

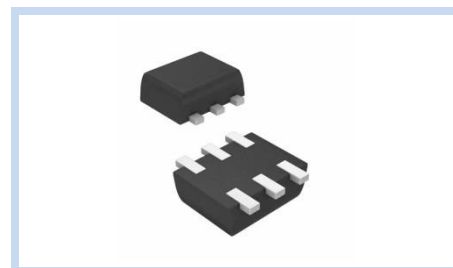
# ESD Suppressor 5V 4-Unidirectional SOT-563

ME54U12S563

MERITEK

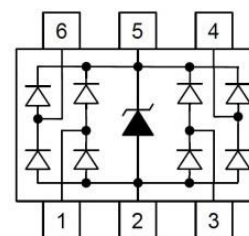
## FEATURE

- 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: 5A (8/20 $\mu\text{s}$ )
- ESD Protection for four Unidirectional Channels
- Low Leakage Current, Maximum 1 $\mu\text{A}$  at Rated Voltage
- Solid-State Silicon-Avalanche Technology



## APPLICATION

- USB 2.0 Data Line Protection
- Monitors, Flat Panel Display Notebook Computers
- 10/100/1000 Ethernet
- Digital Video Interface (DVI)
- Control Signal Lines Protection



## MAXIMUM RATINGS AND CHARACTERISTICS

Parameter	Symbol	Value	Unit
ESD Voltage (Contact discharge)	$V_{\text{ESD}}$	$\pm 15$	KV
ESD Voltage (Air discharge)		$\pm 20$	
Operating & Storage Temperature Range	$T_J, T_{\text{STG}}$	-55~+150	$^{\circ}\text{C}$

## ELECTRICAL CHARACTERISTICS

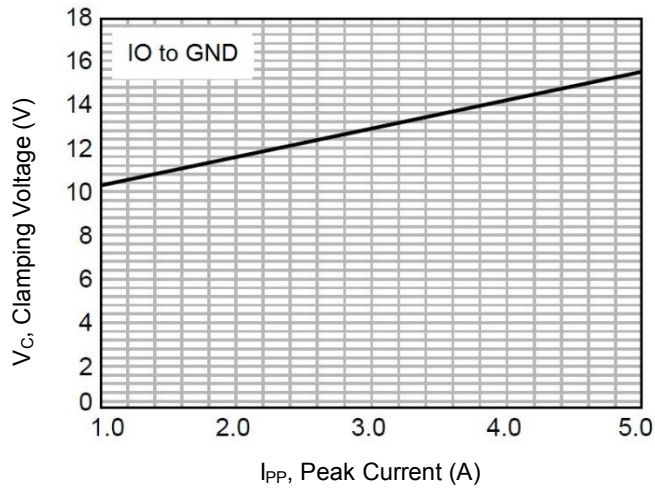
Parameter	Condition	Symbol	Min.	Typ.	Max.	Unit
Reverse Stand-Off Voltage	--	$V_{\text{RWM}}$	--	--	5	V
Reverse Breakdown Voltage	$I_{\text{BR}}=1\text{mA}$ , Pin 5 to Pin 2	$V_{\text{BR}}$	6	--	9	V
Reverse Leakage Current	$V_{\text{R}}=5\text{V}$	$I_{\text{R}}$	--	--	1	$\mu\text{A}$
Forward Voltage	$I_{\text{F}}=1\text{mA}$ , Pin 2 to Pin 5	$V_{\text{F}}$	--	--	1	V
Clamping Voltage	$I_{\text{PP}}=1\text{A}$ , $t_{\text{p}}=8/20\mu\text{s}$ , Any I/O pin to Pin 2	$V_{\text{C}}$	--	--	12	V
	$I_{\text{PP}}=5\text{A}$ , $t_{\text{p}}=8/20\mu\text{s}$ , Any I/O pin to Pin 2		--	--	20	
Off State Junction Capacitance	$V_{\text{dc}}=0$ , Bias, $f=1\text{MHz}$ , Between I/O pins and Pin 2	$C_{\text{J}}$	--	--	0.8	pF
	$V_{\text{dc}}=0$ , Bias, $f=1\text{MHz}$ , Between I/O pins		--	--	0.4	

Note:

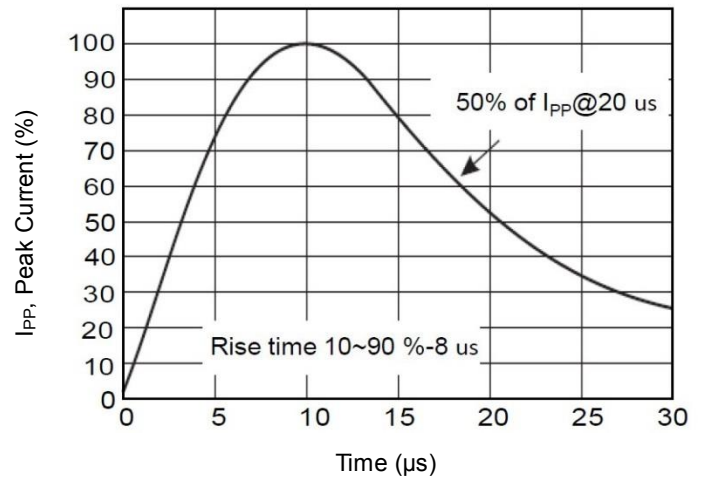
1. A transient suppressor is selected according to  $V_{\text{RWM}}$ , which should be greater than or equal to the DC or continuous peak operation voltage level.
2.  $T_J=25^{\circ}\text{C}$  unless otherwise specified

## CHARACTERISTIC CURVES

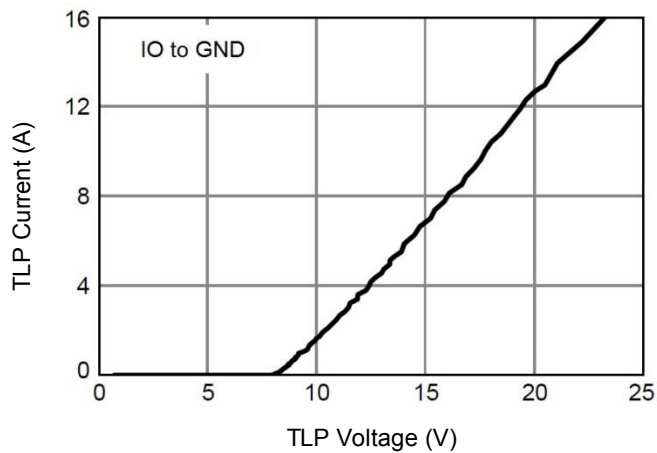
Typical Peak Clamping Voltage



Pulse Waveform



Transmission Line Pulsing



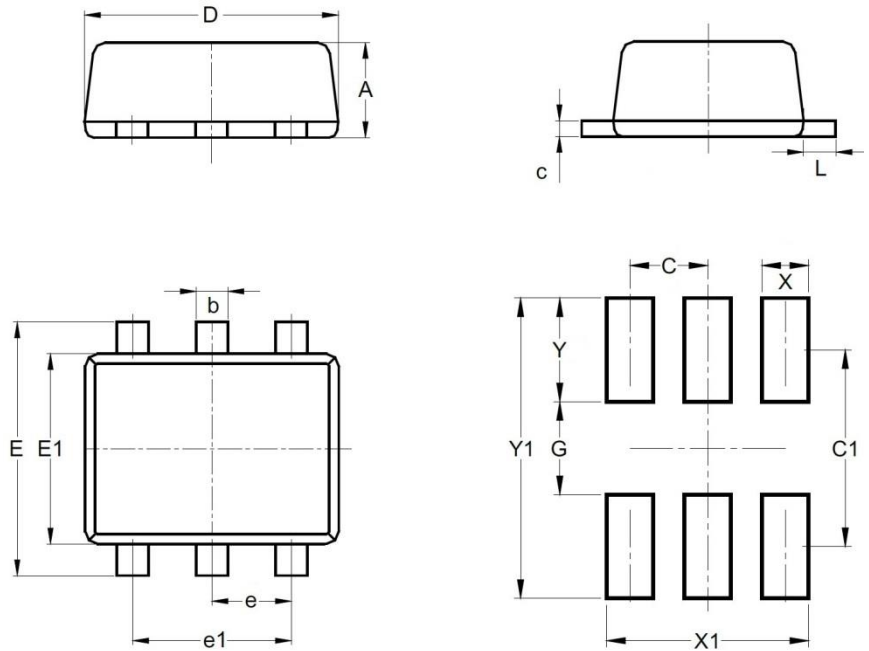
# ESD Suppressor 5V 4-Unidirectional SOT-563

ME54U12S563

MERITEK

## DIMENSIONS AND RECOMMENDED LAND PATTERN

Item	Min (mm)	Max (mm)
A	0.50	0.60
b	0.17	0.27
c	0.07	0.17
D	1.50	1.70
e	0.45	0.55
e1	0.90	1.10
E	1.50	1.70
E1	1.10	1.30
L	0.20	0.20
C	0.50	0.50
C1	1.45	1.45
G	0.90	0.90
X	0.40	0.40
X1	1.05	1.05
Y	0.55	0.55
Y1	2.00	2.00



\*Specifications subject to change without notice.