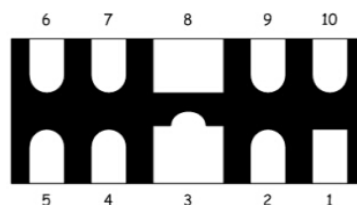


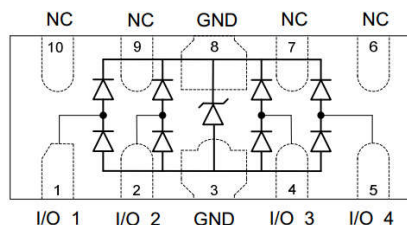
Features

- Ultra low capacitance: 0.6pF typical (I/O to I/O)
 - Ultra low leakage: nA level
 - Low operating voltage: 3.3V
 - Low clamping voltage
 - Up to 4 lines protects
 - Leadless flow-through package
 - Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
- Air discharge: $\pm 20\text{kV}$ Contact discharge: $\pm 20\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 5A (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

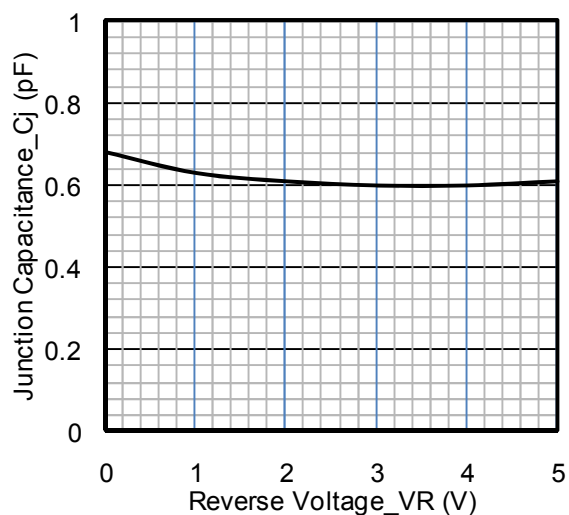
Absolute Maximum Ratings (T_{amb}=25°C unless otherwise specified)

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

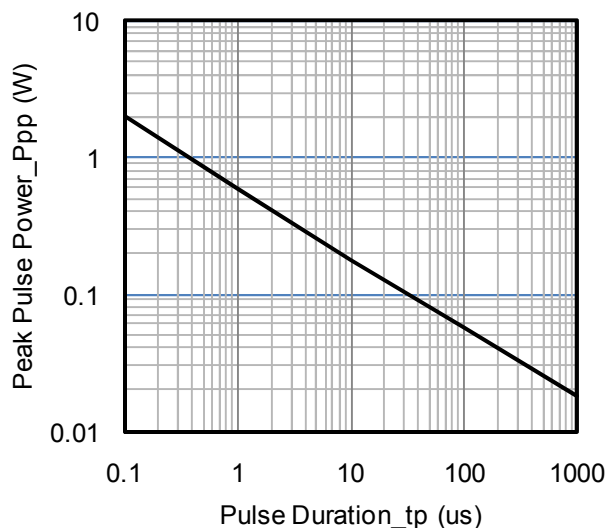
Electrical Characteristics (TA=25°C unless otherwise specified)

Part Number	Device Marking	V_{RWM} (V)	V_{BR} (V)	I_T (mA)	V_C @1A	V_C		I_R μA (Max)	C (Pf) (Typ.)
						(Max)	(@A)		
ULC3304P10	3324	3.3	4.5	1	6.5	10	5	0.5	0.6

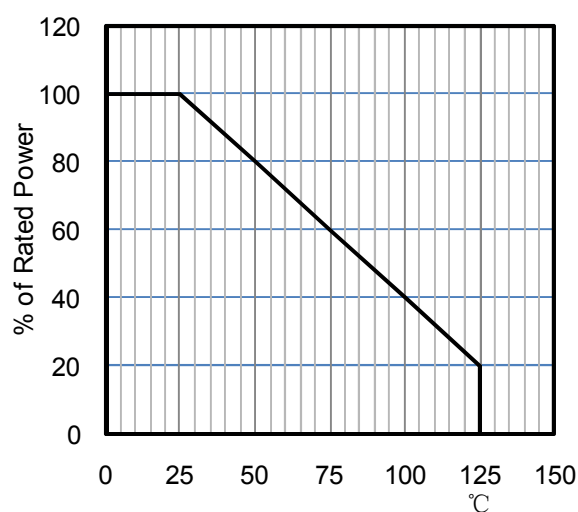
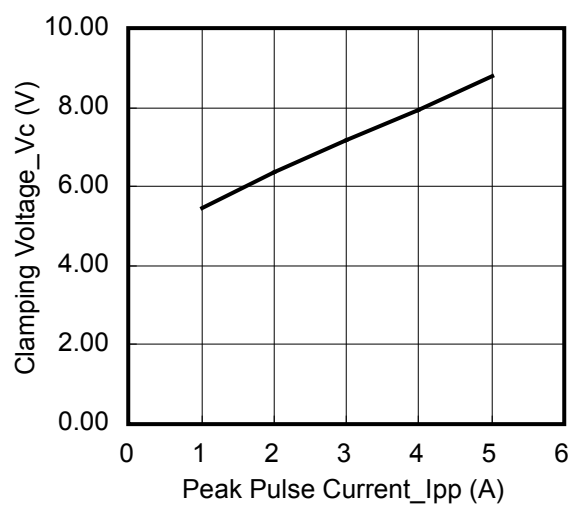
Characteristic Curves



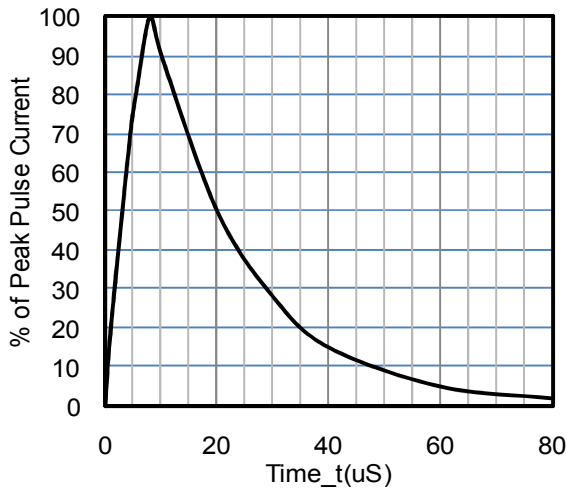
Junction Capacitance vs. Reverse Voltage



Peak Pulse Power vs. Pulse Time

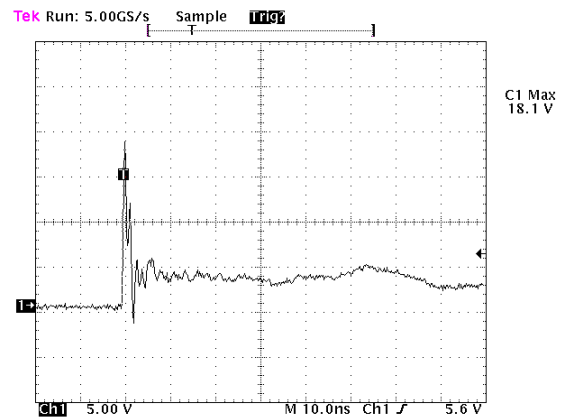


Clamping Voltage vs. Peak Pulse Current



8 X 20uS Pulse Waveform

Power Derating Curve

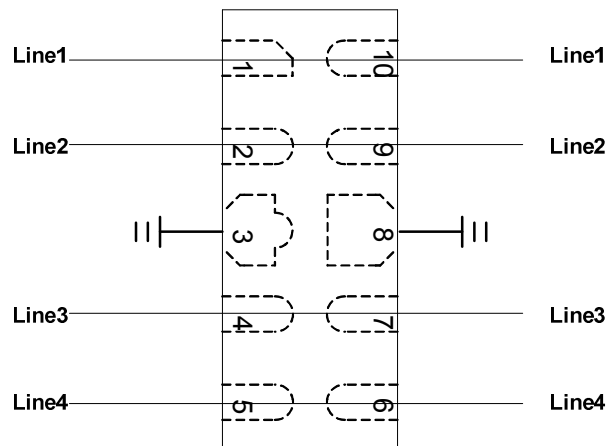


ESD Clamping Voltage

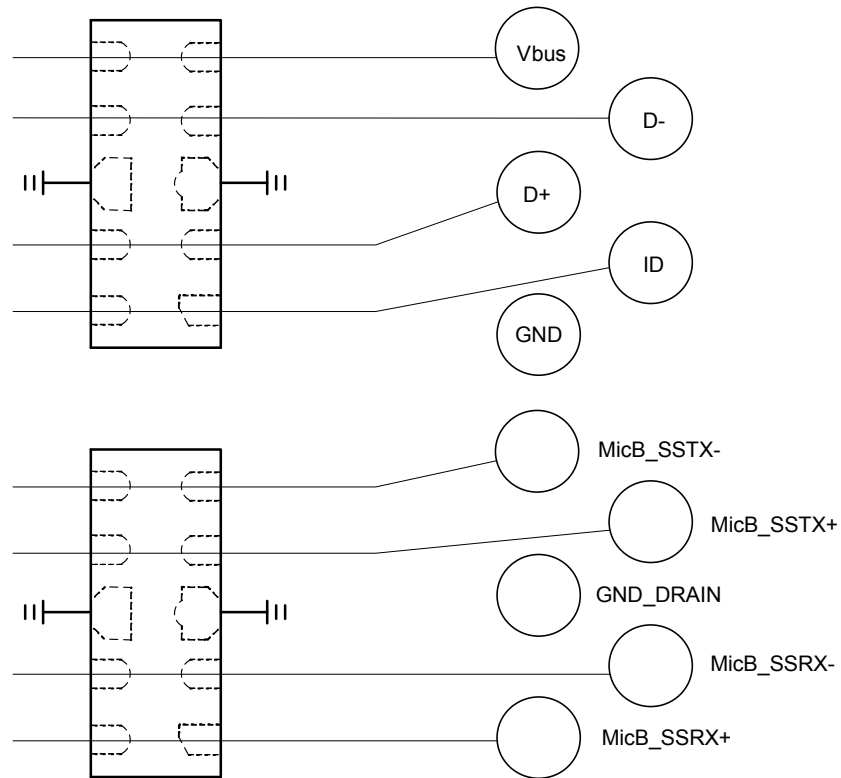
8 kV Contact per IEC61000-4-2

Typical Application

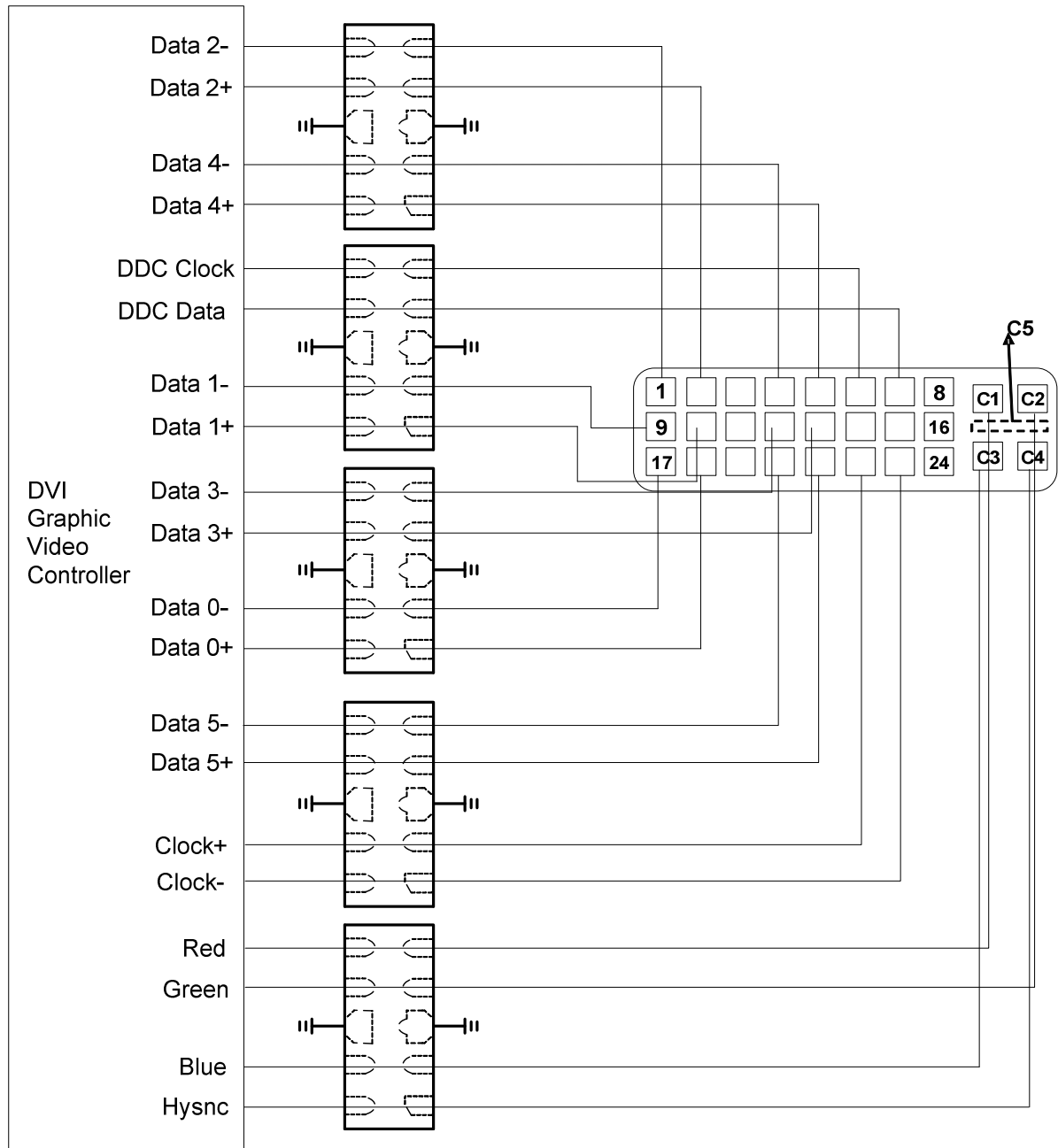
The ULC3304P10 is designed for easy PCB layout by allowing the traces to run straight through the device. The PCB traces could be used to connect the pin pairs for each line. For example, line 1 enters at pin 1 and exits at pin 10 and the PCB trace connects Pin 1 and Pin 10 together. Ground is connected at Pin 3 and Pin 8.



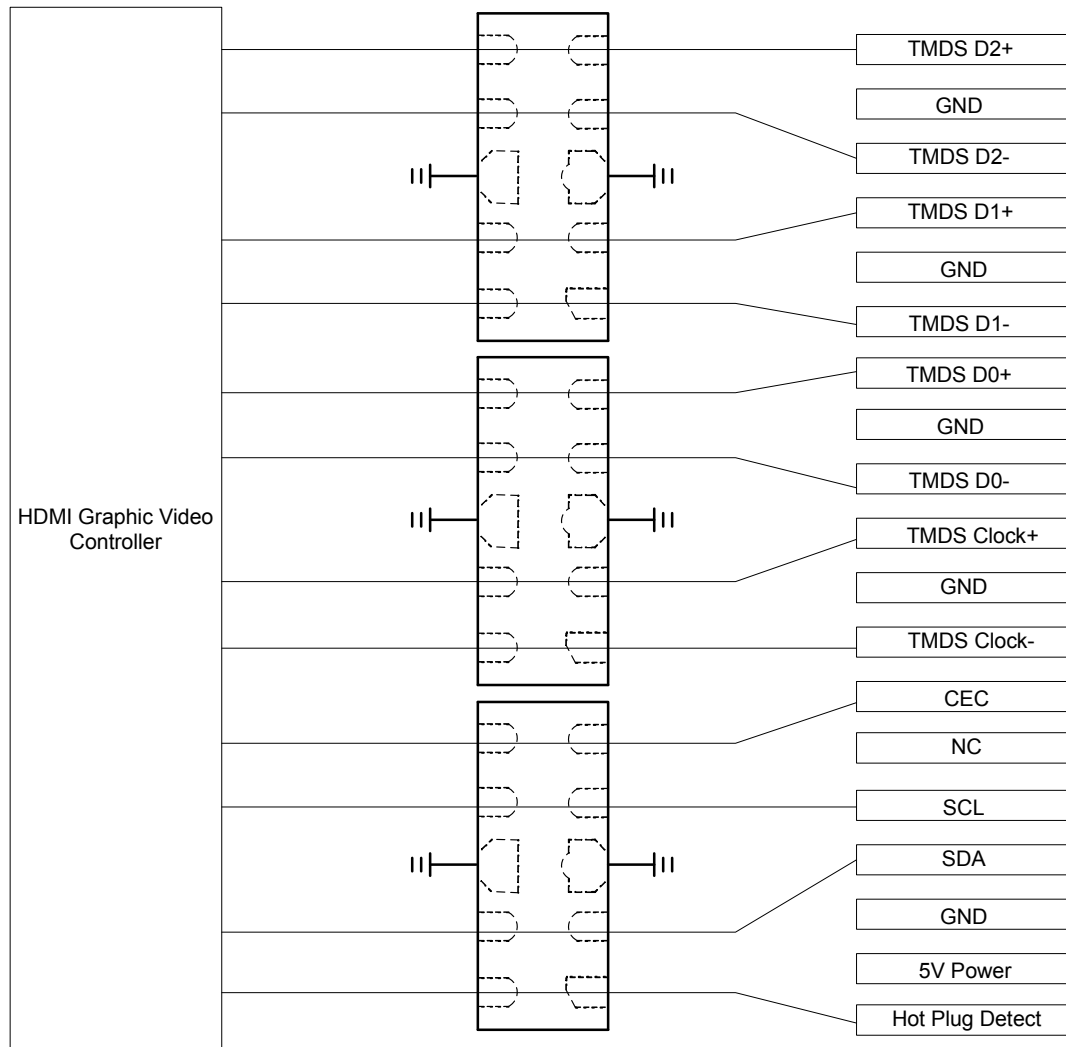
ULC3304P10 on USB 3.0 Port Application



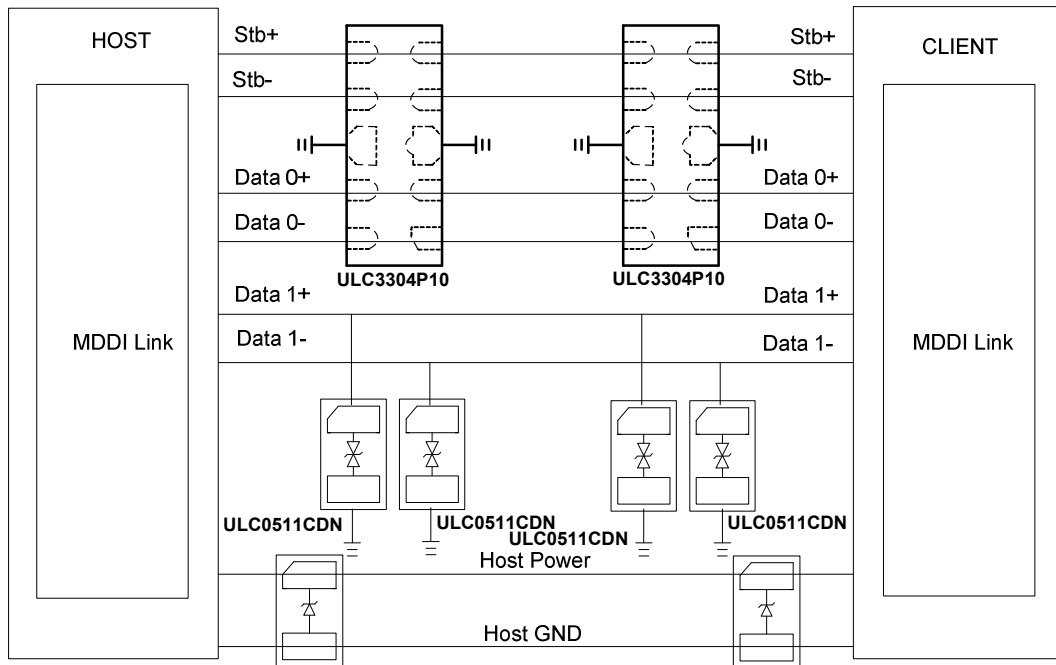
ULC3304P10 on DVI Port Application



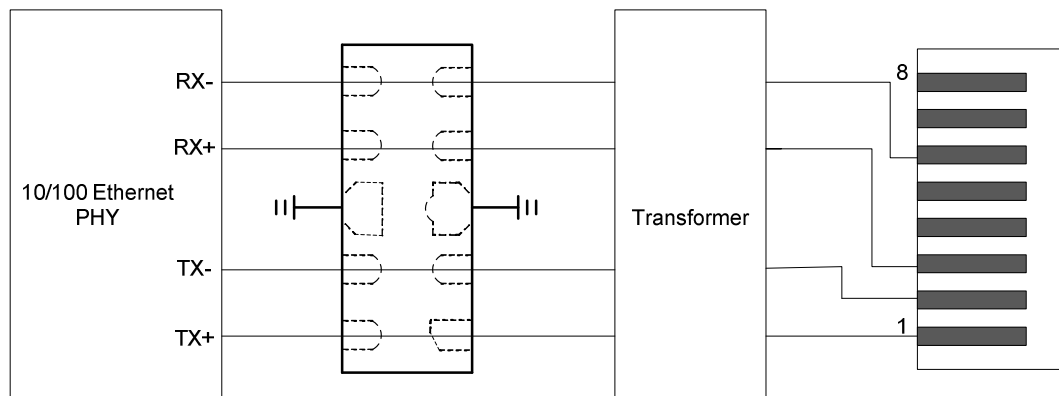
ULC3304P10 on HDMI Port Application



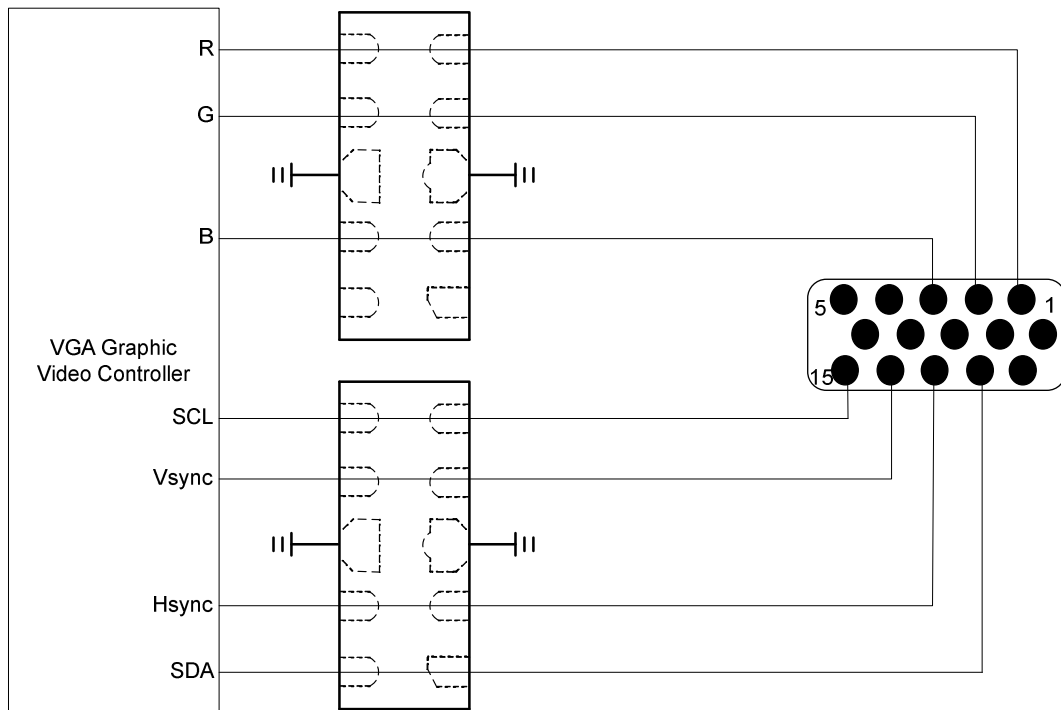
ULC3304P10 on MDDI Port Application



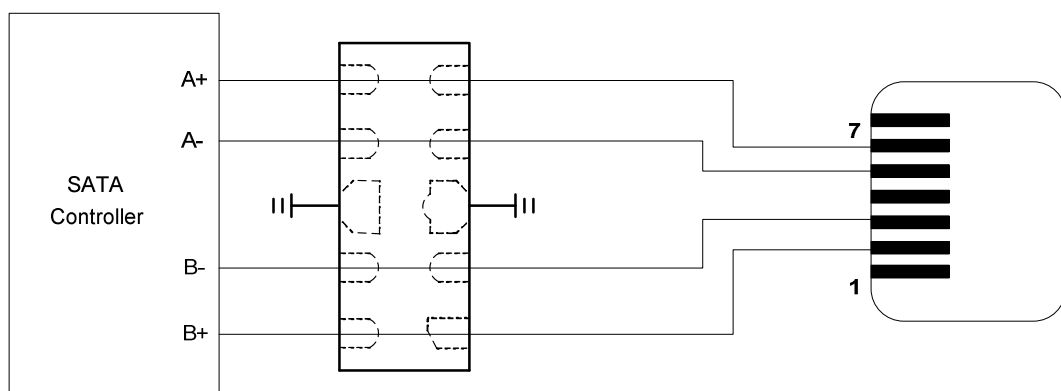
ULC3304P10 on 10/100 Base Ethernet Port Application



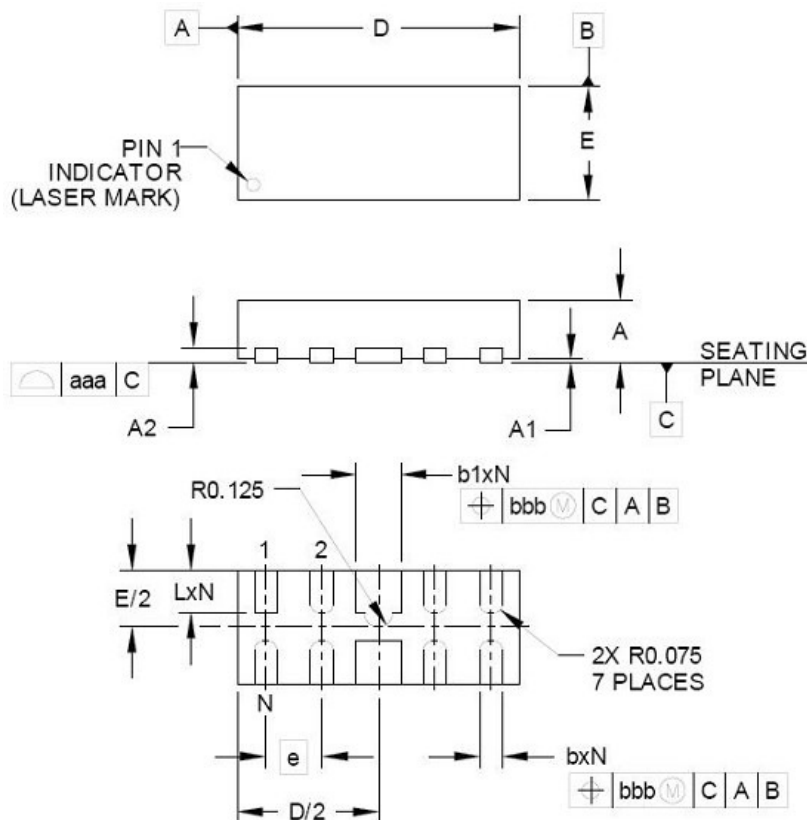
ULC3304P10 on VGA Port Application



ULC3304P10 on eSATA Port Application

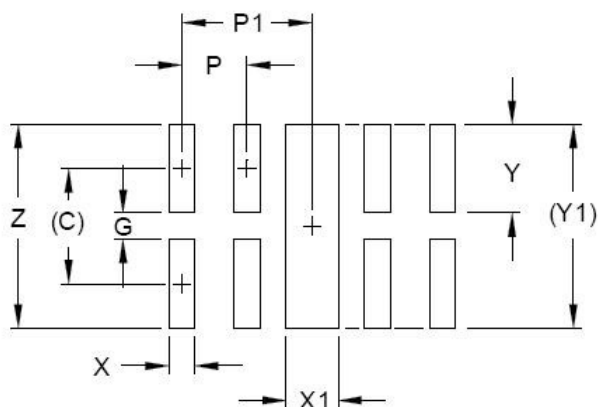


DFN2510P10 PACKAGE OUTLINE & DIMENSIONS



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