

Customer :

**Specification for**  
**Model : DVIDL-2STR**

**Original Release Date : May. 30. 2011**

**KVMSWITCHTECH**

## Revision History

Version Number	Revision Date	Author	Description of Changes
1.0	May 30, 2011	J.H LEE	Initial Version

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## 1. General Description

DVIDL-2STR with optical fiber cable system let your Dual digital flat panel display extend up to 300 meters (1000 feet) away from host by TMDS digital signal transmission.

- High speed and long distance transmission by SC type multi Mode (Uses 2 strand multi mode SC optical fiber cable)
- TMDS video signal and EDID data is transmitted by optical fiber
- Extend up to 300m
- It can support single link and dual link.
- DVI Specification Compliant
- Supports HDCP Compliant Device with HDCP Rev 1.1 Specification

## 2. General Specification

Parameter	Symbol	
	Transmitter	Receiver
Optical Converter	850nm, 7ch Transmit OSA	850nm, 7ch Receive OSA
Input and Output Signal	TMDS Signal(DVI 1.0 standard)	TMDS Signal(DVI 1.0 standard)
Video Bandwidth	1.65Gbps / Channel	
Module Dimension	50.0 x 15.1 x 75.6 mm (W x H x D)	
Module Weight	--	--
Using electrical Connector	24 PIN DVI-D Plug(input)	24 PIN DVI-D Plug(output)
Optical Connector	2 SC Connector	2 SC Connector
Recommended Fiber	50/125um Multi-mode glass-fiber	
Maximum Supporting Resolution	<b>Single Link : WUXGA(1920x1200)60Hz</b> <b>Dual Link : WQXGA(2560x1600)60Hz</b>	

### 3. Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Units
Power Supply	V <sub>CC</sub>	-0.3	<b>+5.5</b>	V
<b>Operating temperature</b>	V <sub>OT</sub>	0	<b>+50</b>	°C
Storage temperature	V <sub>ST</sub>	-20	<b>+70</b>	°C
Relative Humidity	H <sub>RH</sub>	10	<b>80</b>	RH

#### **NOTICE**

Stresses greater than those listed under “Absolute Maximum Ratings” may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operations section for extended periods of time may affect reliability.

### 4. Electrical Specification

#### 4.1 Electrical Specification

##### 4.1.1 Transmitter Module

	Parameter	Symbol	Min	Typ	Max	Units	Condition
P O W E R	Supply Voltage (Option External Power)	V <sub>CC</sub>	4.5	5.0	5.5	V	
	Supply Current	I <sub>CC</sub>	-	245	250	mA	Dual
				150	157		Single
	Power Dissipation	P <sub>O</sub>	-	1.23	1.38	W	Dual
				0.75	0.86		Single
	T M D S	Reference voltage for graphic signal	V <sub>REF</sub>	3.1	3.3	3.5	V
Single-ended high level input voltage		V <sub>H</sub>	V <sub>REF</sub> -0.01		V <sub>REF</sub> +0.01	V	
Single-ended low level input voltage		V <sub>L</sub>	V <sub>REF</sub> -0.6		V <sub>REF</sub> -0.4	V	
Single-ended input swing voltage		V <sub>ISWING</sub>	0.4		0.6	V	
Single-ended standby input voltage			V <sub>REF</sub> -0.01		V <sub>REF</sub> +0.01	V	
Data Output Load		RLD		50		Ω	

**Transmitter module of Model D QSP includes 7 channel VCSEL(Vertical Surface Emitting Laser Diode) with 850 nm invisible laser radiation.**

*Do not view directly laser module of transmitter or the end of the other side of optical cable connected to transmitter with optical instrument.*

Transmitter module of DSQP is Class 1M Laser Product.

##### 4.1.2 Receiver Module

	Parameter	Symbol	Min	Typ	Max	Units	Condition
P O W E R	Supply Voltage (External Power)	V <sub>CC</sub>	4.5	5.0	5.5	V	
	Supply Current	I <sub>CC</sub>	-	190	190	mA	
	Power Dissipation	P <sub>O</sub>	-	0.85	1.05	W	
T M D S	Reference voltage for graphic signal	V <sub>REF</sub>	3.1	3.3	3.5	V	
	Single-ended output swing voltage	V <sub>OSWING</sub>	0.4		0.6	V	AC couple
	Data Input Load	RLD		50		Ω	

## 4.2 Connector Pin Assignment

### 4.2.1 Transmitter

#### DVI Dual Link

Pin	Signal Assignment	Pin	Signal Assignment	Pin	Signal Assignment
1	T.M.D.S. Data 2-	9	T.M.D.S. Data 1-	17	<b>T.M.D.S. Data 0-</b>
2	T.M.D.S. Data 2+	10	T.M.D.S. Data 1+	18	<b>T.M.D.S. Data 0+</b>
3	<b>T.M.D.S. Data 2/4 Shield</b>	11	T.M.D.S. Data 1/3 Shield	19	<b>T.M.D.S. Data 0/5 Shield</b>
4	T.M.D.S. Data 4-	12	T.M.D.S. Data 3-	20	<b>T.M.D.S. Data 5-</b>
5	T.M.D.S. Data 4+	13	T.M.D.S. Data 3+	21	<b>T.M.D.S. Data 5+</b>
6	DDC Clock (SCL)	14	Out +5V Power	22	<b>T.M.D.S Clock Shield</b>
7	DDC Data (SDA)	15	Ground (for out +5V)	23	<b>T.M.D.S Clock+</b>
8	No Connect	16	Hot Plug Detect	24	<b>T.M.D.S Clock-</b>

#### DVI Single Link

Pin	Signal Assignment	Pin	Signal Assignment	Pin	Signal Assignment
1	T.M.D.S. Data2-	9	T.M.D.S. Data1-	17	<b>T.M.D.S. Data0-</b>
2	T.M.D.S. Data2+	10	T.M.D.S. Data1+	18	<b>T.M.D.S. Data0+</b>
3	T.M.D.S. Data2 Shield	11	T.M.D.S. Data1 Shield	19	<b>T.M.D.S. Data0 Shield</b>
4	No Connect	12	No Connect	20	<b>No Connect</b>
5	No Connect	13	No Connect	21	<b>No Connect</b>
6	DDC Clock (SCL)	14	Out +5V Power	22	<b>T.M.D.S Clock Shield</b>
7	DDC Data (SDA)	15	Ground (for +5V)	23	<b>T.M.D.S Clock+</b>
8	No Connect	16	Hot Plug Detect	24	<b>T.M.D.S Clock-</b>

## 4.2.2 Receiver

### DVI Dual Link

Pin	Signal Assignment	Pin	Signal Assignment	Pin	Signal Assignment
1	T.M.D.S. Data 2-	9	T.M.D.S. Data 1-	17	<b>T.M.D.S. Data 0-</b>
2	T.M.D.S. Data 2+	10	T.M.D.S. Data 1+	18	<b>T.M.D.S. Data 0+</b>
3	<b>T.M.D.S. Data 2/4 Shield</b>	11	T.M.D.S. Data 1/3 Shield	19	<b>T.M.D.S. Data 0/5 Shield</b>
4	T.M.D.S. Data 4-	12	T.M.D.S. Data 3-	20	<b>T.M.D.S. Data 5-</b>
5	T.M.D.S. Data 4+	13	T.M.D.S. Data 3+	21	<b>T.M.D.S. Data 5+</b>
6	DDC Clock (SCL)	14	Out +5V Power	22	<b>T.M.D.S Clock Shield</b>
7	DDC Data (SDA)	15	Ground (for out +5V)	23	<b>T.M.D.S Clock+</b>
8	No Connect	16	Hot Plug Detect	24	<b>T.M.D.S Clock-</b>

### DVI Single Link

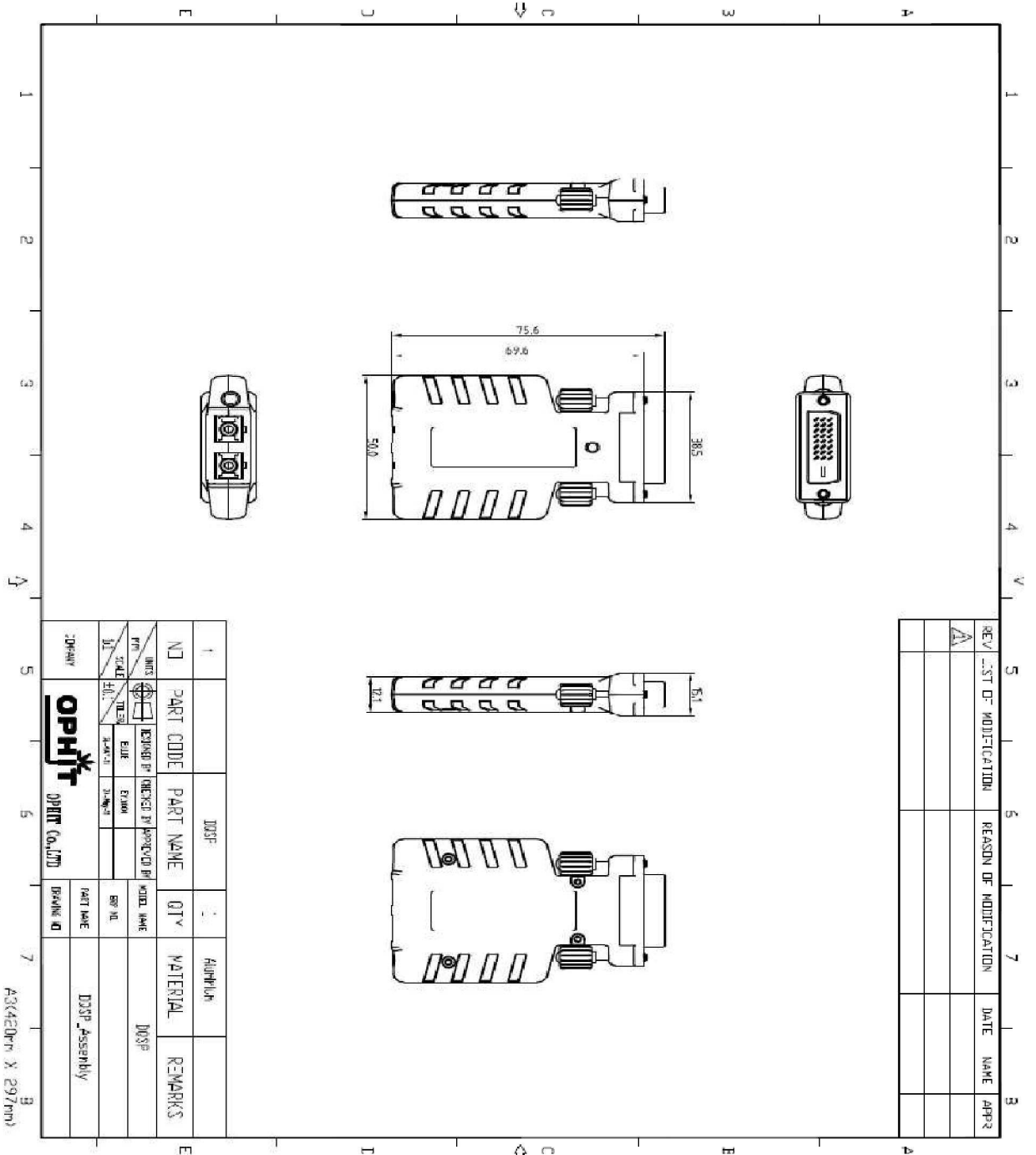
Pin	Signal Assignment	Pin	Signal Assignment	Pin	Signal Assignment
1	T.M.D.S. Data2-	9	T.M.D.S. Data1-	17	<b>T.M.D.S. Data0-</b>
2	T.M.D.S. Data2+	10	T.M.D.S. Data1+	18	<b>T.M.D.S. Data0+</b>
3	T.M.D.S. Data2 Shield	11	T.M.D.S. Data1 Shield	19	<b>T.M.D.S. Data0 Shield</b>
4	No Connect	12	No Connect	20	<b>No Connect</b>
5	No Connect	13	No Connect	21	<b>No Connect</b>
6	DDC Clock (SCL)	14	Out +5V Power	22	<b>T.M.D.S Clock Shield</b>
7	DDC Data (SDA)	15	Ground (for +5V)	23	<b>T.M.D.S Clock+</b>
8	No Connect	16	Hot Plug Detect	24	<b>T.M.D.S Clock-</b>



5. Mechanical Specification

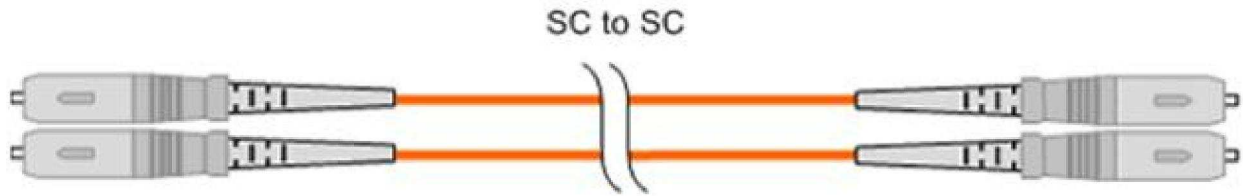
5.1 Case Dimension

5.1.1 Transmitter / 5.1.2 Receiver



**5.2 Cable & Ordering Information**

- Optical Fiber Cable



- Ordering Information

Model Name \_\_\_\_\_

**6. RoHS****Certificate of Conformance RoHS**

Dear Customer,

**On January 27, 2003, the European Parliament and the Administrative Council adopted Directive 2002/95/EC (RoHS) that concerns the “Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment”.**

The parts currently delivered by KVMSWITCHTECH are already free of lead (Pb), mercury (Hg), cadmium (Cd), hexavalent chromium (Cr 6), polybrominated biphenyl (PBB) and polybrominated diphenyl (PBDE).

**This Certification of Conformance is to certify that the products listed below comply with RoHS Directive mentioned above:**

- **DVIDL-2STR**

**If you have any further questions regarding the RoHS compliance of parts delivered by KVMSWITCHTECH , please do not hesitate to contact us at [sales@KVMSwitchTech.com](mailto:sales@KVMSwitchTech.com).**