

ESD Suppressor

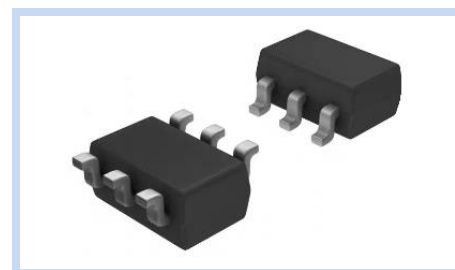
5V 4-Unidirectional SOT-23-6

ME54U12VS236

MERITEK

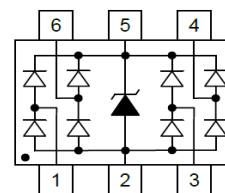
FEATURE

- IEC 61000-4-2 ESD: $\pm 16\text{KV}$ (Air) $\pm 16\text{KV}$ (Contact)
- ESD Protection for four Unidirectional Channels
- Low Capacitance
- Low Leakage Current



APPLICATION

- High Definition Multi-Media Interface (HDMI)
- Digital Video Interface (DVI)
- 10/100/1000 Ethernet
- Monitors and Flat Panel Displays
- Control Signal Lines Protection



MAXIMUM RATINGS AND CHARACTERISTICS

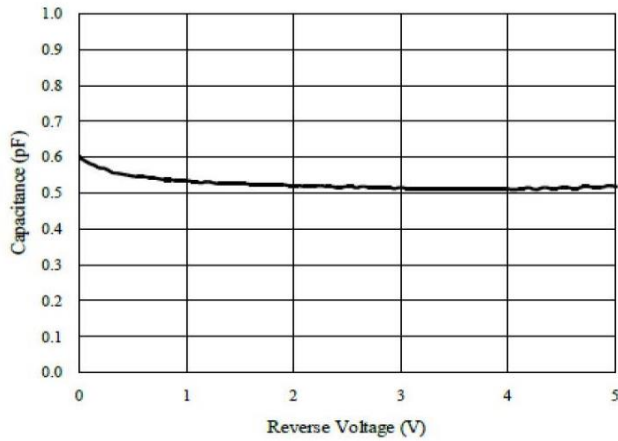
Parameter	Symbol	Value	Unit
Peak Pulse Current (8/20 μs)	I_{PP}	3	A
Peak Pulse Power (8/20 μs)	P_{PK}	45	W
ESD Voltage (Contact discharge)	V_{ESD}	± 16	KV
ESD Voltage (Air discharge)		± 16	
Operating Temperature Range	T_J	-40~+125	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS

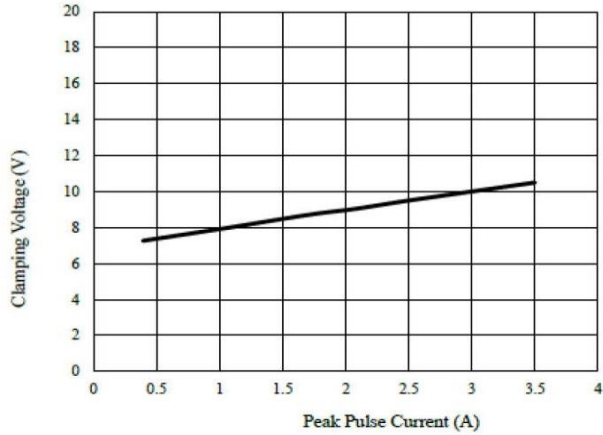
Parameter	Condition	Symbol	Min.	Typ.	Max.	Unit
Reverse Stand-Off Voltage	--	V_{RWM}	--	--	5.00	V
Reverse Breakdown Voltage	$I_{BR}=1\text{mA}$, Between I/O to GND/Pin 2	V_{BR}	6.00	8.00	10.00	V
Reverse Leakage Current	$V_R=5\text{V}$, 25 $^{\circ}\text{C}$, Between I/O to GND/Pin 2	I_R	--	0.1	1.00	μA
Dynamic resistance	$T_p=10/100\text{ns}$, Between I/O to GND/Pin 2	R_{DYN}	--	0.2	--	Ω
Clamping Voltage	$I_{PP}=3\text{A}$, $t_p=8/20\mu\text{s}$ any I/O pins to GND/Pin 2	V_C	--	10	12.00	V
	$I_{PP}=16\text{A}$, $t_p=10/100\text{ns}$ any I/O pins to GND/Pin 2		--	10.5	12.5	
Off State Junction Capacitance	$V_{dc}=0$, Bias, $f=1\text{MHz}$, Between I/O to GND/Pin 2	C_J	--	0.6	0.8	pF
	$V_{dc}=0$, Bias, $f=1\text{MHz}$, Between any I/O pins		--	0.25	0.40	

CHARACTERISTIC CURVES

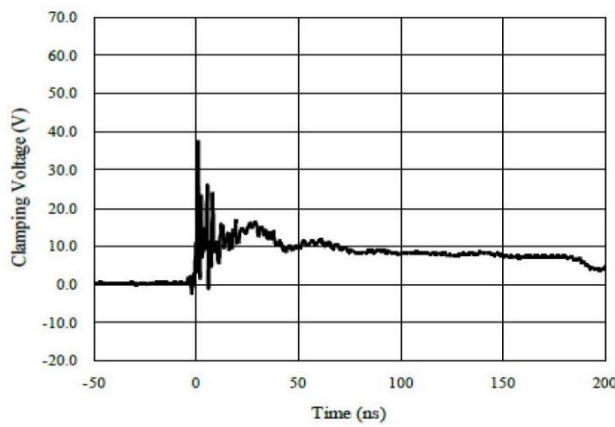
Capacitance vs. Voltage of I/O to GND
(f = 1MHz)



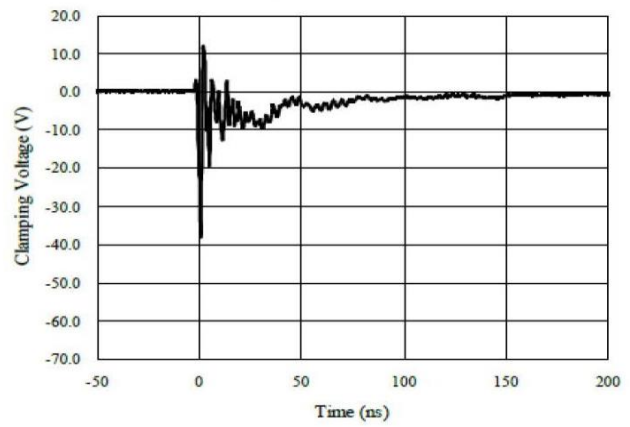
Clamping Voltage vs. Peak Pulse Current
(8/20µs)



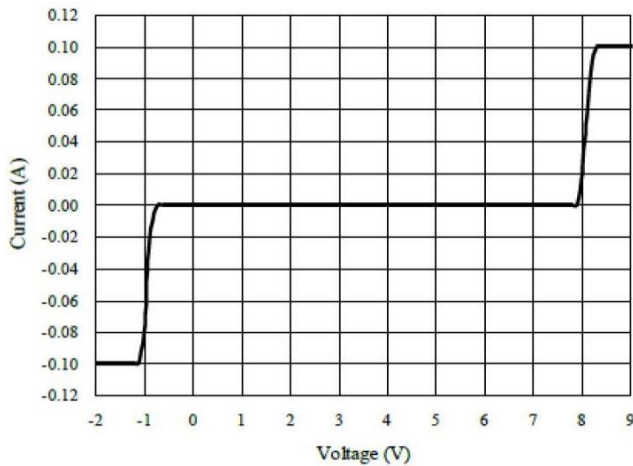
ESD Clamping of I/O to GND
(+8kV Contact per IEC 61000-4-2)



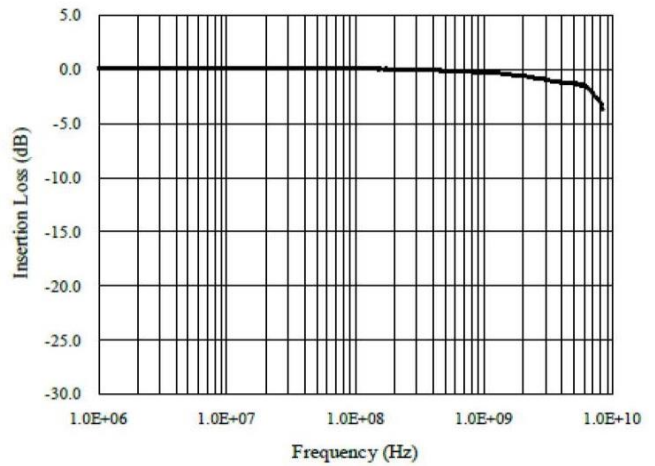
ESD Clamping of I/O to GND
(-8kV Contact per IEC 61000-4-2)



Voltage Sweeping of I/O to GND



Insertion Loss S21 of I/O to GND



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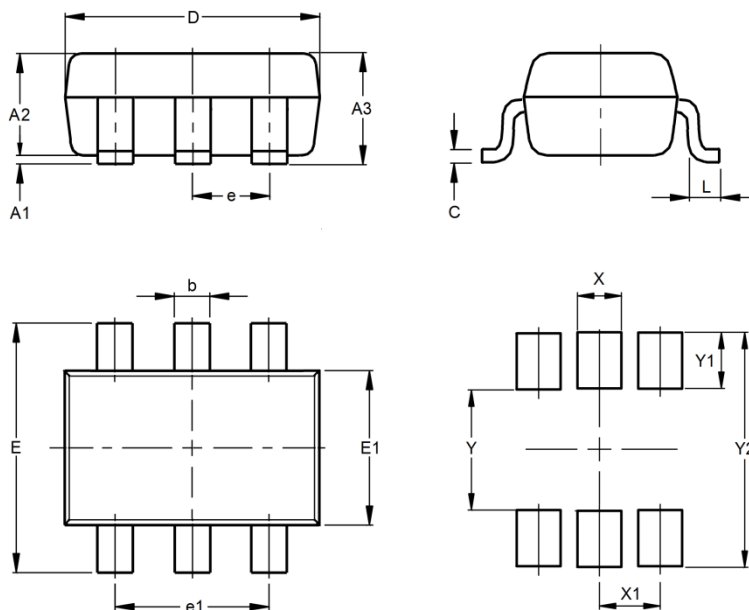
5V 4-Unidirectional SOT-23-6

ME54U12VS236

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DIMENSIONS AND RECOMMENDED LAND PATTERN

Item	Min (mm)	Max (mm)
A1	0.00	0.15
A2	0.90	1.30
A3	0.00	1.45
b	0.30	0.50
C	0.08	0.22
D	2.80	3.00
e	0.00	0.95
e1	0.075	1.90
E	2.80	2.80
E1	1.60	1.60
L	0.30	0.60
Y	1.60	1.60
Y1	0.79	0.79
Y2	3.10	3.10
X	0.55	0.55
X1	0.94	0.94



*Specifications subject to change without notice.