

# ESD Suppressor 12V Bidirectional DFN1006

ME121B25D02

MERITEK

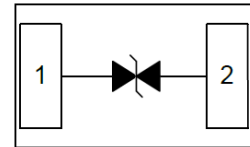
## FEATURE

- IEC 61000-4-2 ESD:  $\pm 30\text{KV}$  (Air)  $\pm 25\text{KV}$  (Contact)
- IEC 61000-4-4 EFT: 40A (5/50ns)
- IEC 61000-4-5 Lightning: 2.5A (8/20 $\mu\text{s}$ )
- ESD Protection for one Unidirectional Channel
- Low Leakage Current
- Low Clamping Voltage
- Solid-State Silicon-Avalanche Technology



## APPLICATION

- Cellular Handsets and Accessories
- Small Panel Modules
- PDA's
- Portable Devices
- Peripherals



## MAXIMUM RATINGS AND CHARACTERISTICS

Parameter	Symbol	Value	Unit
ESD Voltage per IEC61000-4-2 (Contact discharge)	$V_{ESD}$	$\pm 25$	KV
ESD Voltage per IEC61000-4-2 (Air discharge)		$\pm 30$	KV
Typical Thermal Resistance	$R_{\theta JA}$	430	$^{\circ}\text{C}/\text{W}$
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	--	$V_{RWM}$	--	--	12	V
Reverse Breakdown Voltage	$I_{BR}=1\text{mA}$	$V_{BR}$	13	--	16	V
Reverse Leakage Current	$V_R=12\text{V}$	$I_R$	--	--	1	$\mu\text{A}$
Clamping Voltage	$I_{PP}=1\text{A}, t_p=8/20\mu\text{s}$	$V_C$	--	--	20	V
	$I_{PP}=2.5\text{A}, t_p=8/20\mu\text{s}$		--	--	25	
Clamping Voltage TLP	$I_{PP}=8\text{A}, t_p=100\text{ns}$	$V_C$	--	20.3	--	V
	$I_{PP}=16\text{A}, t_p=100\text{ns}$		--	24.6	--	
Dynamic Resistance	$t_p=100\text{ns}$	$R_{DYN}$	--	0.54	--	$\Omega$
Off State Junction Capacitance	$V_{dc}=0, f=1\text{MHz}$	$C_J$	--	--	10	pF

Notes:

1.  $T_J=25^{\circ}\text{C}$  unless otherwise specified
2. Mounted on a FR4 PCB, Single Sided copper, mini pad
3. Transmission Line Pulse (TLP) test condition:  $Z_0=50\Omega, t_p=100\text{ns}$

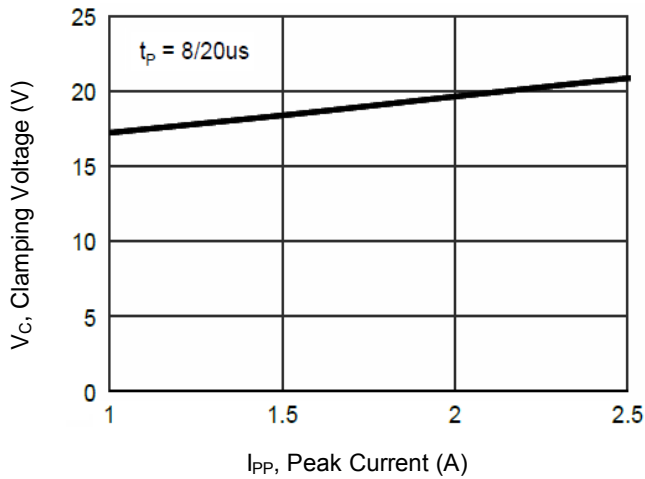
# ESD Suppressor 12V Bidirectional DFN1006

ME121B25D02

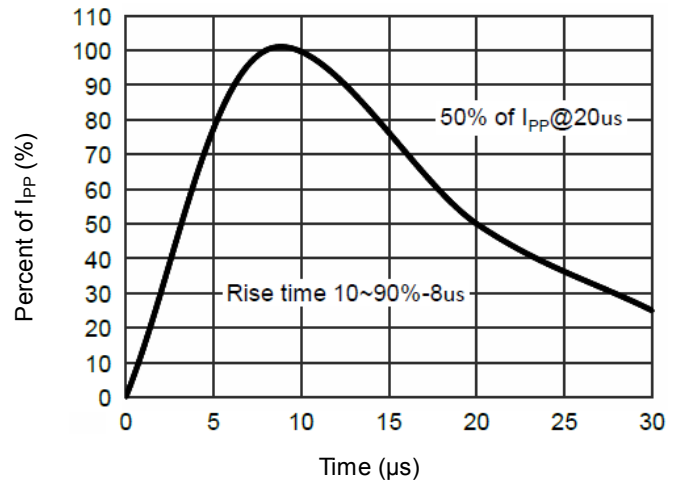
MERITEK

## CHARACTERISTIC CURVES

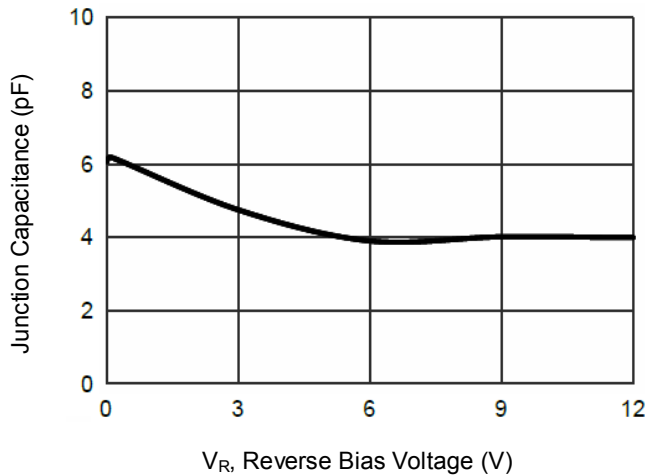
Typical Peak Clamping Voltage



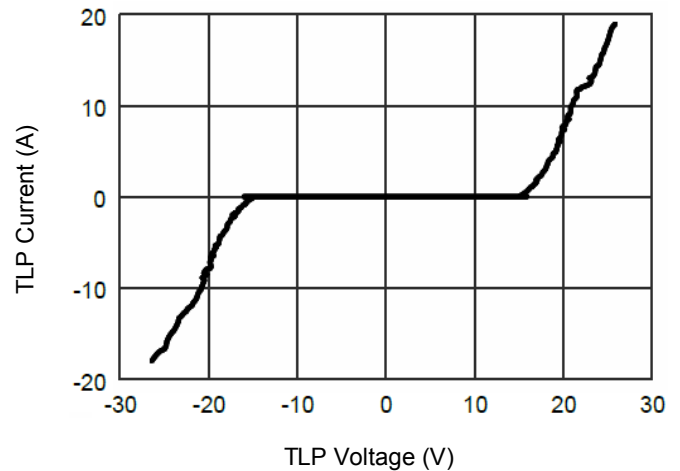
Pulse Waveform



Typical Junction Capacitance



TLP Measurement



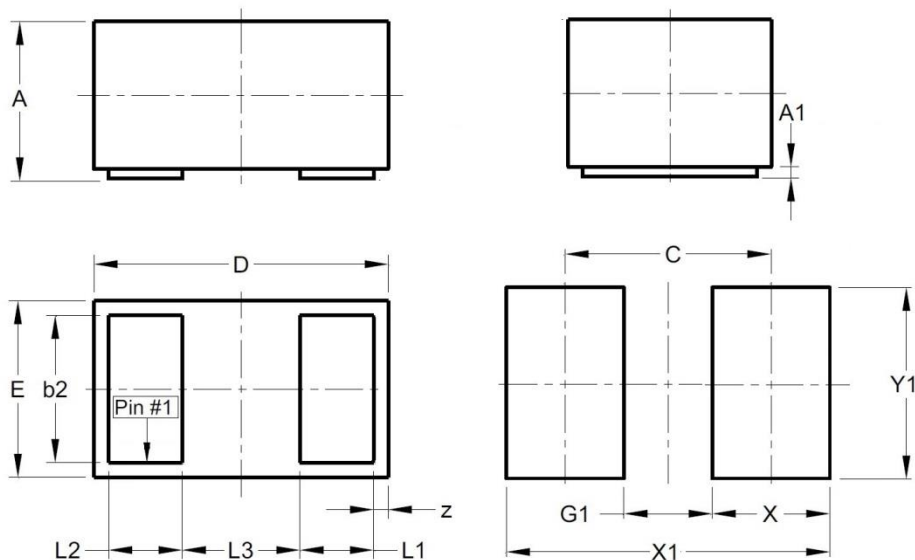
# ESD Suppressor 12V Bidirectional DFN1006

ME121B25D02

MERITEK

## 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.