

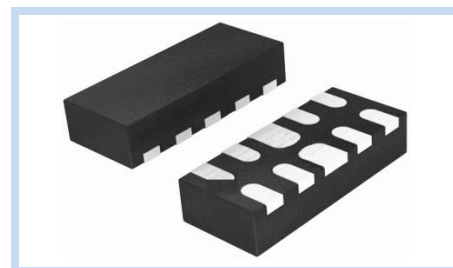
ESD Suppressor AEC-Q101 5.5V 4-Unidirectional DFN2510

ME5V54U12D2510A

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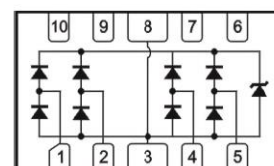
FEATURE

- 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 μs)
- ESD Protection for four Unidirectional Channels
- Low Capacitance
- Low Clamping 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}	± 15	KV
ESD Voltage per IEC61000-4-2 (Air discharge)		± 20	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}	--	--	5.5	V
Reverse Breakdown Voltage	$I_{\text{BR}}=1\text{mA}$, Any I/O pin to GND	V_{BR}	6.5	--	11	V
Reverse Leakage Current	$V_{\text{R}}=5\text{V}$	I_{R}	--	--	0.1	μA
Clamping Voltage	$I_{\text{PP}}=1\text{A}$, $t_{\text{p}}=8/20\mu\text{s}$	V_{C}	--	--	12	V
	$I_{\text{PP}}=5\text{A}$, $t_{\text{p}}=8/20\mu\text{s}$		--	--	20	
Clamping Voltage TLP	$I_{\text{PP}}=8\text{A}$, $t_{\text{p}}=100\text{ns}$	V_{C}	--	17.1	--	V
	$I_{\text{PP}}=16\text{A}$, $t_{\text{p}}=100\text{ns}$		--	21.4	--	
Dynamic Resistance	$t_{\text{p}}=100\text{ns}$	R_{DYN}	--	0.53	--	Ω
Off State Junction Capacitance	$V_{\text{dc}}=0$, $f=1\text{MHz}$, Any I/O pins to GND	C_{J}	--	--	0.8	pF
	$V_{\text{dc}}=0$, $f=1\text{MHz}$ Between any I/O pins		--	--	0.4	

Notes:

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

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

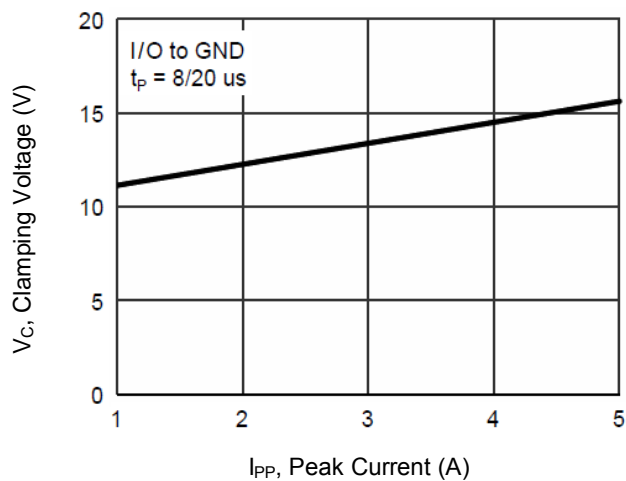
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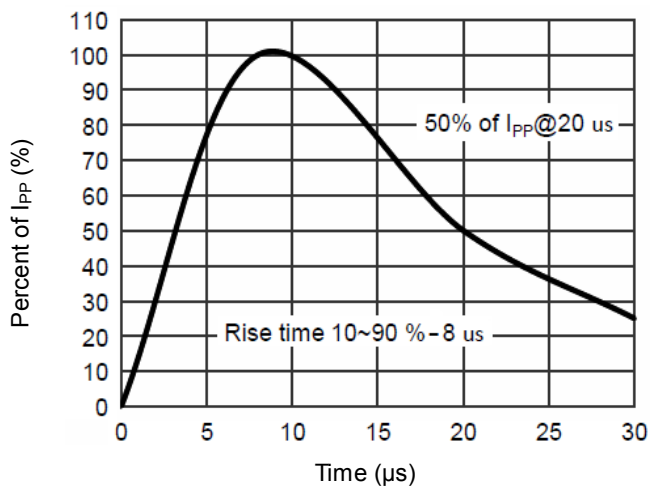
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CHARACTERISTIC CURVES

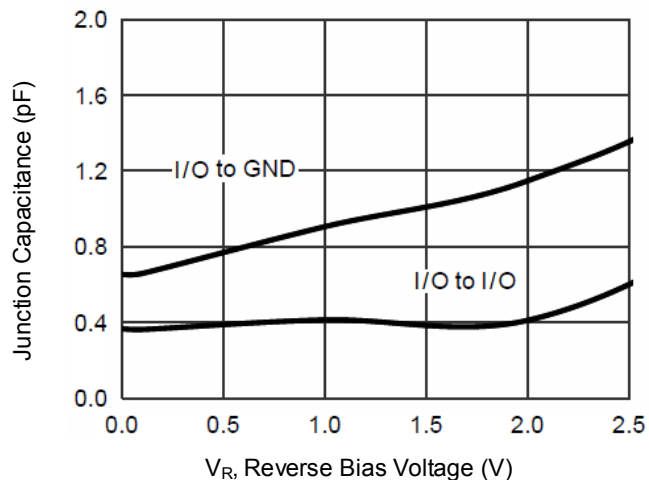
Typical Peak Clamping Voltage



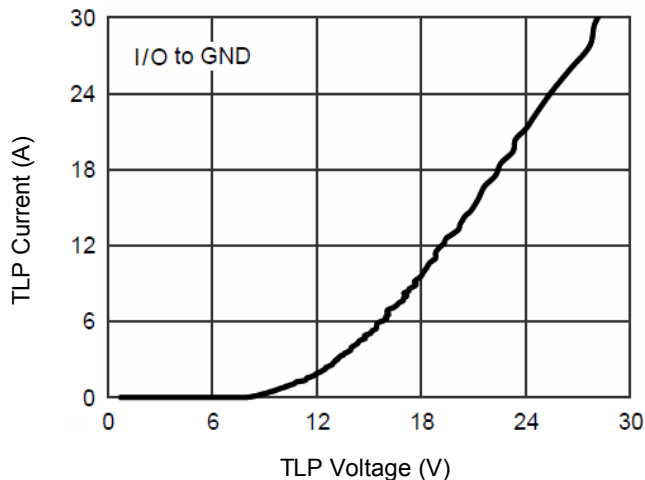
Pulse Waveform



Typical Junction Capacitance



TLP Measurement



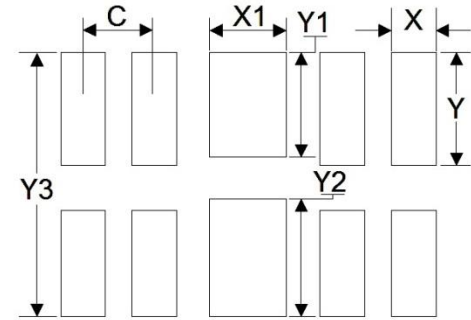
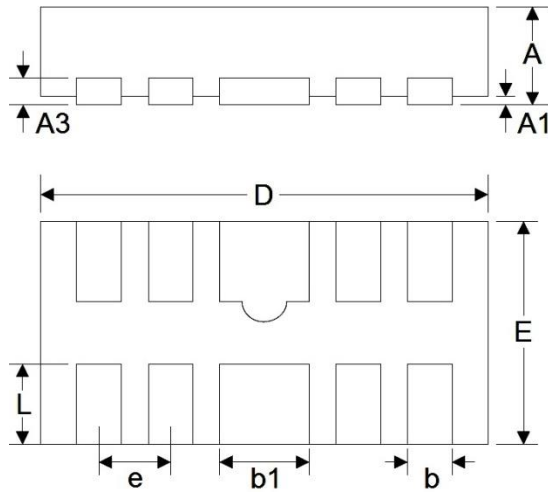
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DIMENSIONS AND RECOMMENDED LAND PATTERN

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.