

ESD Suppressor 5V Bidirectional DFN0603

ME51B11D01P25

MERITEK

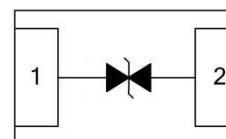
FEATURE

- 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: 3A (8/20 μs)
- 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_{ESD}	± 15	KV
ESD Voltage per IEC61000-4-2 (Air discharge)		± 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}	6	--	--	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	--	11	--	V
	$I_{PP}=3\text{A}, t_p=8/20\mu\text{s}$		--	19	--	
Clamping Voltage TLP	$I_{PP}=8\text{A}, t_p=100\text{ns}$	V_C	--	27	--	V
	$I_{PP}=16\text{A}, t_p=100\text{ns}$		--	42	--	
Dynamic Resistance	$t_p=100\text{ns}$	R_{DYN}	--	1.9	--	Ω
Off State Junction Capacitance	$V_{dc}=0, f=1\text{MHz}$	C_J	--	0.25	--	pF

Notes:

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

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

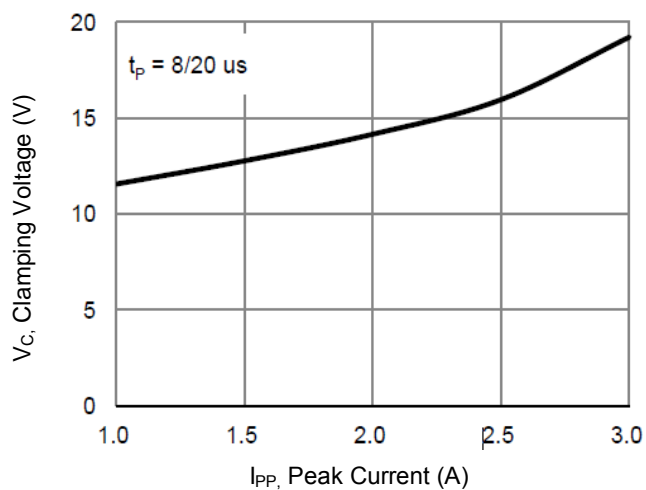
ESD Suppressor 5V Bidirectional DFN0603

ME51B11D01P25

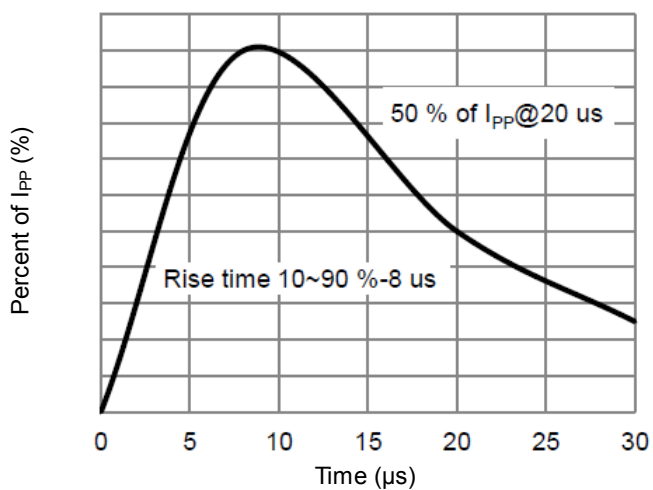
MERITEK

CHARACTERISTIC CURVES

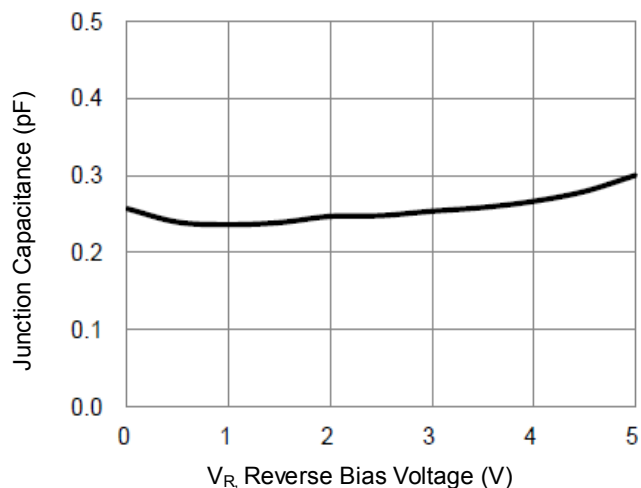
Typical Peak Clamping Voltage



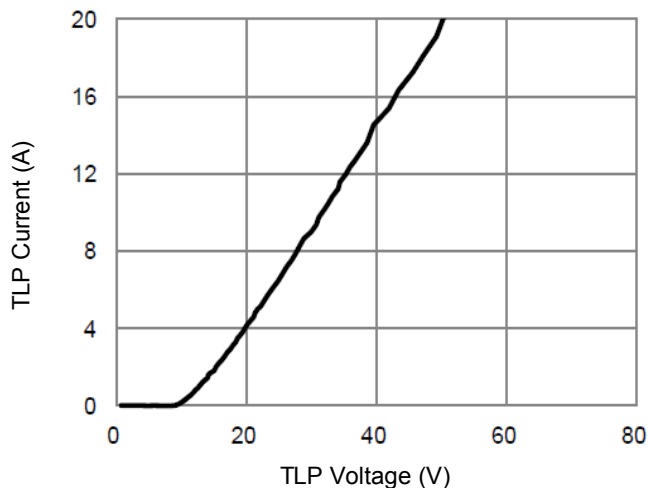
Pulse Waveform



Typical Junction Capacitance



TLP Measurement



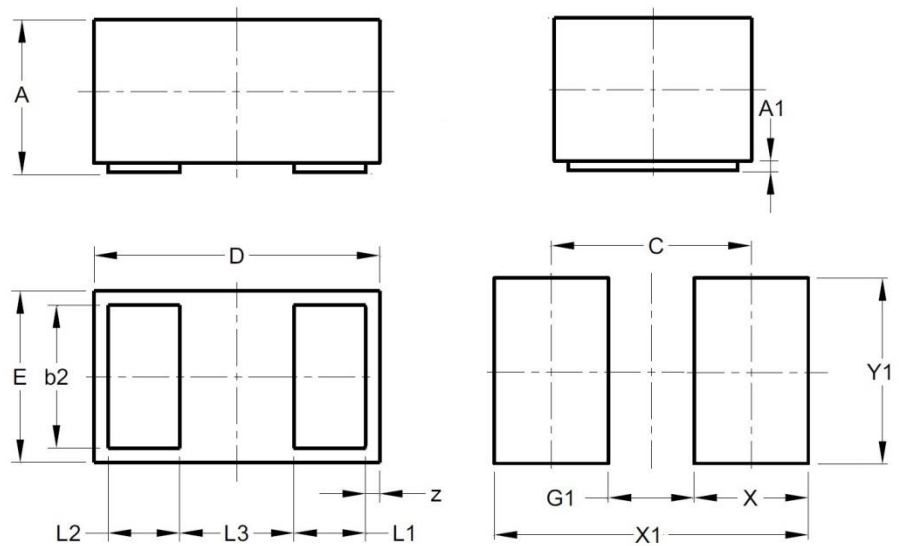
ESD Supressor 5V Bidirectional DFN0603

ME51B11D01P25

MERITEK

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.