

ESD Suppressor AEC-Q101

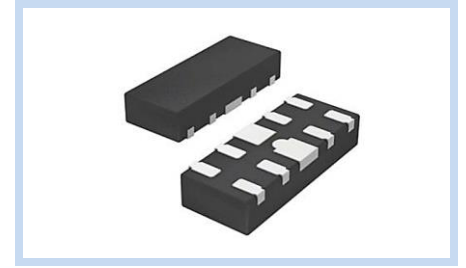
5V 4-Unidirectional DFN2510

ME54U20D2510

MERITEK

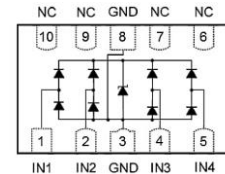
FEATURE

- IEC61000-4-2 ESD 10KV (Air), 10KV (Contact)
- ESD Protection for four Unidirectional Channels
- Low Capacitance and Low Leakage Current
- Low Reverse Clamping Voltage
- AEC-Q101 Compliant



APPLICATIONS

- High-Definition Multi-media Interface (HDMI)
- Digital Visual Interface (DVI)
- LVDS Interfaces
- Portable Devices
- High Speed Data Lines



ABSOLUTE MAXIMUM RATINGS

Parameter, T _J = 25°C		Symbol	Value	Unit
Peak Pulse Power (tp = 8/20μs waveform)		P _{PP}	19	W
ESD Discharge (IEC61000-4-2)	Air	V _{ESD}	±10	KV
	Contact		±10	
JESD22-A114-B ESD Voltage	Human Body Model		±15	
ESD Voltage	Machine Model		±0.4	
Peak Pulse Current (tp = 8/20μs waveform)		I _{PP}	5	A
Maximum Lead Solder Temperature (10 seconds Duration)		T _L	260	°C
Operating Junction and Storage Temperature Range		T _J , T _{STG}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS

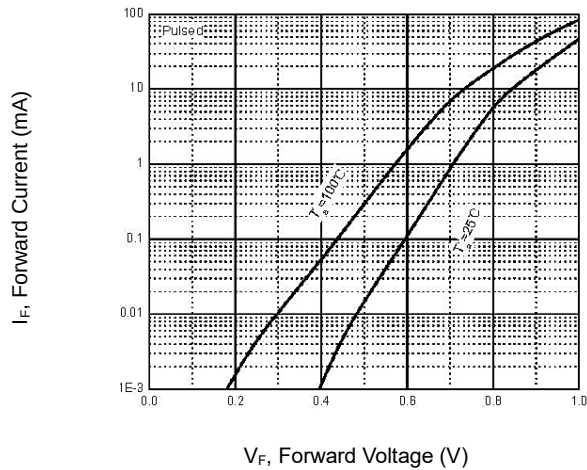
Parameter, T _J = 25°C		Symbol	Min	Typ.	Max	Unit
Reverse Stand-Off Voltage	--	V _{RWM}	-	-	5	V
Reverse Breakdown Voltage	I _{BR} =1mA	V _{BR}	5.6	-	-	V
Reverse Leakage Current	V _R =5V	I _R	-	-	1	μA
Forward Voltage	I _F =10mA	V _F	0.4	-	1.5	V
Clamping Voltage	I _{PP} =5A, tp=8/20μs	V _C	-	3.88	-	V
Clamping Voltage TLP	I _{TLP} =16A, Pulse Width=100ns	V _C	-	6.6	-	V
	I _{TLP} =±16A, Pulse Width=100ns, I/O to I/O		-	±12	-	
Off State Junction Capacitance	V _R =0V, f=1MHz,	C _J	-	-	0.8	pF
	V _R =0V, f=1MHz, Between I/O pins		-	-	0.5	

Notes:

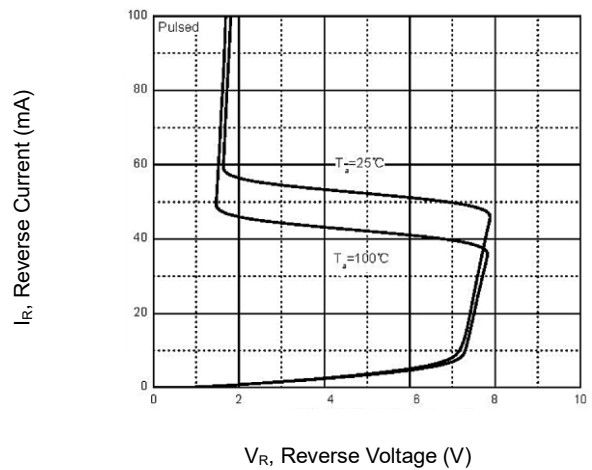
1. Device stressed with ten non-repetitive ESD pulses, per channel (I/O to GND).
2. Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5.
3. Other voltages available upon request.

CHARACTERISTIC CURVES

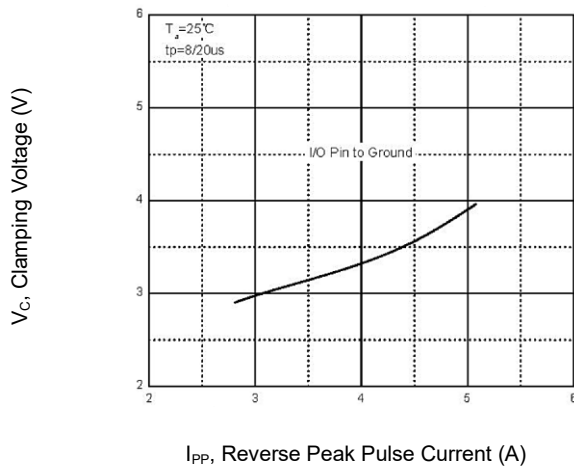
Forward Characteristics



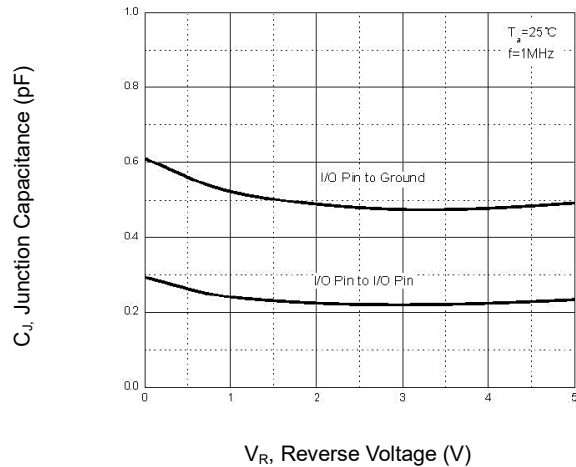
Reverse Characteristics



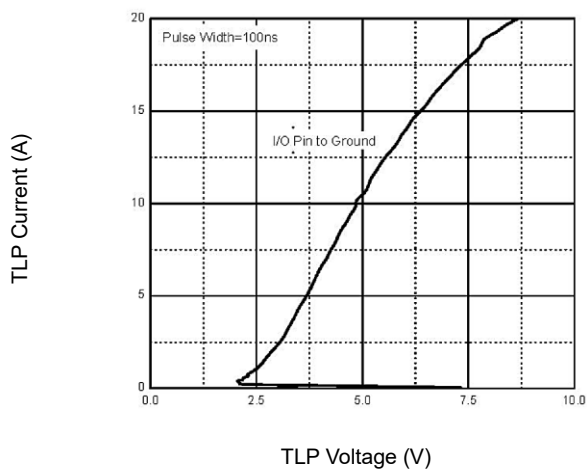
Clamping Voltage vs. Peak Pulse Current



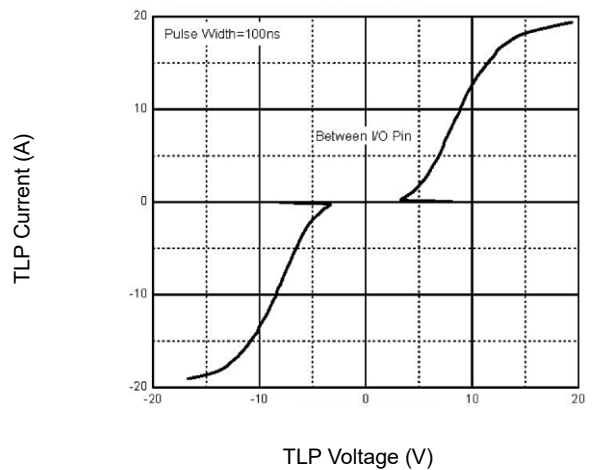
Capacitance vs. Reverse Voltage



TLP Measurement



TLP Measurement



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DIMENSIONS

Item	Min (mm)	Max (mm)
A	0.45	0.60
A1	-	0.05
A2	0.152 REF	
b	0.15	0.25
b1	0.35	0.45
D	2.45	2.55
E	0.95	1.05
e	0.500 TYP	
L	0.35	0.45
C	0.50	
X	0.30	
X1	0.45	
Y	0.60	
Y1	1.30	

