

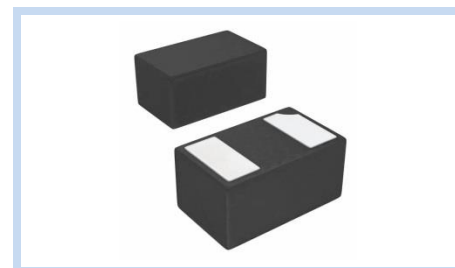
ESD Suppressor 5V Bidirectional DFN0603

ME51B11D01P35

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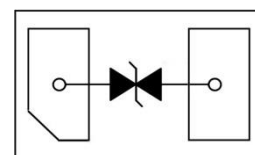
FEATURE

- IEC 61000-4-2 ESD: $\pm 30\text{KV}$ (Air) $\pm 25\text{KV}$ (Contact)
- ESD Protection for one Bidirectional Channel
- Ultra Small SMD Package
- Low Clamping Voltage



APPLICATION

- USB 2.0, USB3.0
- HDMI 1.3/1.4 and HDMI 2.0
- LVDS Interfaces
- FM Antenna
- PCI Express



MAXIMUM RATINGS AND CHARACTERISTICS

Parameter	Symbol	Value	Unit
ESD Voltage (Contact discharge)	V_{ESD}	± 25	KV
ESD Voltage (Air discharge)		± 30	
Maximum Peak Pulse Current (tp=8/20 μ s)	I_{PP}	4.5	A
Operating Temperature Range	T_J	-55~+125	$^{\circ}\text{C}$
Storage Temperature Range	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}	--	--	10	V
Reverse Leakage Current	$V_R=5\text{V}$	I_R	--	50	100	nA
Dynamic Resistance	tp=100ns	R_D	--	0.31	--	Ω
Clamping Voltage	$I_{PP}=1\text{A}$, tp=8/20 μ s	V_C	--	--	11	V
	$I_{PP}=3\text{A}$, tp=8/20 μ s		--	--	14	
Clamping Voltage TLP	$I_{PP}=-5\text{A}$, TLP=0.2/100ns	V_C	--	-11	--	V
	$I_{PP}=5\text{A}$, TLP=0.2/100ns		--	11	--	
	$I_{PP}=-30\text{A}$, TLP=0.2/100ns		--	-18	--	
	$I_{PP}=30\text{A}$, TLP=0.2/100ns		--	18	--	
Off State Junction Capacitance	Vdc=0, f=1MHz,	C_J	--	0.25	0.35	pF

Notes:

1. $T_J=25^{\circ}\text{C}$ unless otherwise specified
2. TLP Settings: tp=100ns, tr=0.2ns, I_{TLP} and V_{TLP} averaging window: t1=70ns to t2=90ns.
3. Dynamic resistance calculated from $I_{TLP}=-5\text{A}$ to $I_{TLP}=-30\text{A}$ and $I_{TLP}=+5\text{A}$ to $I_{TLP}=+30\text{A}$

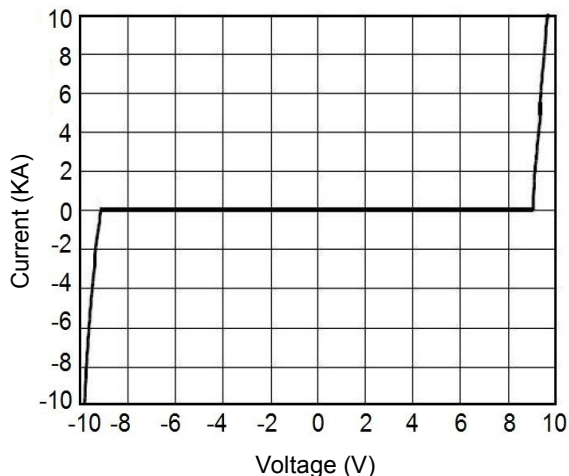
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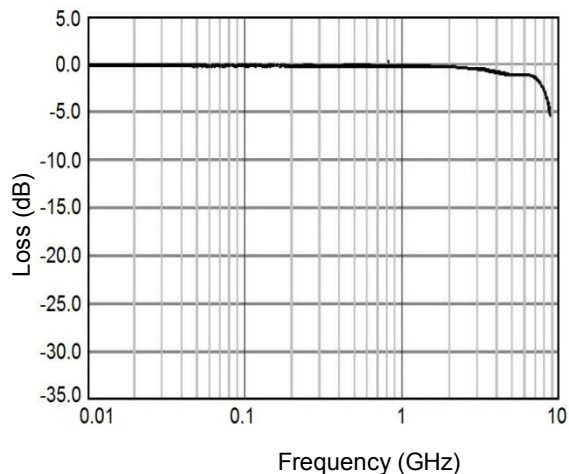
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CHARACTERISTIC CURVES

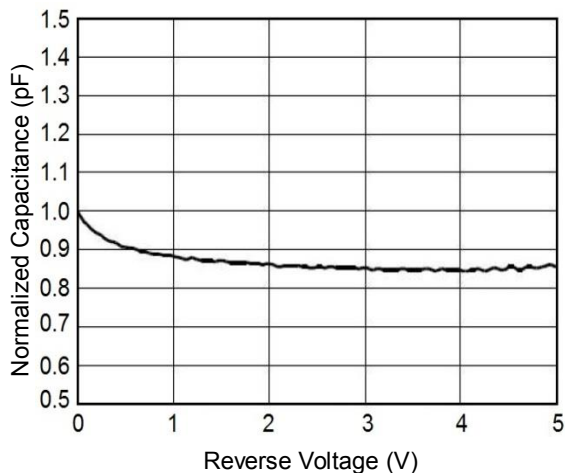
Voltage Sweeping of I/O to I/O



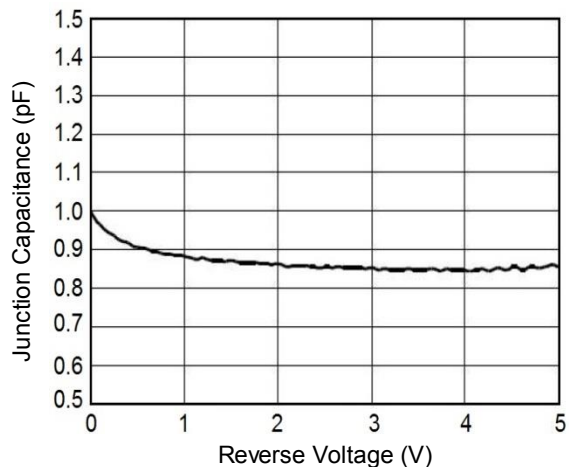
Typical Insertion Loss (S21)



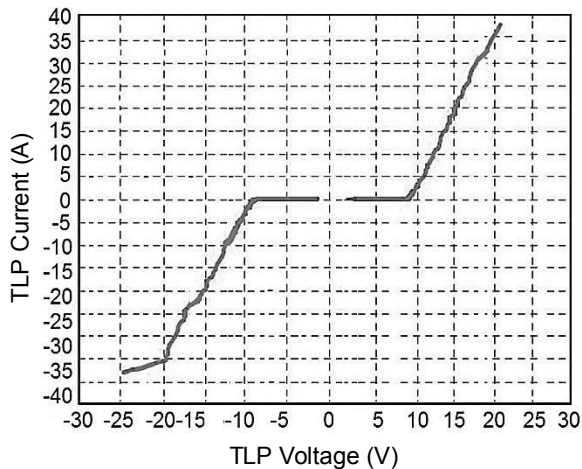
Normalized Capacitance vs. Reverse Voltage



Capacitance vs. Reverse Voltage



TLP Measurement



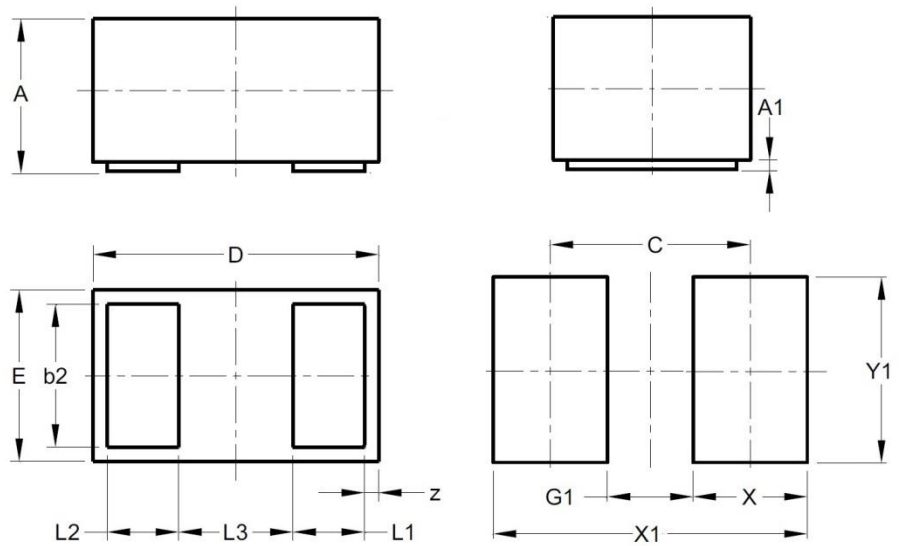
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DIMENSIONS AND RECOMMENDED LAND PATTERN

Item	Min (mm)	Max (mm)
A	0.27	0.34
A1	-	-
b2	0.22	0.29
D	0.57	0.67
E	0.27	0.37
z	-	-
L1	0.12	0.19
L2	0.12	0.19
L3	-	-
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.