
2. Transmission Line Pulse (TLP) test condition:  $Z_0=50\Omega, t_p=100\text{ns}$

## CHARACTERISTIC CURVES

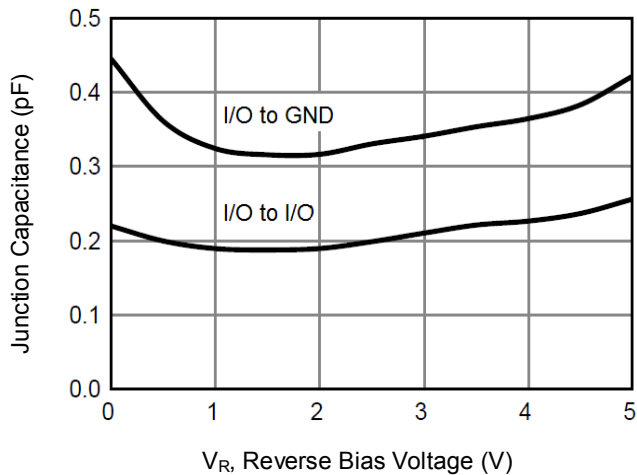
Typical Peak Clamping Voltage



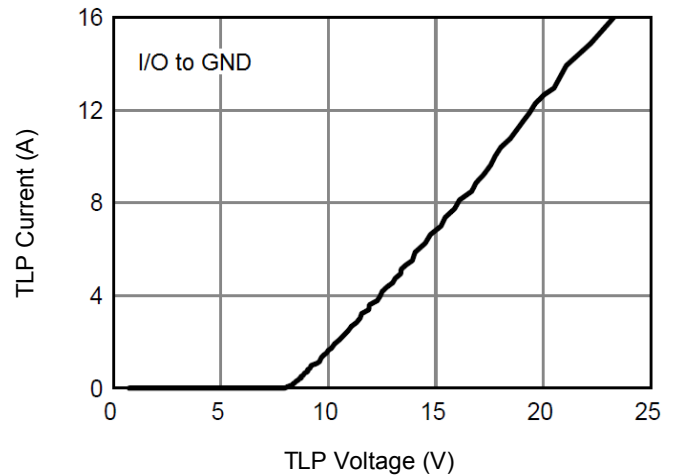
Pulse Waveform



Typical Junction Capacitance



TLP Measurement



# ESD Suppressor

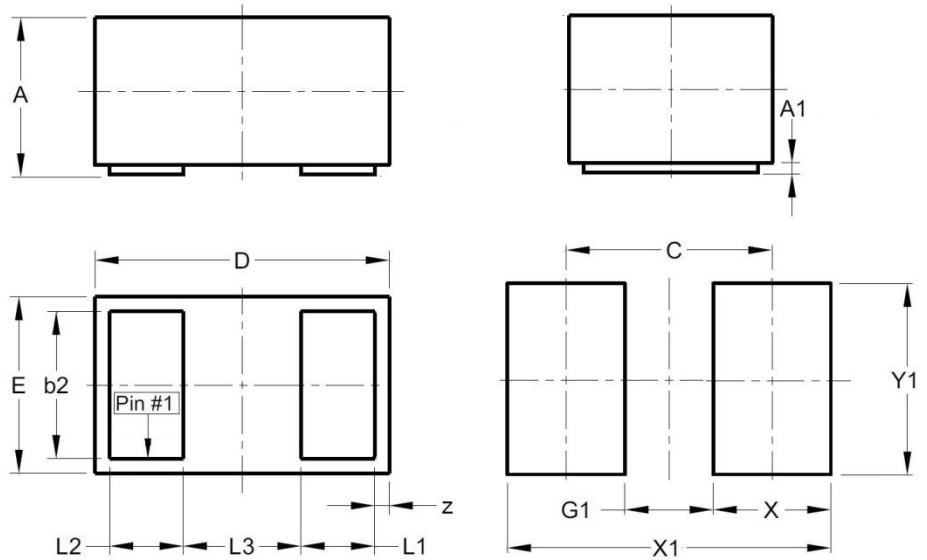
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### DIMENSIONS AND RECOMMENDED LAND PATTERN

Item	Min (mm)	Max (mm)
A	0.45	0.55
A1	-	0.05
b2	0.45	0.55
D	0.95	1.05
E	0.55	0.65
z	0.10	0.10
L1	0.20	0.30
L2	0.20	0.30
L3	0.40	0.40
C	0.70	0.70
G1	0.30	0.30
X	0.40	0.40
X1	1.10	1.10
Y1	0.60	0.60



\*Specifications subject to change without notice.