

# ESD Suppressor 5V Bidirectional DFN0603

ME51B15D01

MERITEK

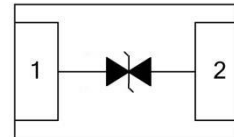
## FEATURE

- IEC 61000-4-2 ESD:  $\pm 15\text{KV}$  (Air)  $\pm 10\text{KV}$  (Contact)
- IEC 61000-4-4 EFT: 20A (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

- Computer Interfaces Protection
- Microprocessors Protection
- Serial and Parallel Ports Protection
- Control Signal Lines Protection
- Power Lines on PCB Protection



## MAXIMUM RATINGS AND CHARACTERISTICS

Parameter	Symbol	Value	Unit
ESD Voltage per IEC61000-4-2 (Contact discharge)	$V_{\text{ESD}}$	$\pm 10$	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	V
Reverse Breakdown Voltage	$I_{\text{BR}}=1\text{mA}$	$V_{\text{BR}}$	5.5	--	10	V
Reverse Leakage Current	$V_{\text{R}}=5\text{V}$	$I_{\text{R}}$	--	--	100	nA
Clamping Voltage	$I_{\text{PP}}=1\text{A}, t_{\text{p}}=8/20\mu\text{s}$	$V_{\text{C}}$	--	--	12	V
	$I_{\text{PP}}=2\text{A}, t_{\text{p}}=8/20\mu\text{s}$		--	--	15	
Clamping Voltage TLP	$I_{\text{PP}}=8\text{A}, t_{\text{p}}=100\text{ns}$	$V_{\text{C}}$	--	12.1	--	V
	$I_{\text{PP}}=16\text{A}, t_{\text{p}}=100\text{ns}$		--	13.7	--	
Dynamic Resistance	$t_{\text{p}}=100\text{ns}$	$R_{\text{DYN}}$	--	0.2	--	$\Omega$
Off State Junction Capacitance	$V_{\text{dc}}=0, f=1\text{MHz}$	$C_{\text{J}}$	--	--	3.5	pF

Notes:

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

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

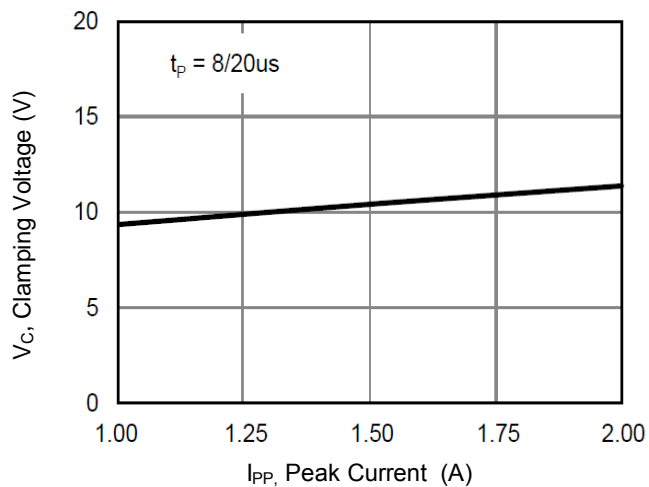
# ESD Suppressor 5V Bidirectional DFN0603

ME51B15D01

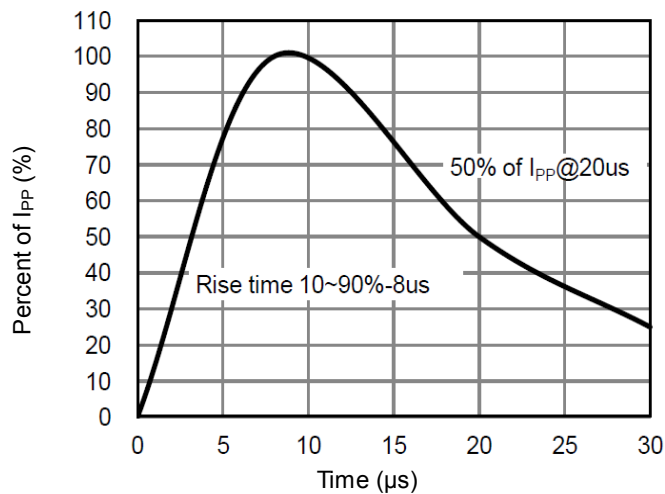
MERITEK

## CHARACTERISTIC CURVES

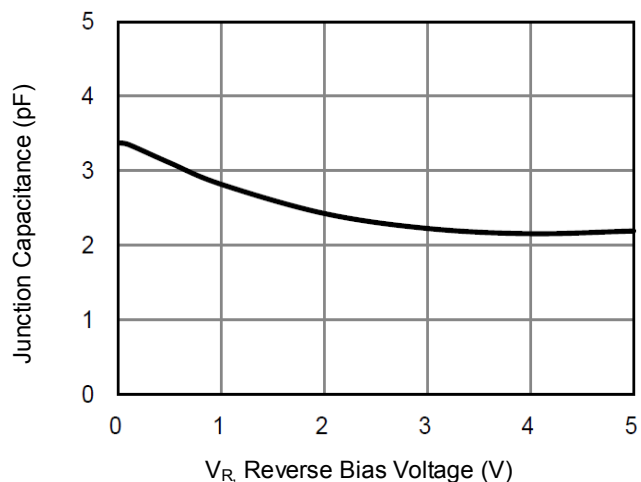
Typical Peak Clamping Voltage



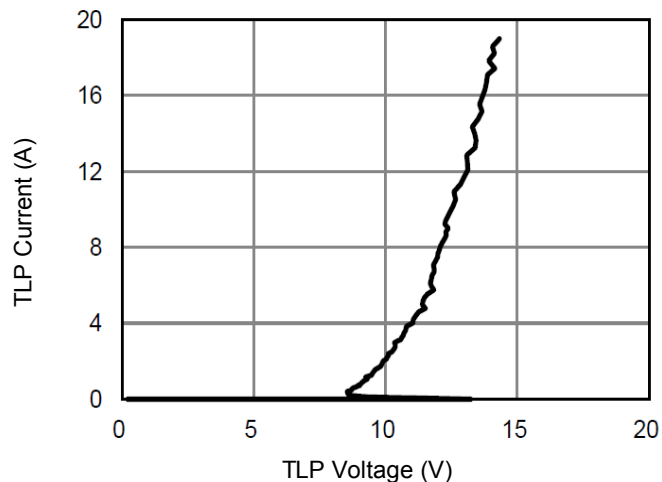
Pulse Waveform



Typical Junction Capacitance



TLP Measurement



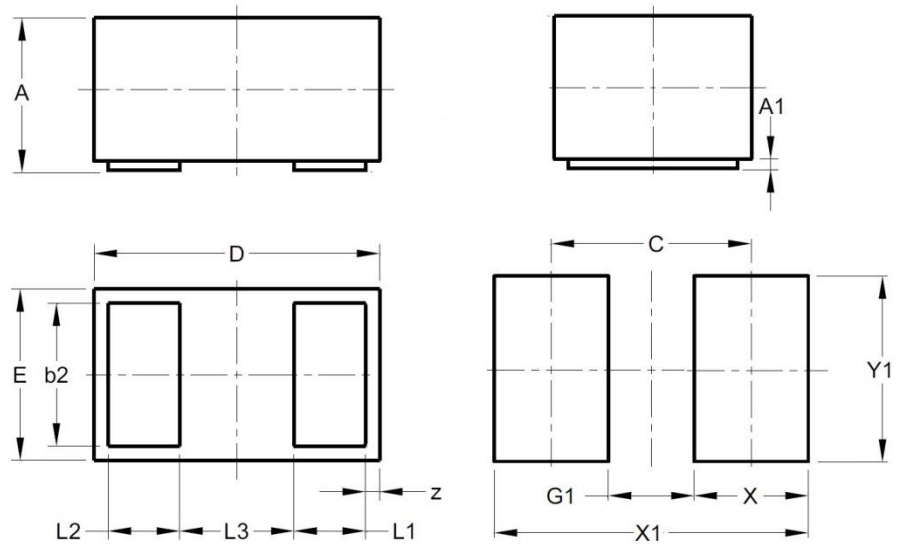
# ESD Suppressor 5V Bidirectional DFN0603

ME51B15D01

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.