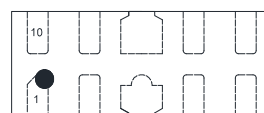


Ultra Low Capacitance TVS Diode Array

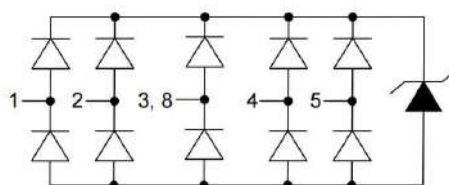
Features

- Ultra low capacitance: 0.17pF 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) 6A (8/20 μs)
- RoHS Compliant
- AEC-Q101 qualified

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: 3V4BS

Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

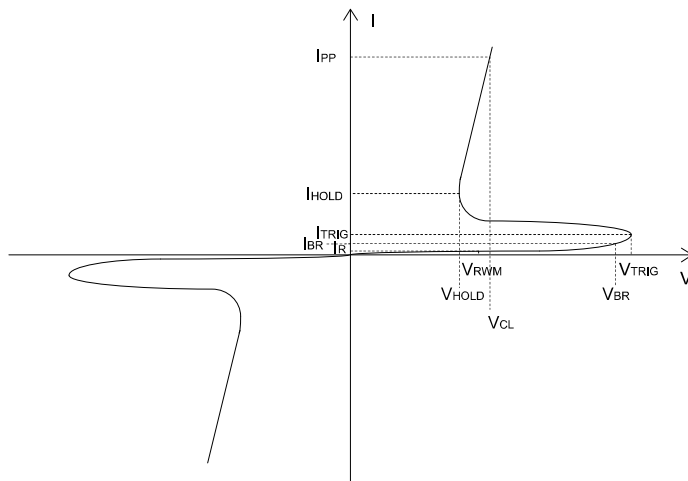
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppp	50	W
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 15	kV
ESD per IEC 61000-4-2 (Contact)		± 15	
Operating Temperature Range	T _J	-40 to +125	°C
Storage Temperature Range	T _{STJ}	-55 to +150	°C

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

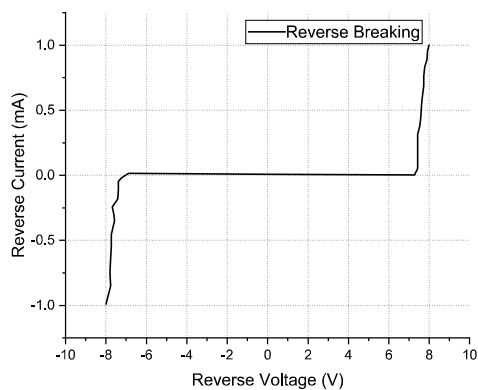
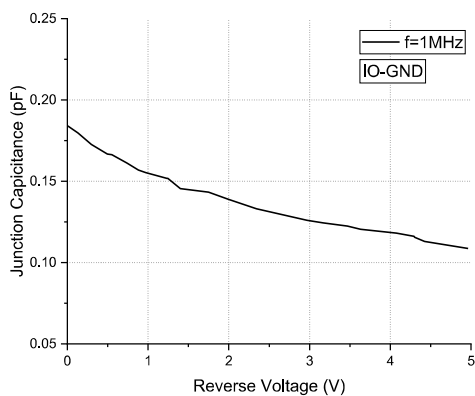
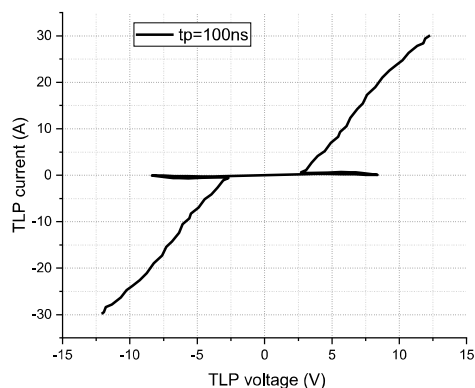
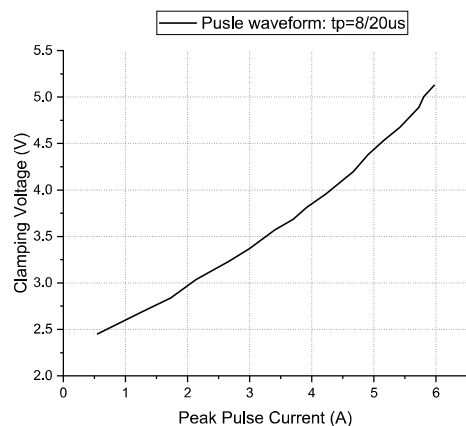
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}			3.3		V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	5.5		8.0	V
Reverse Leakage Current	I_R	$V_{RWM}=3.3V$			100	nA
Clamping Voltage	V_{CL}	$I_{PP}=1A$; $t_p=8/20\mu s$		2.5	4.0	V
Clamping Voltage	V_{CL}	$I_{PP}=6A$; $t_p=8/20\mu s$		5.0	7.0	V
Junction Capacitance	C_J	$V_R=0V$; $f=1MHz$; IO-GND		0.17	0.25	pF
		$V_R=0V$; $f=1MHz$; IO-IO		0.17	0.25	

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

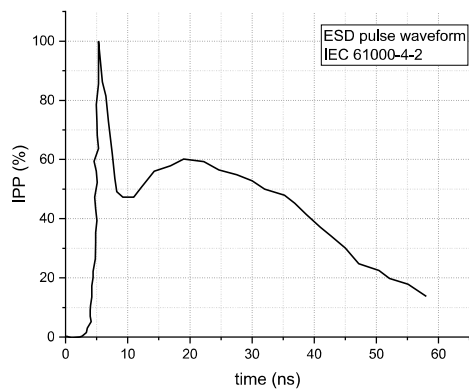
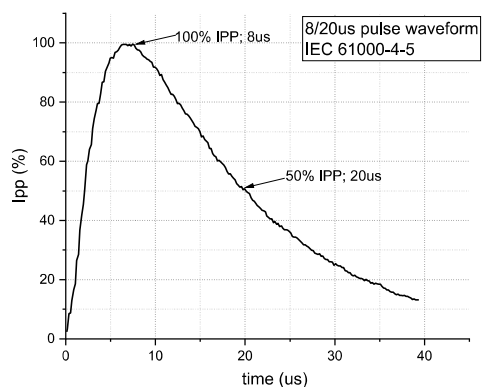
Symbol	Parameters
V_{RWM}	Reverse stand-off voltage
I_R	Reverse leakage current
V_{BR}	Reverse breakdown voltage
I_{BR}	Reverse breakdown current
V_{CL}	Clamping voltage
V_{TRIG}	Reverse trigger voltage
I_{TRIG}	Reverse trigger current
V_{HOLD}	Reverse holding voltage
I_{HOLD}	Reverse holding current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



Typical Characteristics

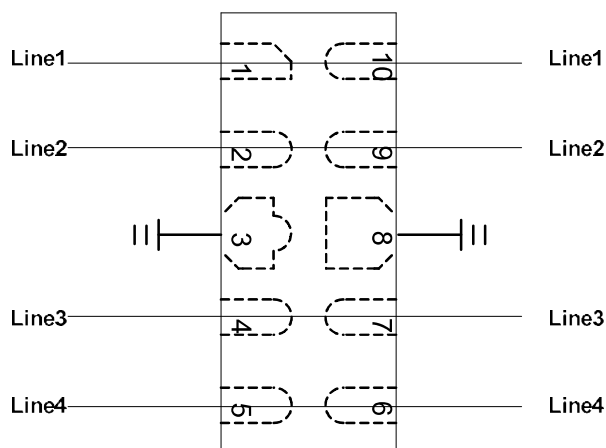


Measurement Wave According to IEC Standard

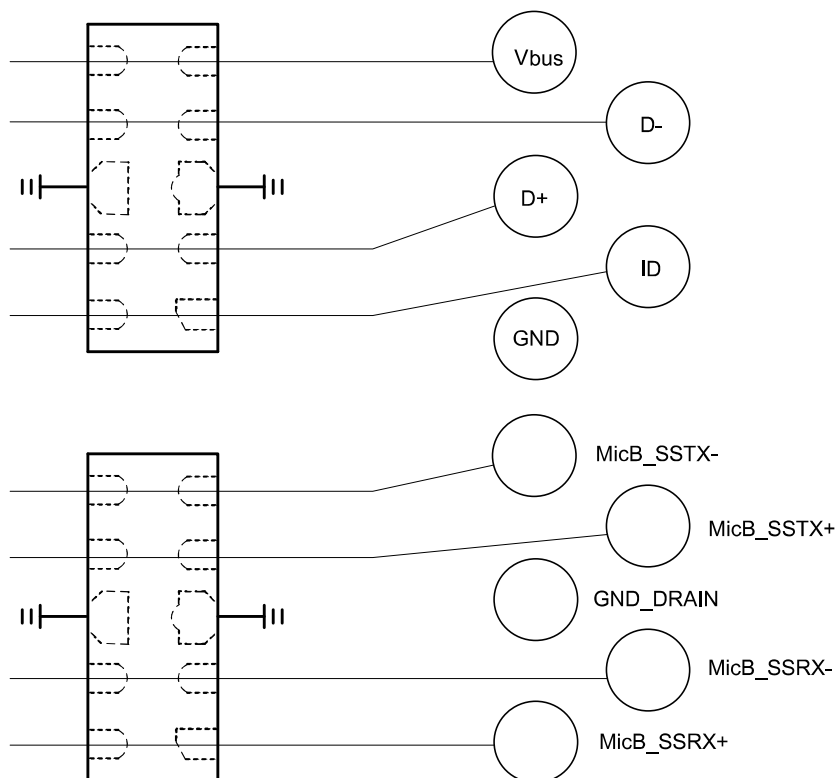


Typical Application

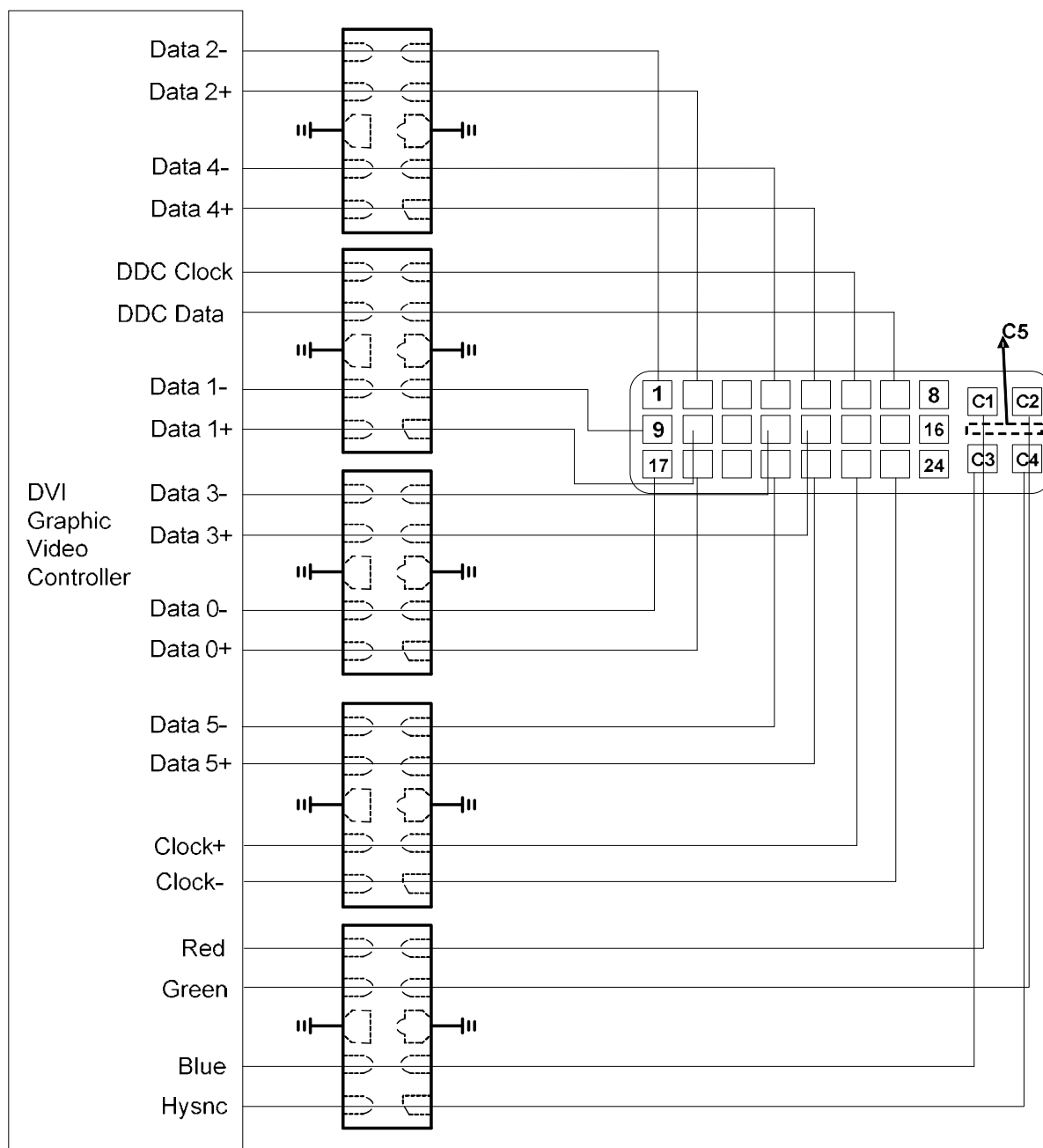
The KPESD4USB3B-TTS-V is designed for easy PCB layout by allowing the traces to run straight through the device. The PCB traces could be used to connect the pin pairs for each line. For example, line 1 enters at pin 1 and exits at pin 10 and the PCB trace connects Pin 1 and Pin 10 together. Ground is connected at Pin 3 and Pin 8.



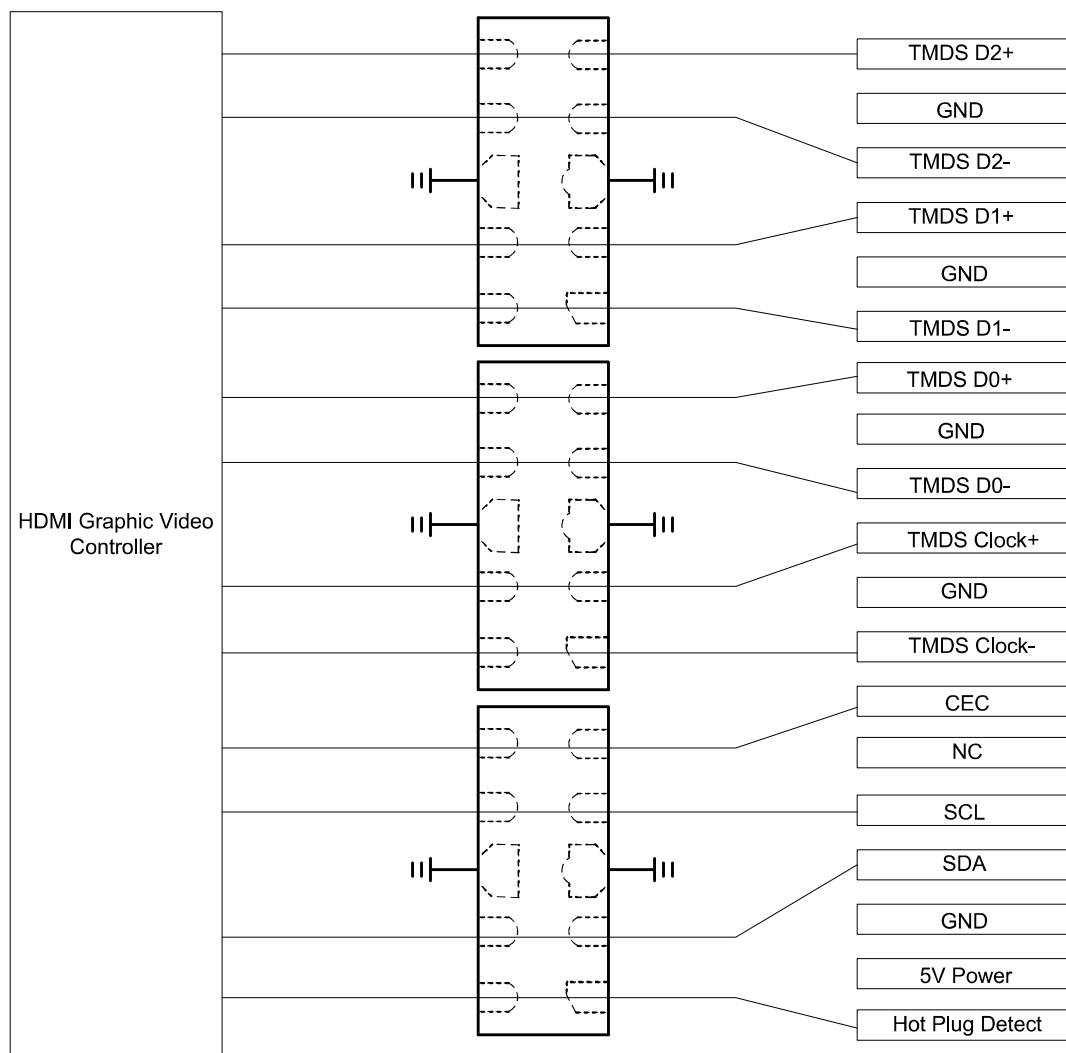
KPESD4USB3B-TTS-V on USB 3.0 Port Application



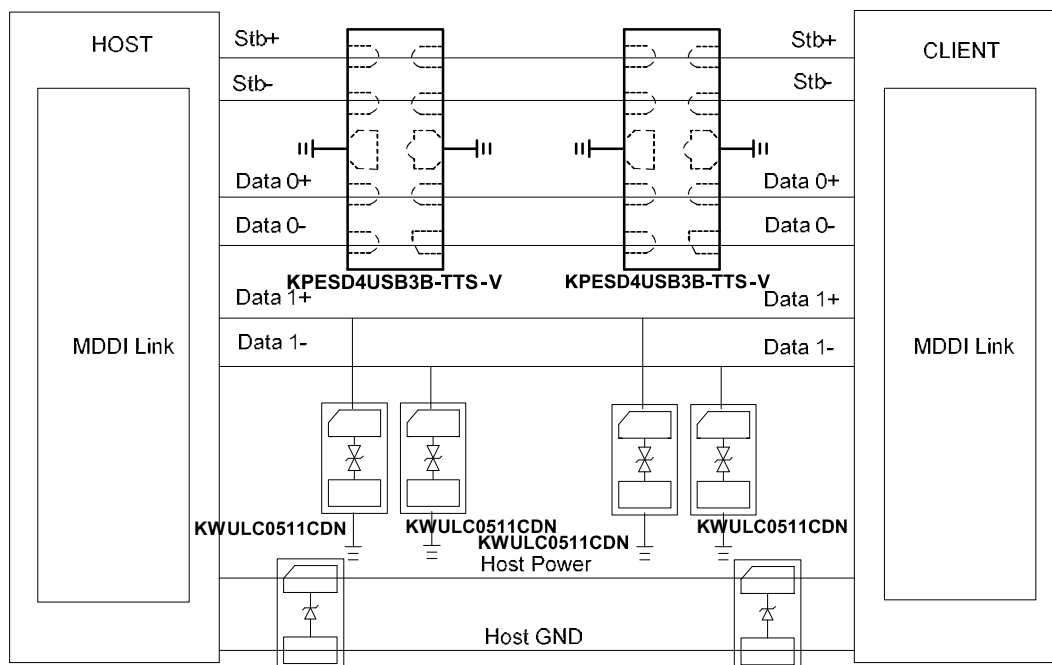
KPESD4USB3B-TTS-V on DVI Port Application



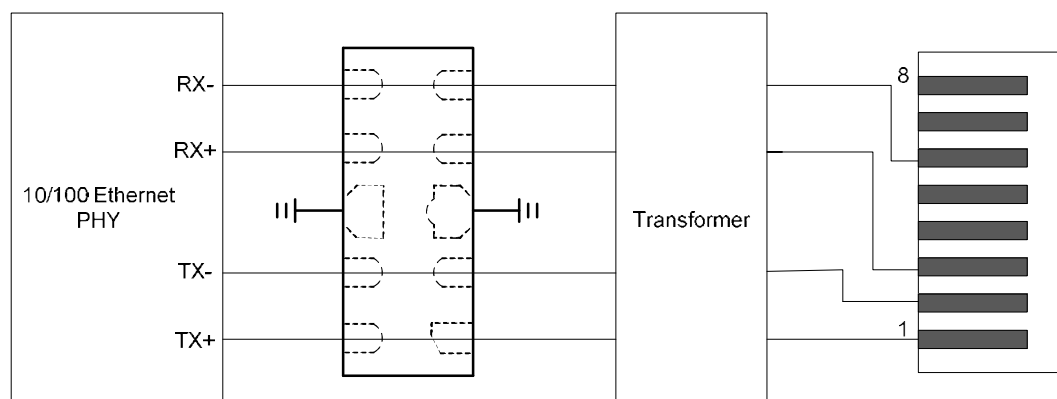
KPESD4USB3B-TTS -V on HDMI Port Application



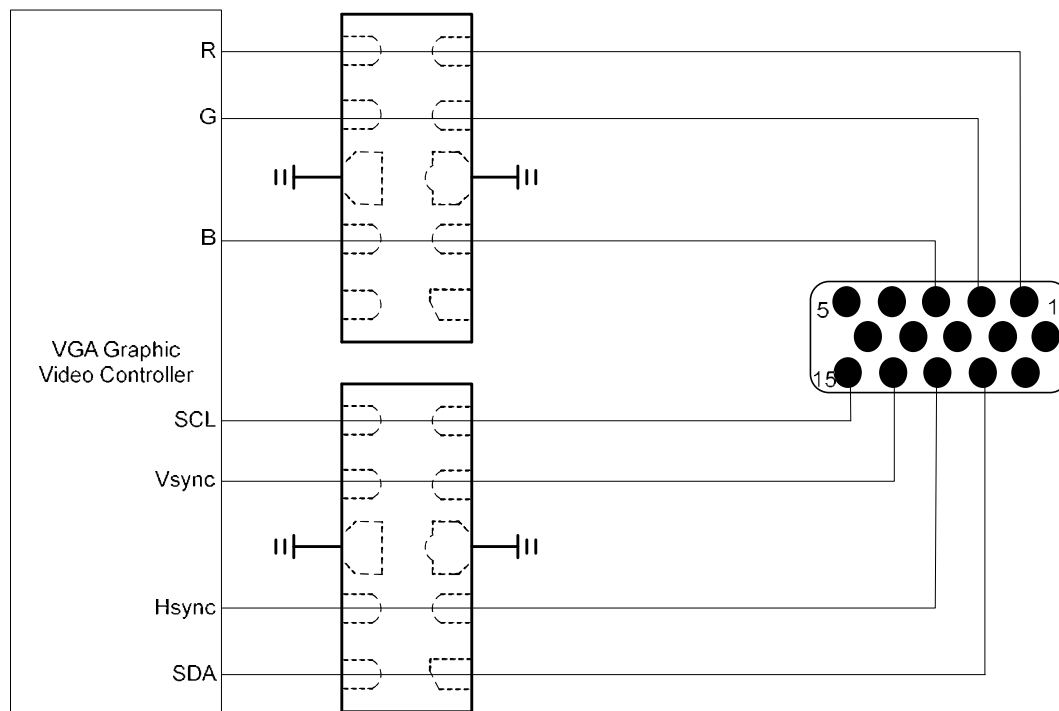
KPESD4USB3B-TTS-V on MDDI Port Application



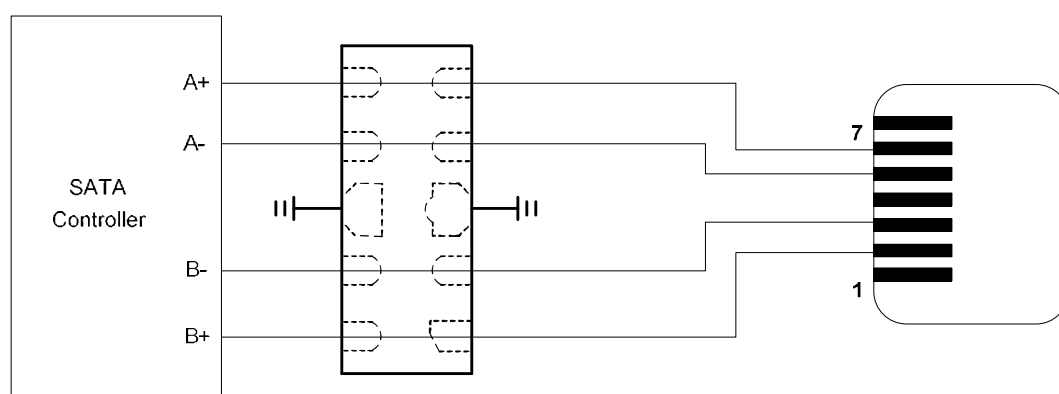
KPESD4USB3B-TTS-V on 10/100 Base Ethernet Port Application



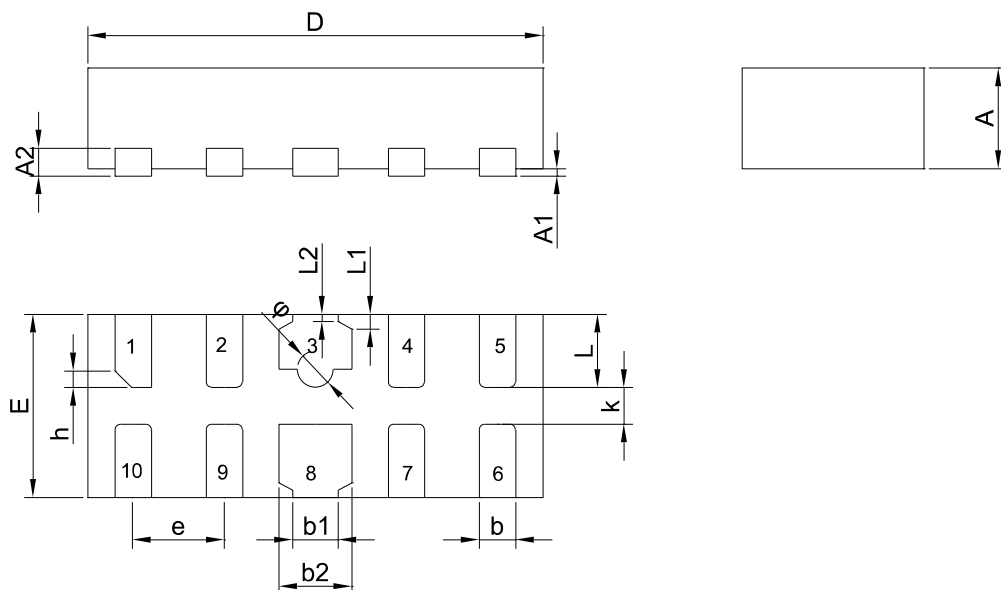
KPESD4USB3B-TTS -V on VGA Port Application



KPESD4USB3B-TTS -V on eSATA Port Application



DFN2510P10 PACKAGE OUTLINE & DIMENSIONS



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				