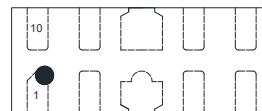


Ultra Low Capacitance TVS Diode Array

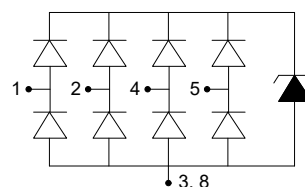
Features

- Ultra low capacitance: 0.22pF typical (I/O to I/O)
- Ultra low leakage: nA level
- Low operating voltage: 3.3V
- Low clamping voltage with snap back technology
- Up to 4 lines protects
- Leadless flow -through package
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
Air discharge: $\pm 15\text{kV}$
Contact discharge: $\pm 15\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 8A (8/20 μs)
- RoHS Compliant

Dimensions DFN2510P10



Pin Configuration



Applications

- HDMI 1.3 & 1.4, USB 2.0 & 3.0 and MDDI ports
- Monitors and flat panel displays
- Set-top box and Digital TV
- Video graphics cards
- Digital Video Interface (DVI)
- Notebook Computers
- PCI Express and Serial SATA Ports

Mechanical Characteristics

- Package: DFN2510P10
- Lead Finish: Matte Tin
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel: 3000pcs
- Reel Size: 7inch
- Device Marking: 3V4US

Absolute Maximum Ratings (T_{amb}=25°C unless otherwise specified)

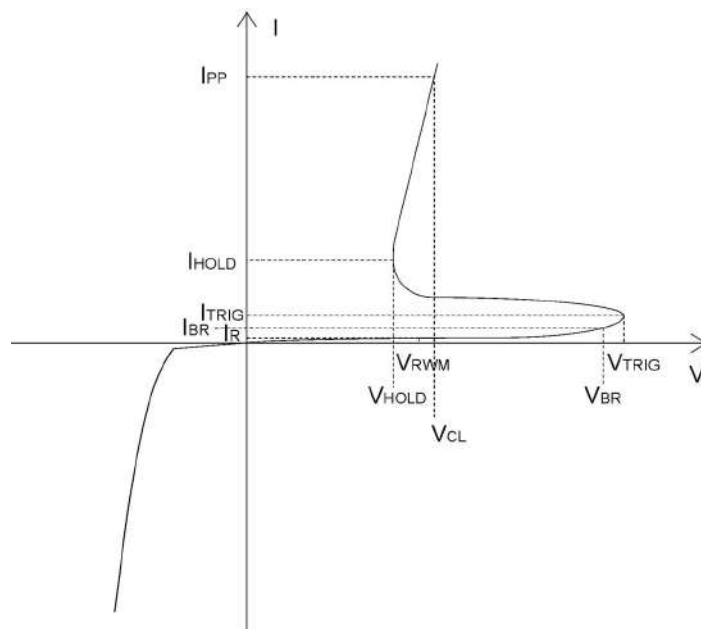
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P _{pp}	50	W
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 15	kV
ESD per IEC 61000-4-2 (Contact)		± 15	
Operating Temperature Range	T _J	-40 to +125	°C
Storage Temperature Range	T _{STJ}	-55 to +150	°C

Electrical Characteristics(TA=25°C unless otherwise specified)

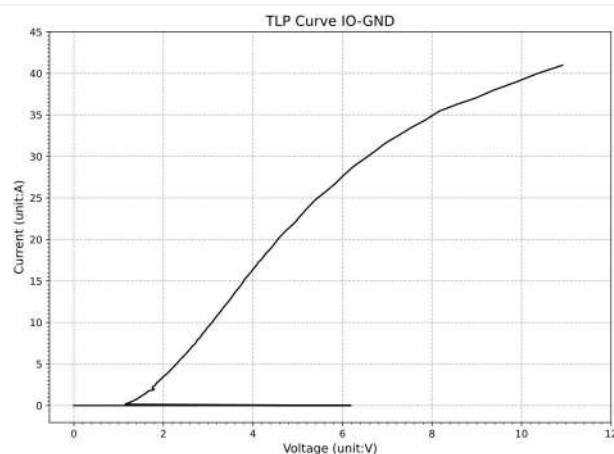
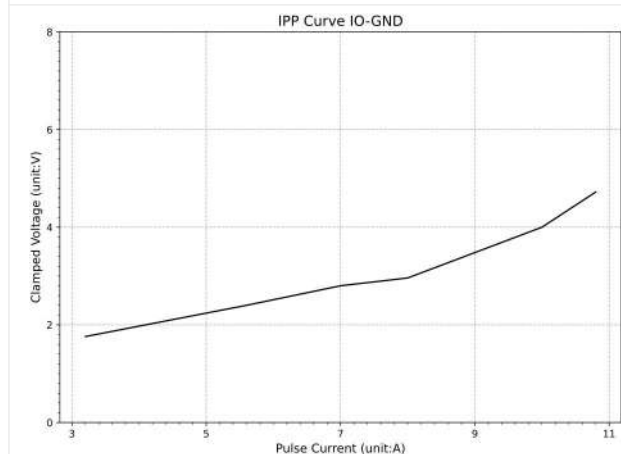
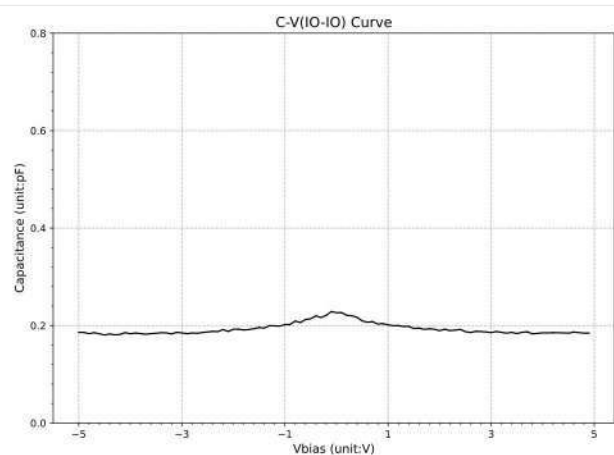
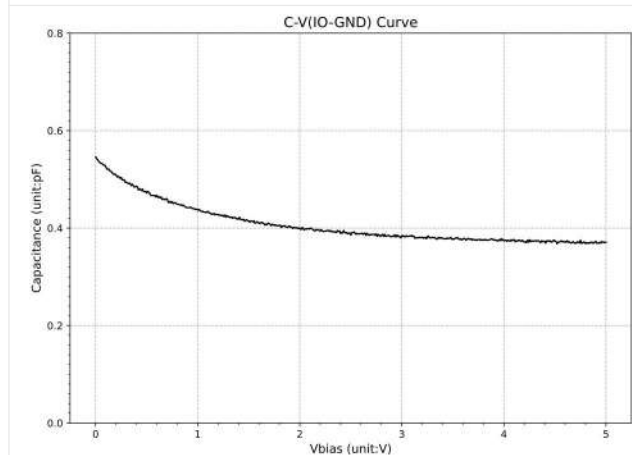
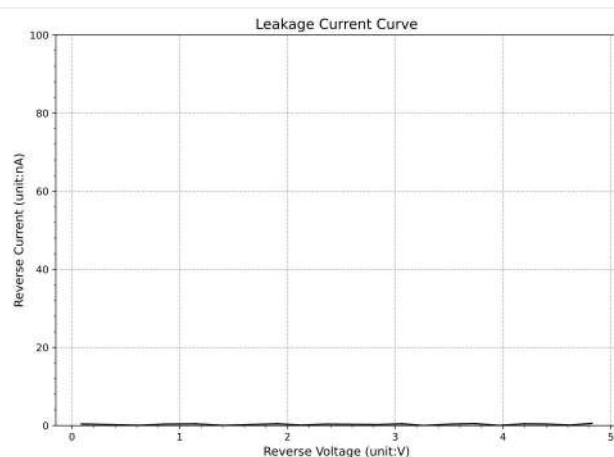
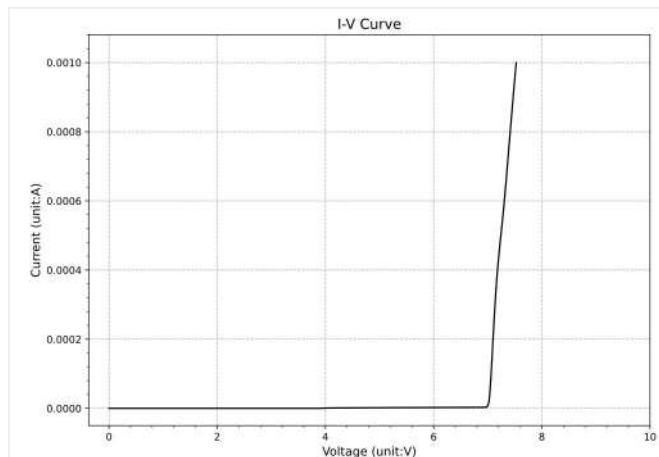
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				3.3	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	5.0	7.5		V
Reverse Leakage Current	I_R	$V_{RWM}=3.3V$			100	nA
Clamping Voltage	V_{CL}	$I_{PP}=1A$; $t_p=8/20\mu s$		1.5		V
Clamping Voltage	V_{CL}	$I_{PP}=8A$; $t_p=8/20\mu s$		3.5		V
Junction Capacitance	C_J	$V_R=0V$; $f=1MHz$; IO-GND		0.54		pF
		$V_R=1.5V$; $f=1MHz$; IO-GND		0.42		
		$V_R=0V$; $f=1MHz$; IO-IO		0.22		

Electrical Parameters(TA=25°C unless otherwise specified)

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





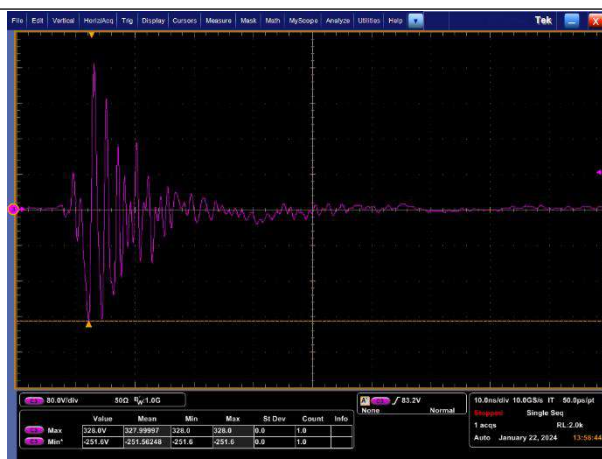
IEC6100-4-2 +8kV IO-GND



IEC6100-4-2 -8kV IO-GND



IEC6100-4-2 +15kV IO-GND



IEC6100-4-2 -15kV IO-GND



IEC6100-4-2 +8kV IO-IO



IEC6100-4-2 -8kV IO-IO

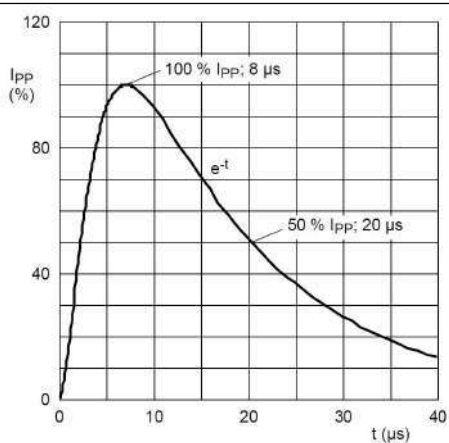


IEC6100-4-2 +15kV IO-IO

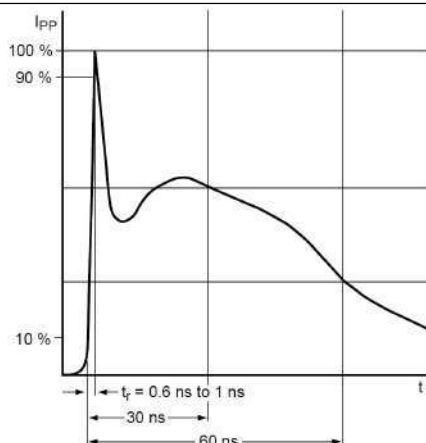


IEC6100-4-2 -15kV IO-IO

MeasurementWaveAccordingtoIECStandard



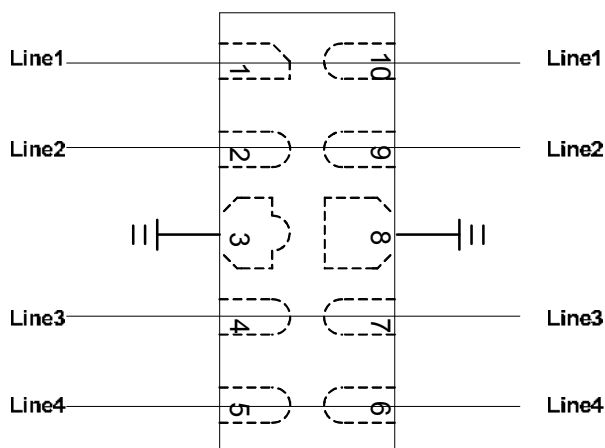
8/20 μ s pulse waveform according to
IEC 61000-4-5



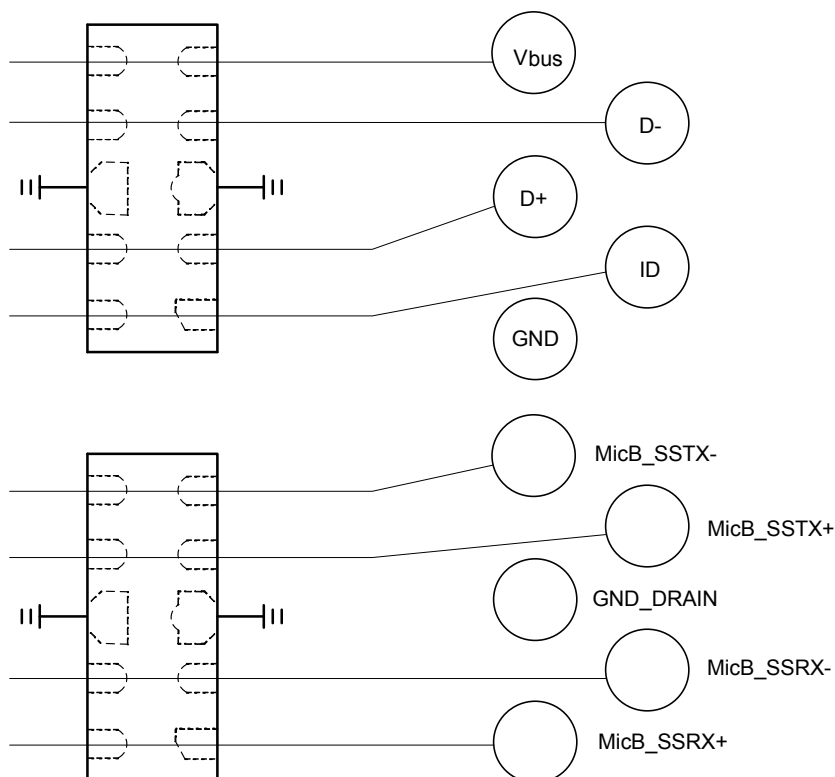
ESD pulse waveform according to
IEC 61000-4-2

Typical Application

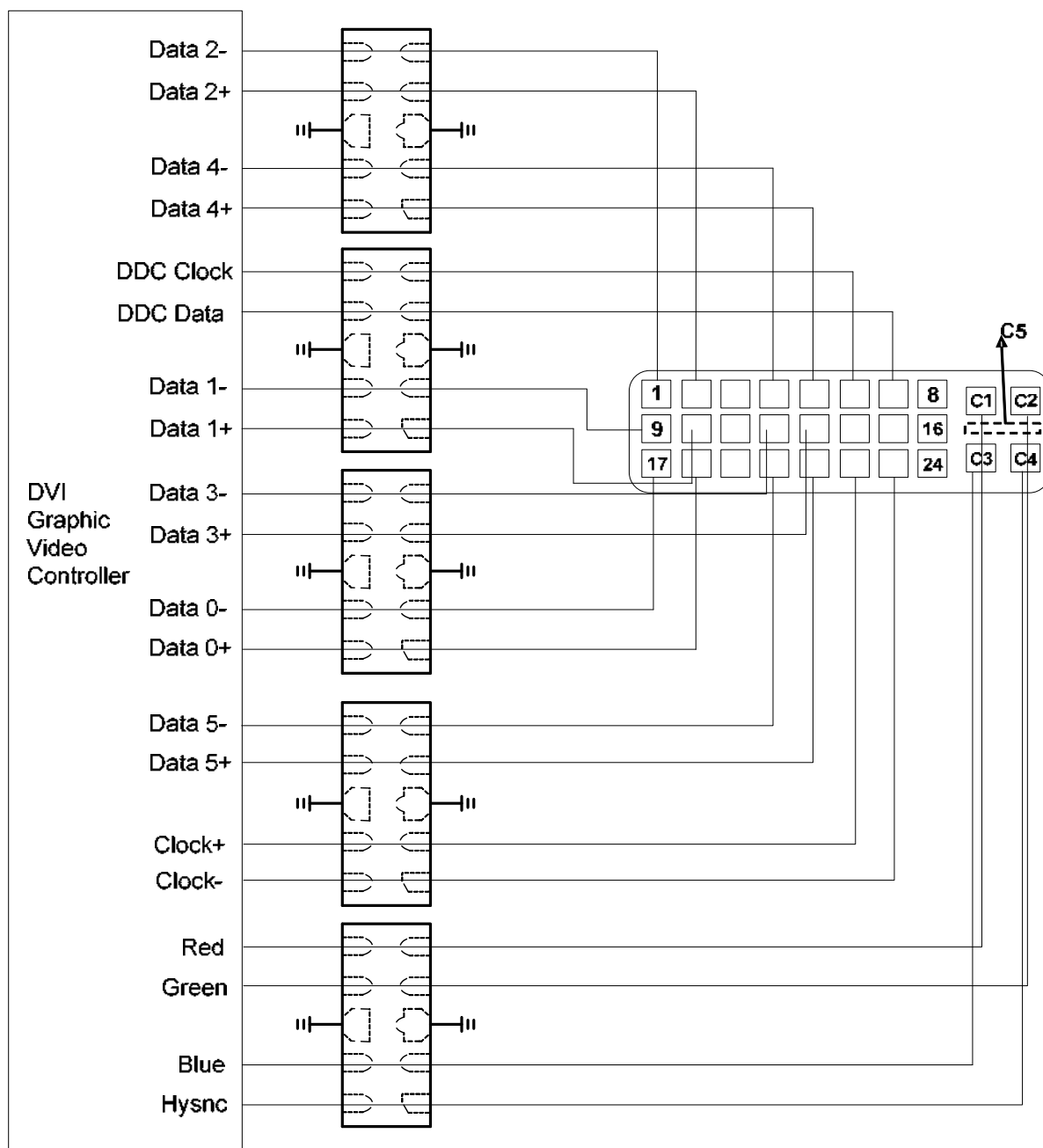
The KWULC3324P10 is designed for easy PCB layout by allowing the traces to run straight through the device. The PCB traces could be used to connect the pin pairs for each line. For example, line 1 enters at pin 1 and exits at pin 10 and the PCB trace connects Pin 1 and Pin 10 together. Ground is connected at Pin 3 and Pin 8.



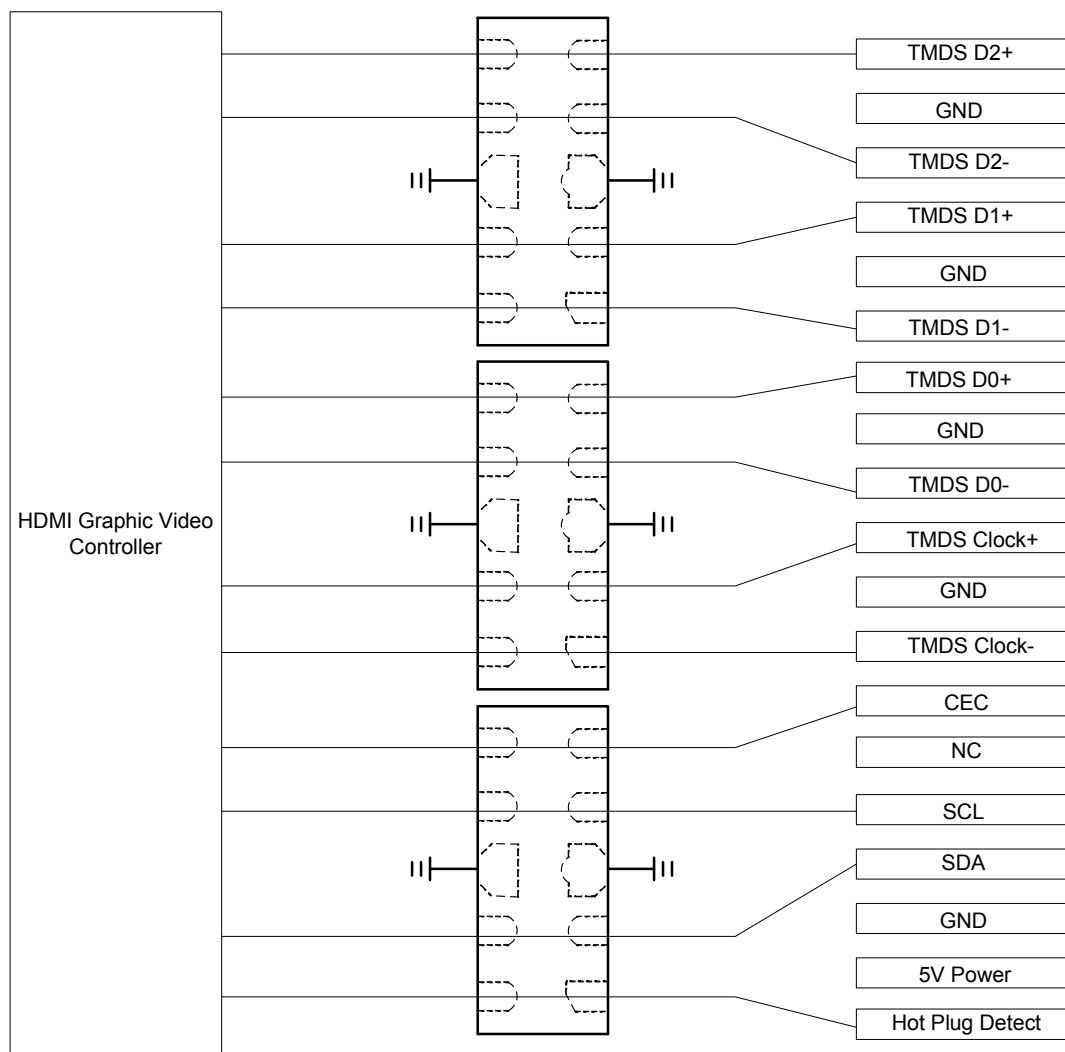
KWULC3324P10 on USB 3.0 Port Application



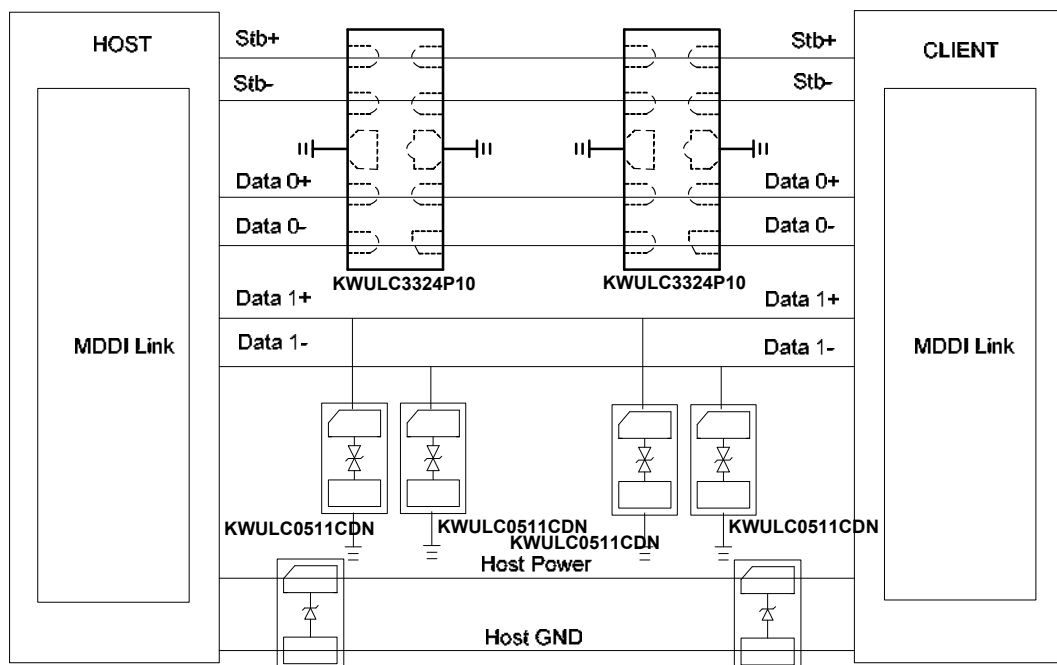
KWULC3324P10 on DVI Port Application



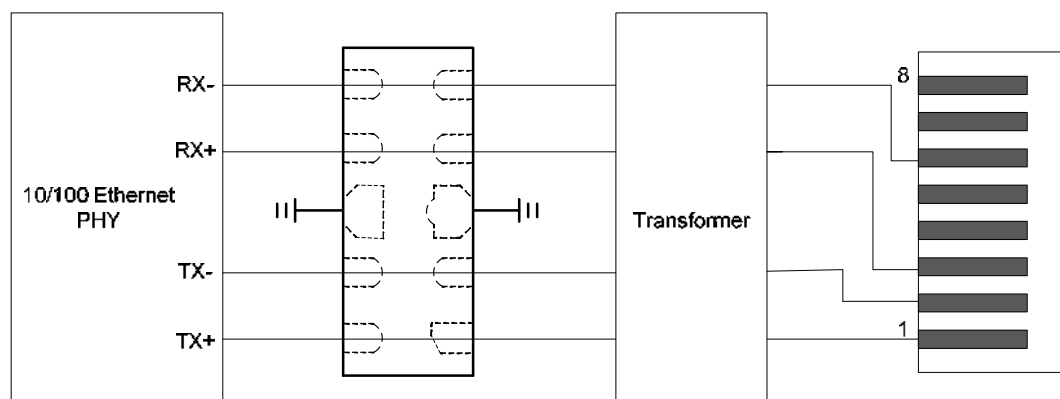
KWULC3324P10 on HDMI Port Application



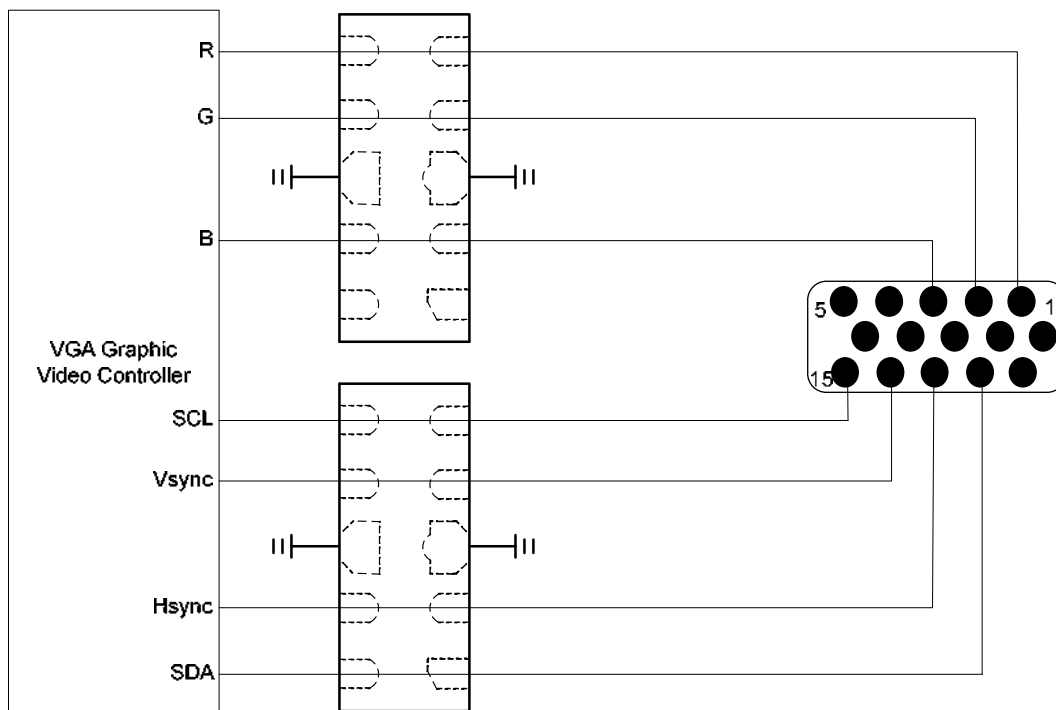
KWULC3324P10 on MDDI Port Application



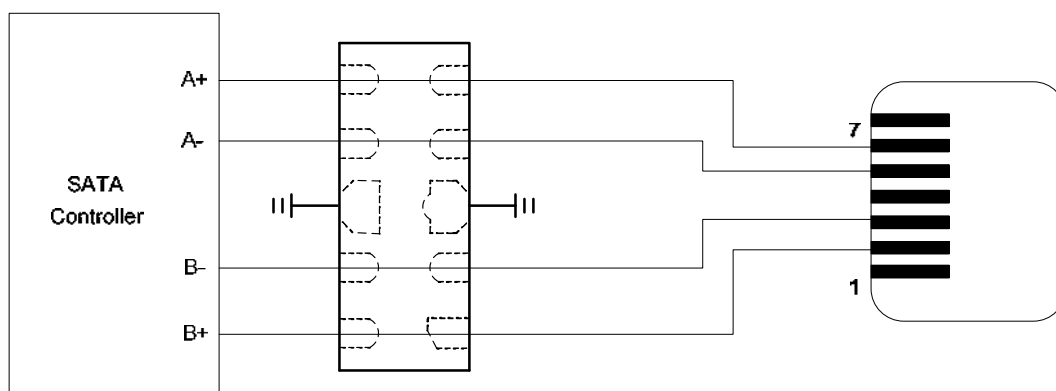
KWULC3324P10 on 10/100 Base Ethernet Port Application



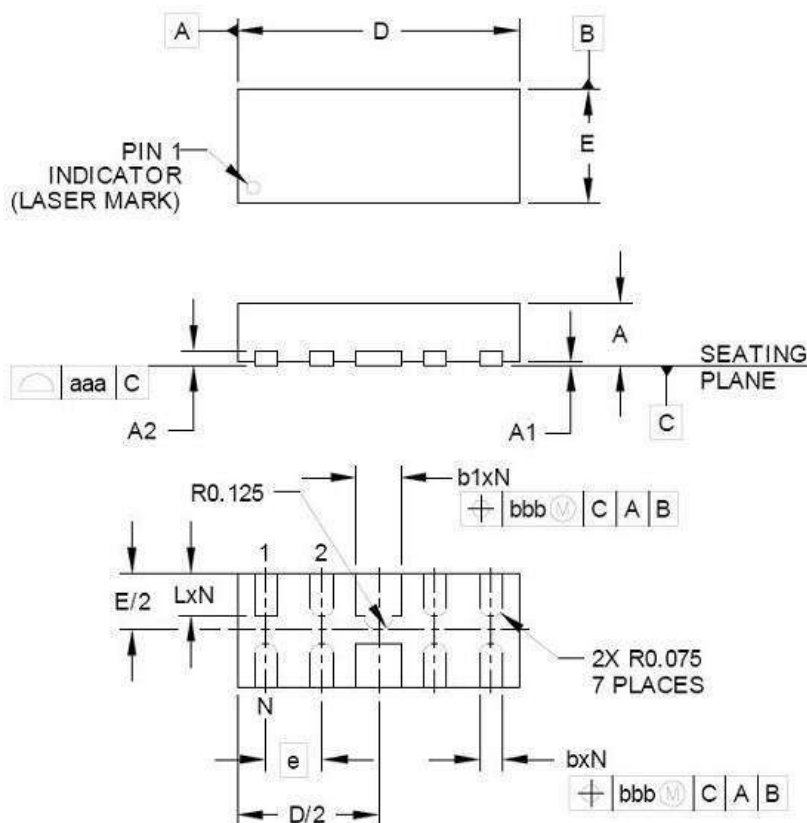
KWULC3324P10 on VGA Port Application



KWULC3324P10 on eSATA Port Application

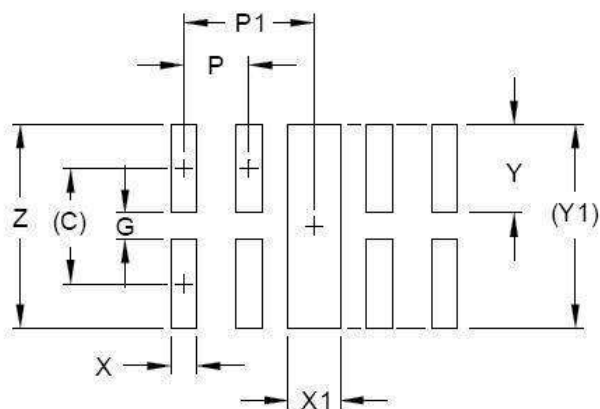


DFN2510P10 PACKAGE OUTLINE & DIMENSIONS



DIM	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	.020	.023	.026	0.50	0.58	0.65
A1	0.00	.001	.002	0.00	0.03	0.05
A2		(.005)			(0.13)	
b	.006	.008	.010	0.15	0.20	0.25
b1	.014	.016	.018	0.35	0.40	0.45
D	.094	.098	.102	2.40	2.50	2.60
E	.035	.039	.043	0.90	1.00	1.10
e		.020 BSC			0.50 BSC	
L	.012	.015	.017	0.30	0.38	0.425
N		10			10	
aaa		.003			0.08	
bbb		.004			0.10	

SOLDERING FOOTPRINT



DIM	DIMENSIONS	
	INCHES	MILLIMETERS
C	(.034)	(0.875)
G	.008	0.20
P	.020	0.50
P1	.039	1.00
X	.008	0.20
X1	.016	0.40
Y	.027	0.675
Y1	(.061)	(1.55)
Z	.061	1.55