

ESD Suppressor

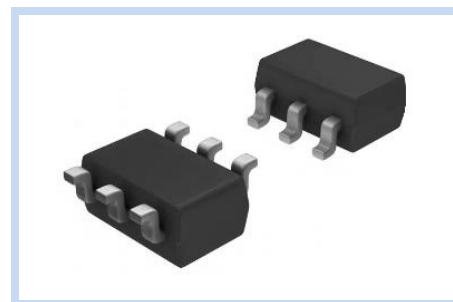
5.5V 4-Unidirectional SOT-23-6

ME5V54U10S236

MERITEK

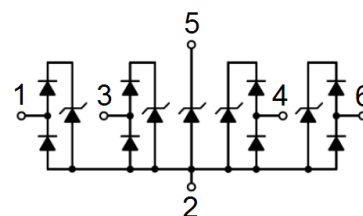
FEATURE

- 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: 4A (8/20 μs)
- ESD Protection for four Unidirectional Channels
- Low Clamping Voltage



APPLICATION

- Monitors and Flat Panel Displays
- USB 2.0 Power and Data Line Protection
- Video Graphics Card
- Digital Video Interface (DVI)



MAXIMUM RATINGS AND CHARACTERISTICS

Parameter	Symbol	Value	Unit
ESD Voltage (Contact discharge)	V_{ESD}	± 20	KV
ESD Voltage (Air discharge)		± 15	
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}	--	--	5.50	V
Reverse Breakdown Voltage	$I_{BR}=1\text{mA}$, any I/O pins to GND	V_{BR}	6.00	6.90	--	V
Reverse Leakage Current	$V_R=5\text{V}$	I_R	--	--	1.00	μA
Clamping Voltage	$I_{PP}=1\text{A}$, $t_p=8/20\mu\text{s}$ any I/O pins to GND	V_C	--	--	10.00	V
	$I_{PP}=4\text{A}$, $t_p=8/20\mu\text{s}$ any I/O pins to GND		--	--	15.00	
Clamping Voltage TLP	$I_{PP}=8\text{A}$, $t_p=100\text{ns}$ any I/O pins to GND	V_C	--	16.00	--	V
	$I_{PP}=16\text{A}$, $t_p=100\text{ns}$ any I/O pins to GND		--	23.50	--	
Dynamic Resistance	$t_p=100\text{ns}$	R_{DYN}	--	0.94	--	Ω
Off State Junction Capacitance	$V_{dc}=0$, Bias, $f=1\text{MHz}$, Between any I/O pins to GND	C_J	--	--	0.60	pF
	$V_{dc}=0$, Bias, $f=1\text{MHz}$, Between any I/O pins		--	--	0.30	

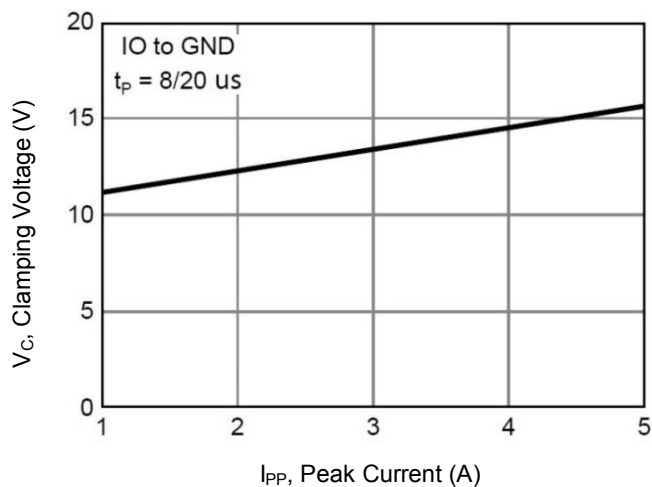
Notes:

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

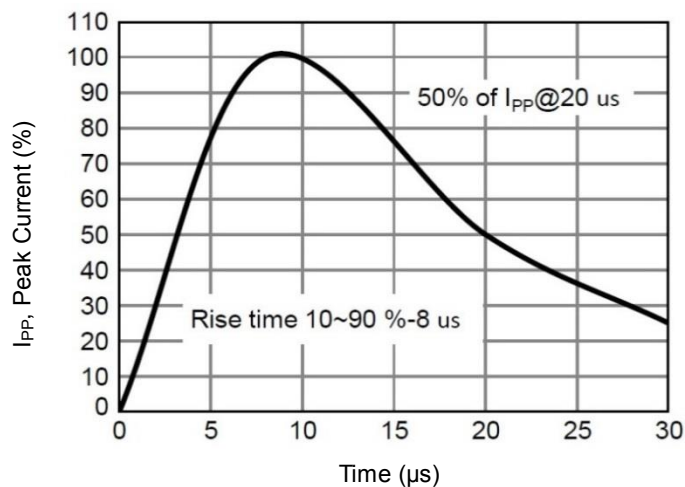
2. Testing using transmission line pulse (TLP) conditions: $Z_0=50\Omega$, $t_p=100\text{ns}$

CHARACTERISTIC CURVES

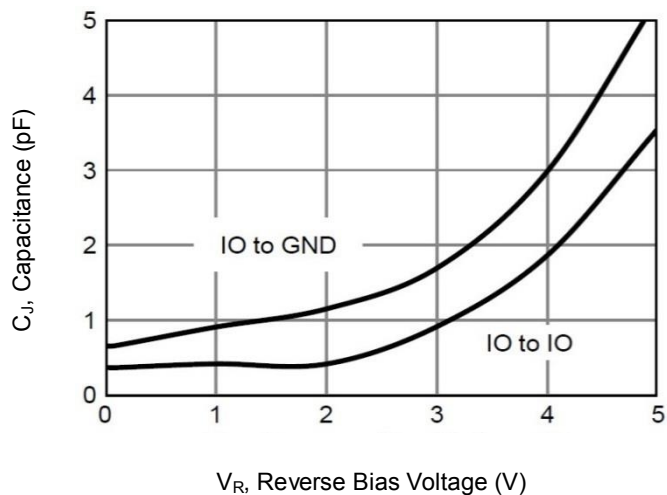
Typical Peak Clamping Voltage



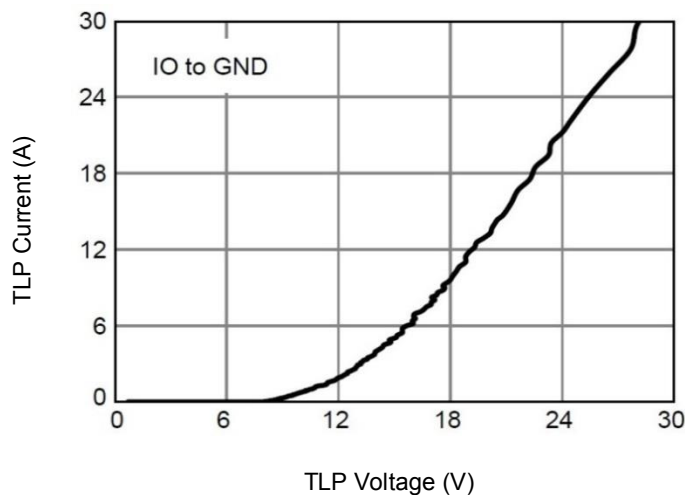
Pulse Waveform



Typical Junction Capacitance



Transmission Line Pulsing



ESD Suppressor

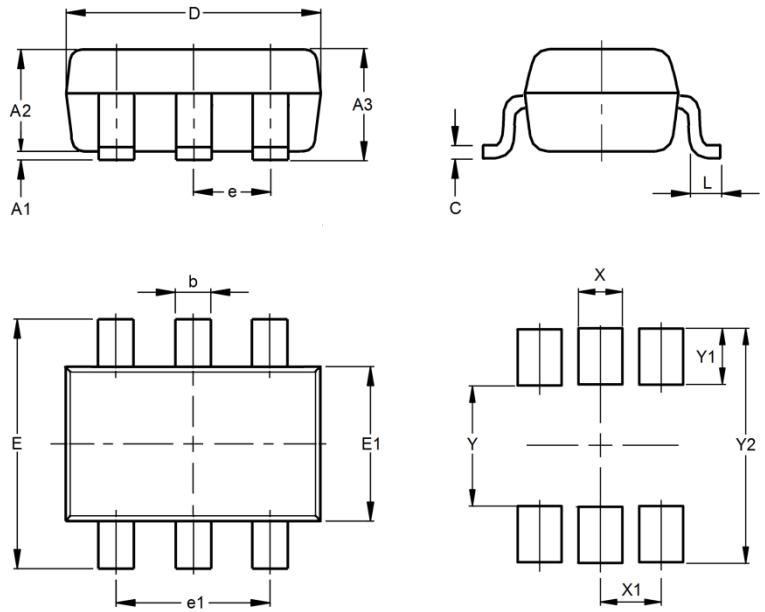
5.5V 4-Unidirectional SOT-23-6

ME5V54U10S236

MERITEK

DIMENSIONS AND RECOMMENDED LAND PATTERN

Item	Min (mm)	Max (mm)
A1	0.00	0.15
A2	1.30	0.90
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	0.00	1.90
E	2.60	3.00
E1	1.50	1.70
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.