



DWUCS10F3V4UB-Q ESD Protection Diode

Feature

- Uni-directional ESD protection of four lines
- 40Watts peak pulse power ($t_p = 8/20\mu s$)
- Working voltage: 3.3V
- Junction Capacitance: 0.45pF(Typ IO-IO)
- Low clamping voltage
- Low leakage current
- AEC-Q101 qualified
- IEC 61000-4-5 (Lightning) 8A (8/20 μs)
- IEC 61000-4-2 ± 20 kV contact ± 20 kV air

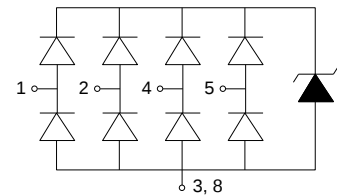
Application

- Servers, notebooks, and desktop PCs
- Set-top box
- Communication systems
- PoE

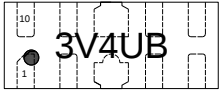
Mechanical Data

- Package: DFN2510-10L
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

Schematic & PIN Configuration



Ordering Information

Part Number	Package	Marking	Packing	Reel Size
DWUCS10F3V4UB-Q	DFN2510-10L		3000 Tape & Reel	7 inches



Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Min.	Max.	Unit
Peak pulse power ($t_p=8/20\mu\text{s}$)@ 25°C	P_{PK}	-	40	W
Peak pulse current ($t_p=8/20\mu\text{s}$)@ 25°C	I_{PP}		8	A
ESD (IEC61000-4-2 air discharge) @ 25°C	V_{ESD}	-	± 20	kV
ESD (IEC61000-4-2 contact discharge) @ 25°C	V_{ESD}	-	± 20	kV
Junction temperature	T_J	-	150	$^{\circ}\text{C}$
Operating temperature	T_{OP}	-40	125	$^{\circ}\text{C}$
Storage temperature	T_{STG}	-55	150	$^{\circ}\text{C}$
Lead temperature	T_L	-	260	$^{\circ}\text{C}$

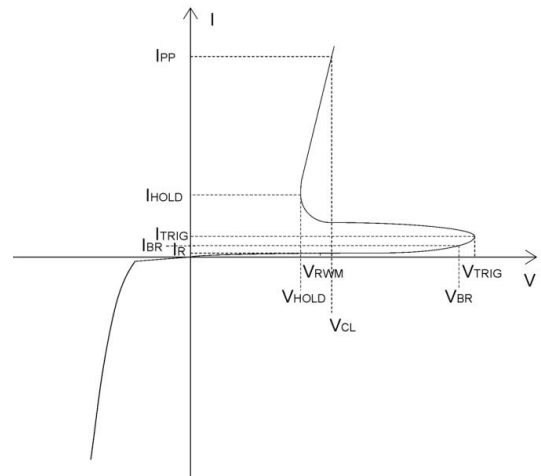
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}			3.3	5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$	5.0	7.3	8.5	V
Reverse Leakage Current	I_R	$V_{RWM}=3.3\text{V}$			100	nA
Clamping Voltage	V_{CL}	$I_{PP}=1\text{A}$; $t_p=8/20\mu\text{s}$		1.0	3.0	V
Clamping Voltage	V_{CL}	$I_{PP}=8\text{A}$; $t_p=8/20\mu\text{s}$		3.5	5.0	V
Dynamic Resistance	R_{dyn}	$I_R=16\text{A}$; $T_{amb}=25^{\circ}\text{C}$		0.2		Ω
Junction Capacitance	C_J	$V_R=0\text{V}$; $f=1\text{MHz}$; IO-GND		0.45	0.50	pF
		$V_R=1.5\text{V}$; $f=1\text{MHz}$; IO-GND		0.35	0.40	
		$V_R=2.5\text{V}$; $f=1\text{MHz}$; IO-GND		0.32	0.38	
		$V_R=0\text{V}$; $f=1\text{MHz}$; IO-IO		0.22	0.25	

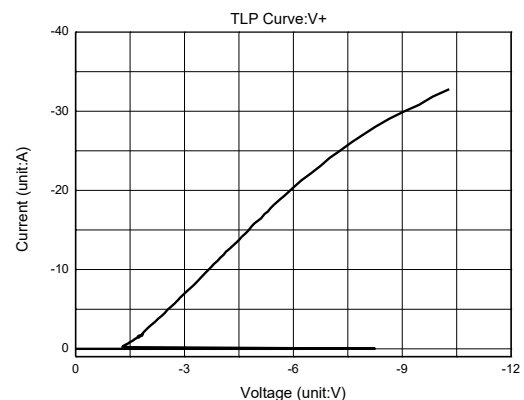
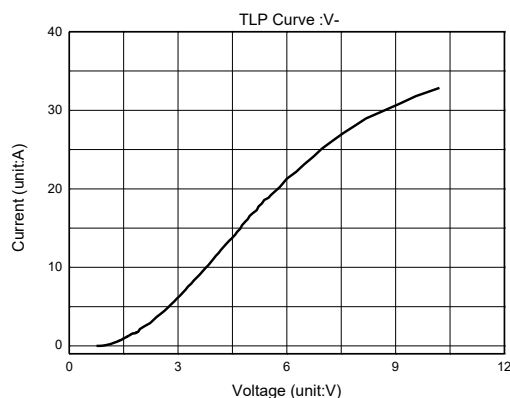
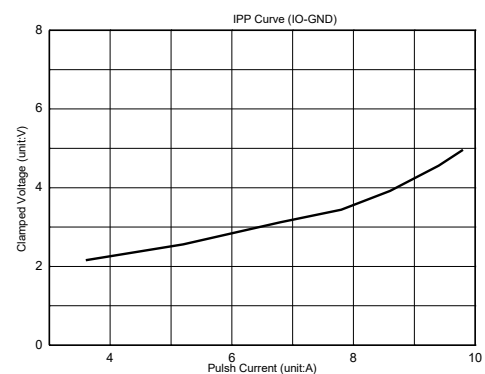
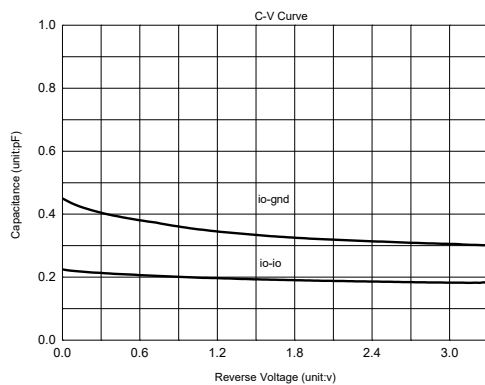
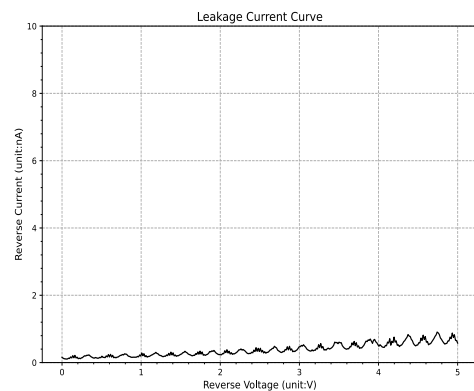
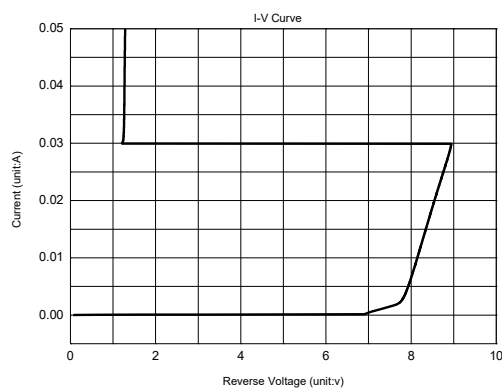


Electrical Parameters

Symbol	Parameters
V_{RWM}	Reverse stand-off voltage
I_R	Reverse leakage current
V_{BR}	Reverse breakdown voltage
I_{BR}	Reverse breakdown current
V_{CL}	Clamping voltage
V_{TRIG}	Reverse trigger voltage
I_{TRIG}	Reverse trigger current
V_{HOLD}	Reverse holding voltage
I_{HOLD}	Reverse holding current
I_{PP}	Peak pulse current

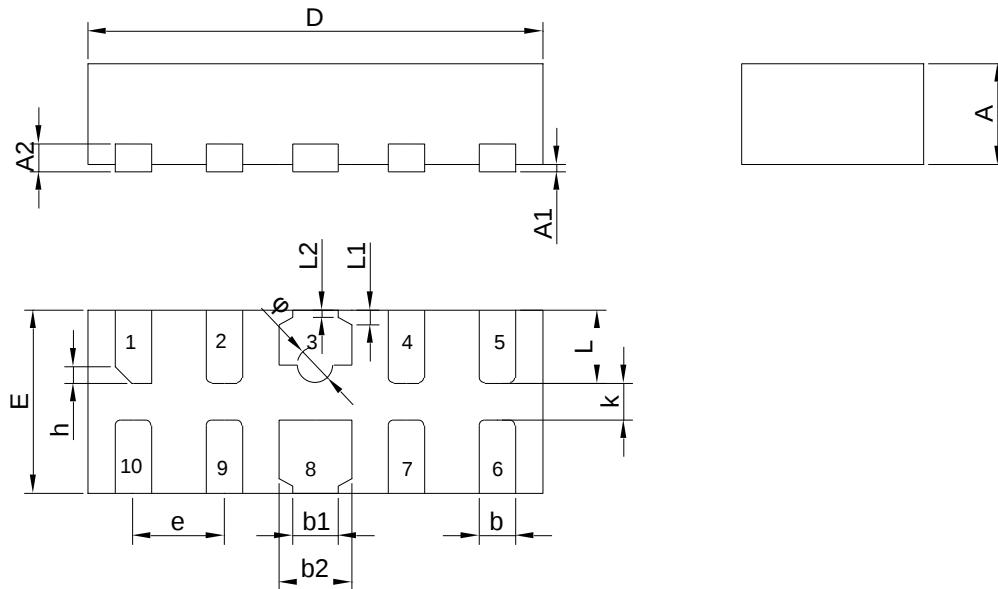


Typical Characteristics





DFN2510-10L Outline Drawing



Dimensions in Millimeter							
Symbol	Min.	Nom.	Max.	Symbol	Min.	Nom.	Max.
A	0.500	0.550	0.600	D	2.450	2.500	2.550
A1	0.00	/	0.05	E	0.950	1.00	1.050
A2	0.122	0.152	0.200	e	0.450	0.500	0.550
b	0.150	0.200	0.250	h	0.080	0.120	0.150
b1	0.200	0.250	0.300	k	0.150	0.200	0.250
b2	0.350	0.400	0.450	L	0.350	0.400	0.450
L1	0.075 REF			L2	0.05 REF		
φ	0.150	0.200	0.250				