

# ESD Suppressor 5.5V Bidirectional DFN0603

ME5V51B14D01

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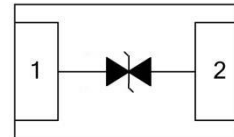
## FEATURE

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



## APPLICATION

- High Definition Multimedia Interface (HDMI)
- Display Port Interface
- USB Interface
- SATA Interface
- Mobile Phones



## MAXIMUM RATINGS AND CHARACTERISTICS

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

## ELECTRICAL CHARACTERISTICS

Parameter	Condition	Symbol	Min.	Typ.	Max.	Unit
Reverse Stand-Off Voltage	--	$V_{\text{RWM}}$	--	--	5.5	V
Reverse Breakdown Voltage	$I_{\text{BR}}=1\text{mA}$	$V_{\text{BR}}$	6	--	--	V
Reverse Leakage Current	$V_{\text{R}}=5\text{V}$	$I_{\text{R}}$	--	--	50	nA
Clamping Voltage	$I_{\text{PP}}=1\text{A}, t_{\text{p}}=8/20\mu\text{s}$	$V_{\text{C}}$	--	11	--	V
	$I_{\text{PP}}=2\text{A}, t_{\text{p}}=8/20\mu\text{s}$		--	14	--	
Clamping Voltage TLP	$I_{\text{PP}}=8\text{A}, t_{\text{p}}=100\text{ns}$	$V_{\text{C}}$	--	21	--	V
	$I_{\text{PP}}=16\text{A}, t_{\text{p}}=100\text{ns}$		--	30	--	
Dynamic Resistance	$t_{\text{p}}=100\text{ns}$	$R_{\text{DYN}}$	--	1.1	--	$\Omega$
Off State Junction Capacitance	$V_{\text{dc}}=0, f=1\text{MHz}$	$C_{\text{J}}$	--	--	0.2	pF

Notes:

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

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

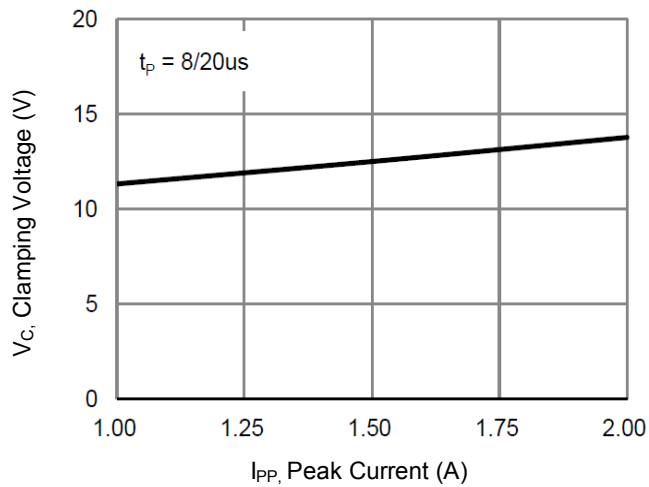
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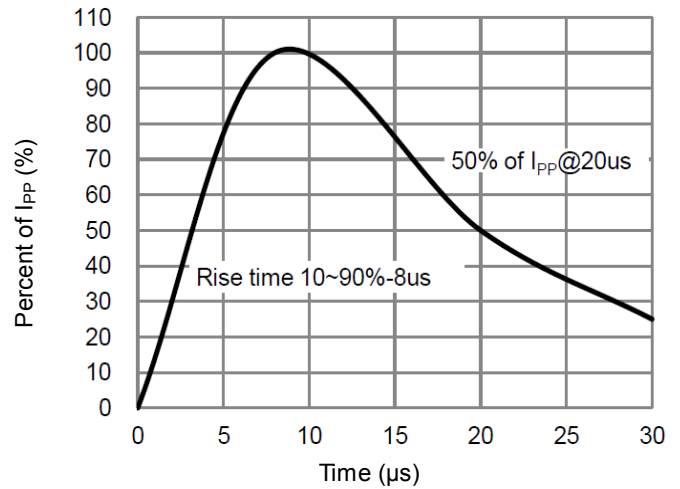
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## CHARACTERISTIC CURVES

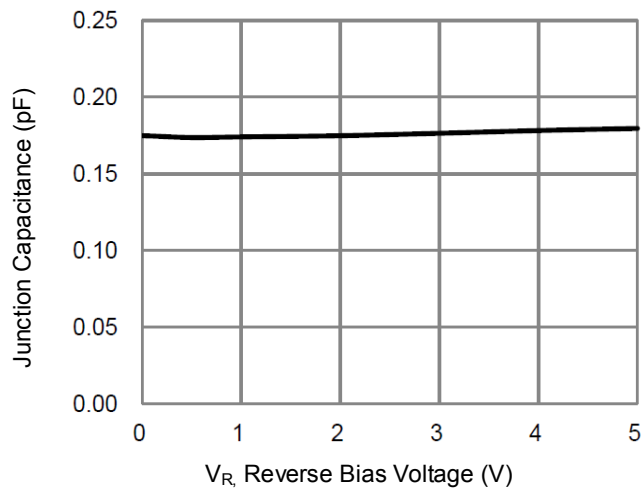
Typical Peak Clamping Voltage



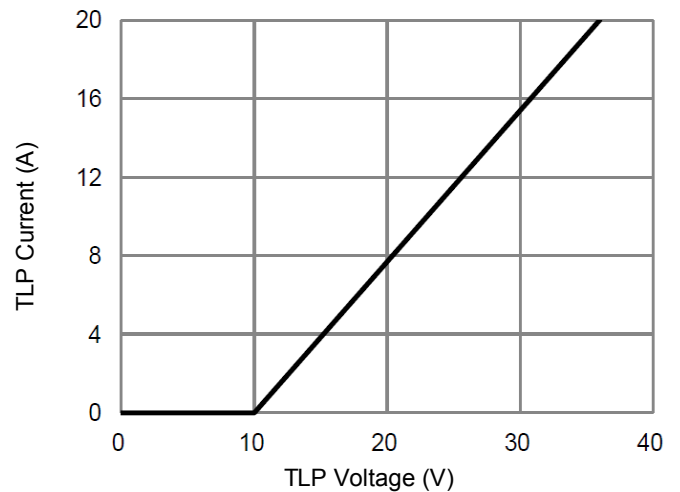
Pulse Waveform



Typical Junction Capacitance



TLP Measurement



# ESD Suppressor

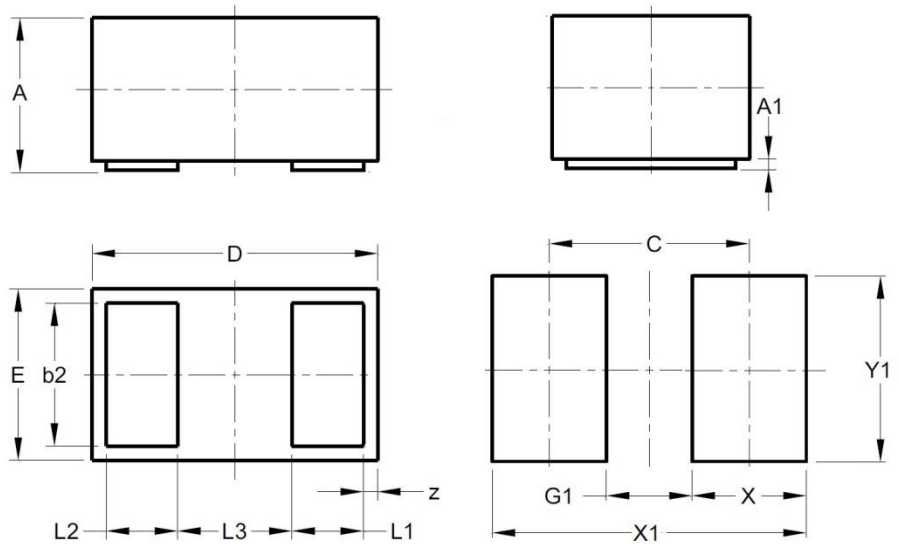
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### DIMENSIONS AND RECOMMENDED LAND PATTERN

Item	Min (mm)	Max (mm)
A	0.27	0.37
A1	-	-
b2	0.20	0.28
D	0.57	0.67
E	0.27	0.37
z	0.10	0.10
L1	0.10	0.18
L2	0.10	0.18
L3	0.24	0.24
C	0.40	0.40
G1	0.16	0.16
X	0.24	0.24
X1	0.64	0.64
Y1	0.34	0.34



\*Specifications subject to change without notice.