

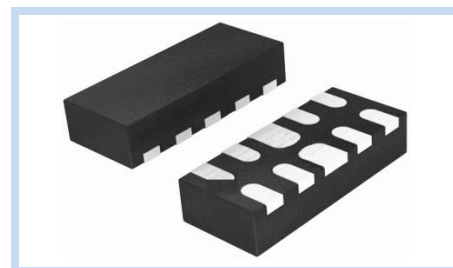
ESD Suppressor AEC-Q101 5V 4-Unidirectional DFN2510

ME54U13D2510A

MERITEK

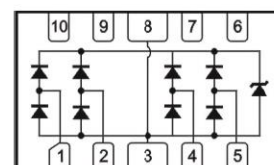
FEATURE

- IEC 61000-4-2 ESD: $\pm 15\text{KV}$ (Air) $\pm 8\text{KV}$ (Contact)
- IEC 61000-4-4 EFT: 20A (5/50ns)
- IEC 61000-4-5 Lightning: 2.5A (8/20 μs)
- ESD Protection for four Unidirectional Channels
- Low Leakage Current, Maximum 1 μA at Rated Voltage
- AEC-Q101 Qualified



APPLICATION

- USB Type-C Interface
- High Definition Multi-Media Interface (HDMI) 2.0 Version
- V-By-One Interface
- LVDS Interface
- Display Port Interface



MAXIMUM RATINGS AND CHARACTERISTICS

Parameter	Symbol	Value	Unit
ESD Voltage per IEC61000-4-2 (Contact discharge)	V_{ESD}	± 8	KV
ESD Voltage per IEC61000-4-2 (Air discharge)		± 15	KV
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	V
Reverse Breakdown Voltage	$I_{BR}=1\text{mA}$, Any I/O pin to GND	V_{BR}	6	--	9	V
Reverse Leakage Current	$V_R=5\text{V}$, Any I/O pin to GND	I_R	--	--	1	μA
Clamping Voltage	$I_{PP}=1\text{A}$, $t_p=8/20\mu\text{s}$	V_C	--	9.50	12	V
	$I_{PP}=2.5\text{A}$, $t_p=8/20\mu\text{s}$		--	11	13	
Clamping Voltage TLP	$I_{PP}=4\text{A}$, $t_p=100\text{ns}$	V_C	--	12	--	V
	$I_{PP}=8\text{A}$, $t_p=100\text{ns}$		--	14	--	
Dynamic Resistance	$t_p=100\text{ns}$	R_{DYN}	--	0.50	--	Ω
Off State Junction Capacitance	$V_{dc}=0$, $f=1\text{MHz}$, Any I/O pins to GND	C_J	--	0.60	0.80	pF
	$V_{dc}=0$, $f=1\text{MHz}$ Between any I/O pins		--	0.35	0.40	

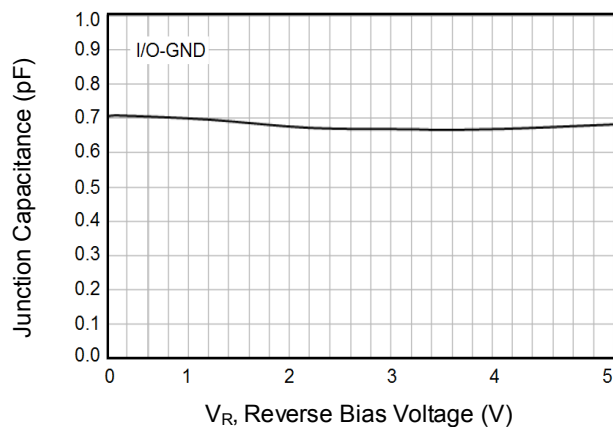
Notes:

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

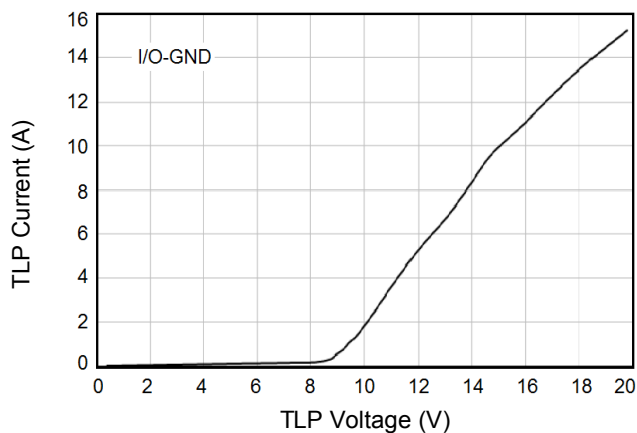
2. Transmission Line Pulse (TLP) test condition: $Z_0=50\Omega$, $t_p=100\text{ns}$

CHARACTERISTIC CURVES

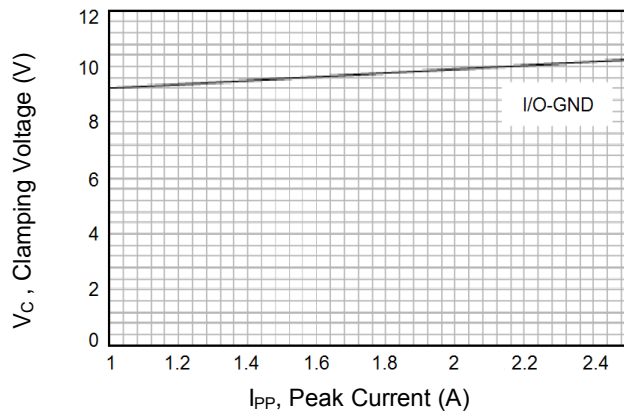
Typical Junction Capacitance



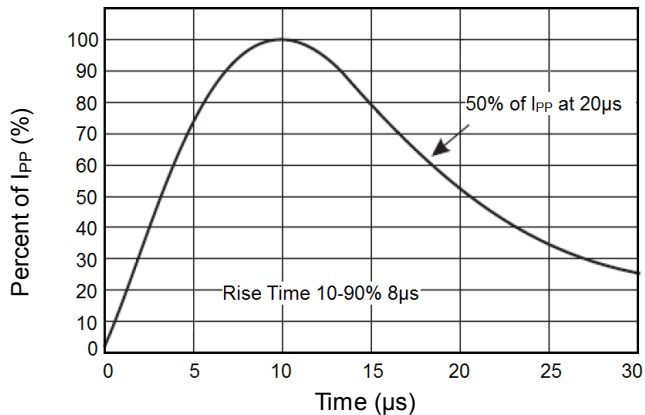
TLP Measurement



Typical Peak Clamping Voltage

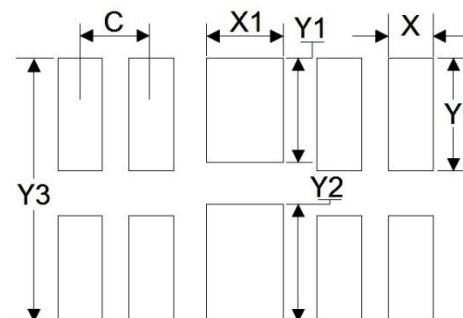
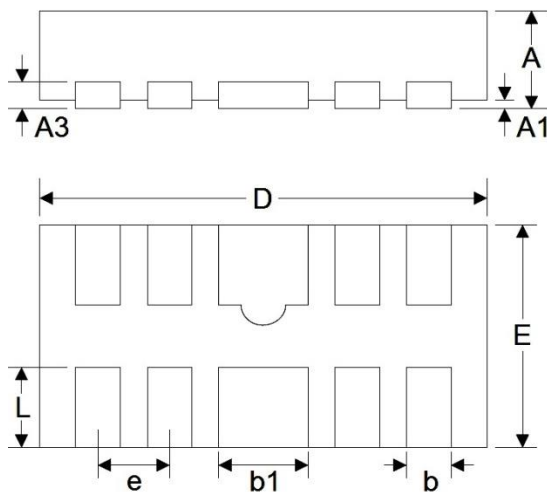


Pulse Waveform



DIMENSIONS AND RECOMMENDED LAND PATTERN

Item	Min (mm)	Max (mm)
A	0.45	0.55
A1	0.05	0.05
A3	-	-
b	0.15	0.25
b1	0.35	0.45
D	2.45	2.55
e	0.50	0.50
E	0.95	1.05
L	0.30	0.40
C	0.50	0.50
X	0.25	0.25
X1	0.45	0.45
Y	0.63	0.63
Y1	0.58	0.58
Y2	0.70	0.70
Y3	1.40	1.40



*Specifications subject to change without notice.