

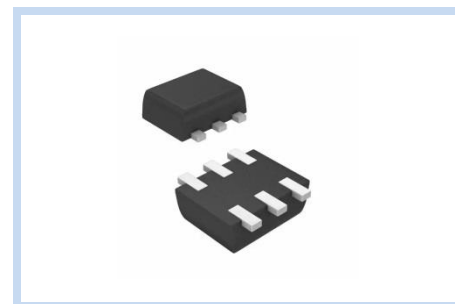
ESD Suppressor AEC-Q101 5.5V 4-Unidirectional SOT-563

ME5V54U15S563A

MERITEK

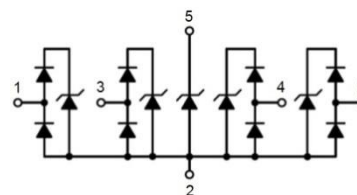
FEATURE

- 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
- AEC-Q101 Qualified



APPLICATION

- USB 2.0 Data Line Protection
- Monitors, Flat Panel Display
- Notebook Computers
- Digital Video Interface (DVI)



MAXIMUM RATINGS AND CHARACTERISTICS

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

ELECTRICAL CHARACTERISTICS

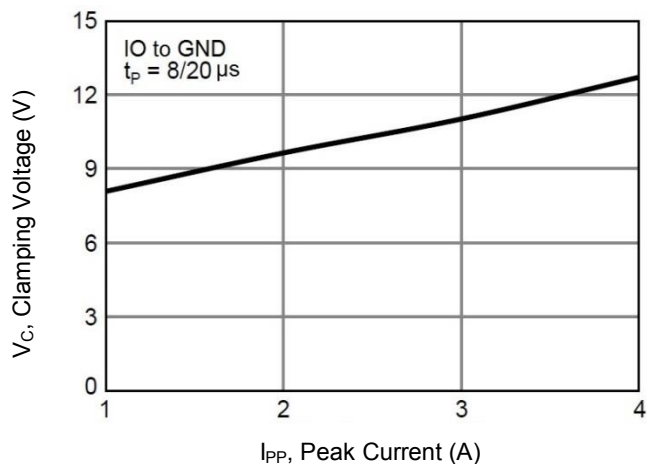
Parameter	Condition	Symbol	Min.	Typ.	Max.	Unit
Reverse Stand-Off Voltage	--	V_{RWM}	--	--	5.5	V
Reverse Breakdown Voltage	$I_{BR}=1\text{mA}$, Any I/O pin and GND	V_{BR}	6	6.9	--	V
Reverse Leakage Current	$V_R=5\text{V}$	I_R	--	--	1	μA
Dynamic Resistance	$t_p=100\text{ns}$	R_{DYN}	--	0.94	--	Ω
Clamping Voltage	$I_{PP}=1\text{A}$, $t_p=8/20\mu\text{s}$, Any I/O pin and GND	V_C	--	--	10	V
	$I_{PP}=4\text{A}$, $t_p=8/20\mu\text{s}$, Any I/O pin and GND		--	--	15	
Clamping Voltage TLP	$I_{PP}=8\text{A}$, $t_p=100\text{ns}$, Any I/O pin and GND	V_C	--	16	--	V
	$I_{PP}=16\text{A}$, $t_p=100\text{ns}$, Any I/O pin and GND		--	23.5	--	
Off State Junction Capacitance	$V_{dc}=0$, Bias, $f=1\text{MHz}$, Between I/O pins and GND	C_J	--	--	0.6	pF
	$V_{dc}=0$, Bias, $f=1\text{MHz}$, Between I/O pins		--	--	0.3	

Note:

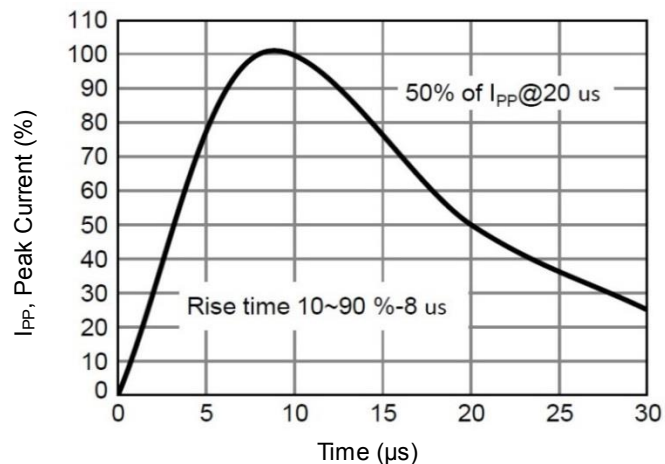
1. A transient suppressor is selected according to V_{RWM} , which should be greater than or equal to the DC or continuous peak operation voltage level
2. Testing using Transmission Line Pulse (TLP) conditions: $Z_0=50\Omega$, $t_p=100\text{ns}$
3. $T_J=25^{\circ}\text{C}$ unless otherwise specified

CHARACTERISTIC CURVES

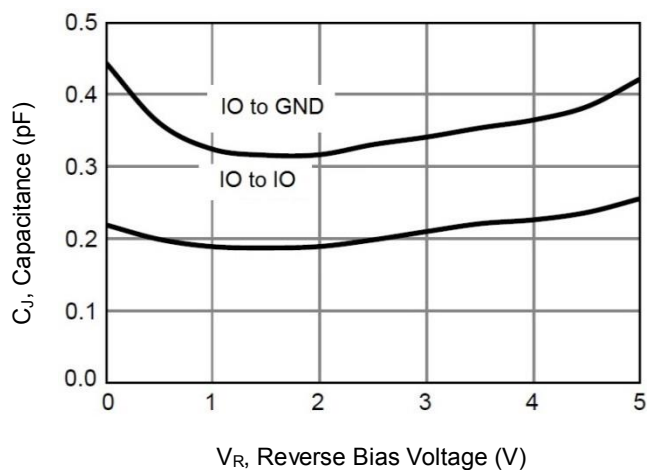
Typical Peak Clamping Voltage



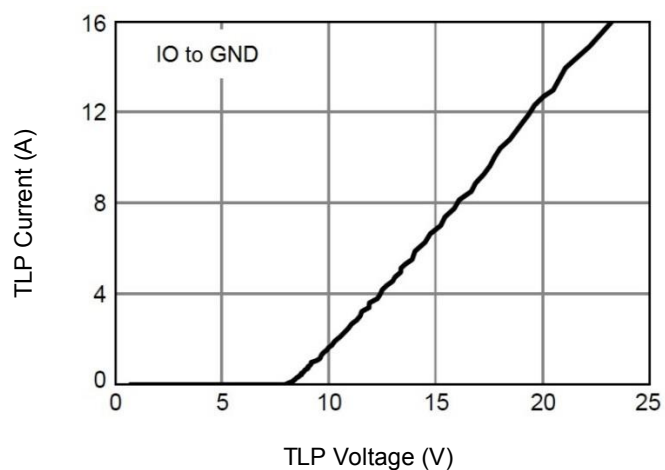
Pulse Waveform



Typical Junction Capacitance



Transmission Line Pulsing



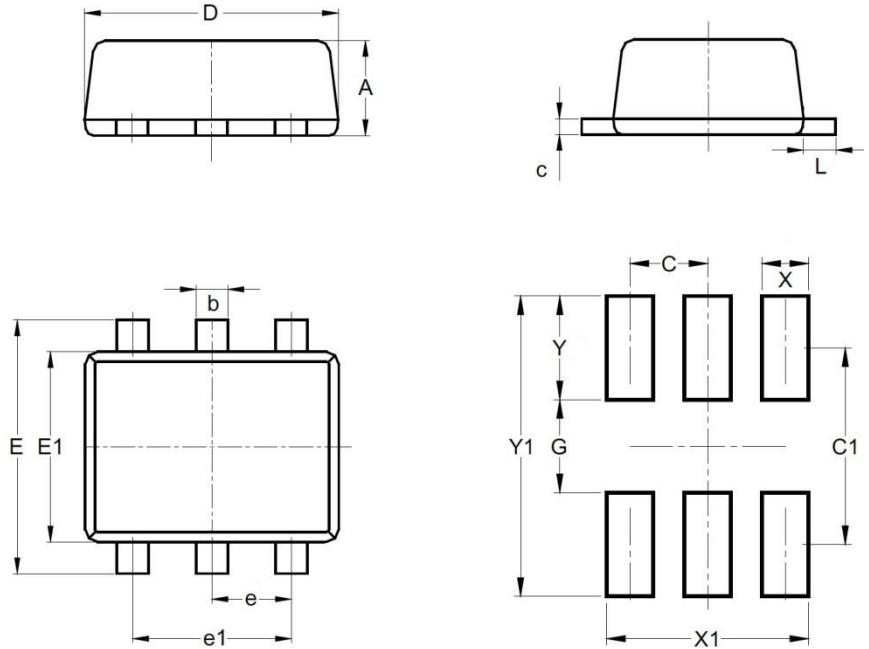
ESD Suppressor AEC-Q101 5.5V 4-Unidirectional SOT-563

ME5V54U15S563A

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.