

General Description

Optical DVI extension module, is designed to let digital flat panel display signal extend over 1 kilometers away from host based on DVI Standard by optical transmission. It can transmit EDID data and HDCP over fiber in real time. It can be used with DVI device as well as HDMI standard device such as Blu-ray player, PS-3.

Image



Feature

- High speed and long distance transmission by a LC type Single Fiber
- Single Link TMDS video signals and EDID data are transmitted by optical fiber
- Extends up to 1Km by single mode fiber
- DVI Specification 1.0 Compliant
- Supports HDCP Compliant Device with HDCP Rev 1.1 Specification
- Maximum resolution WUXGA (1920x1200)

Absolute Maximum Ratings

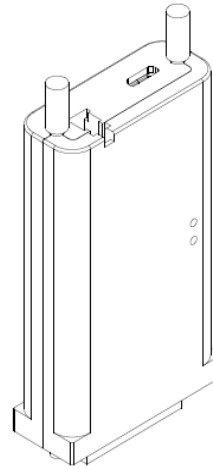
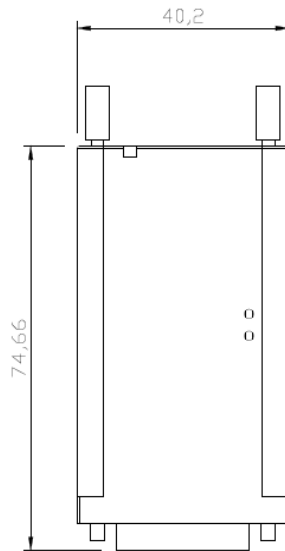
Parameter	Rating
Power Supply	-0.3 to 5.5 V
Operating Temperature	0 to 50 °C
Storage Temperature	-20 to 70 °C
Relative Humidity	10 to 80 RH

General Specifications

Parameter	Symbol	
	Transmitter	Receiver
Optical Converter	1310nm 10G FP-LD/ InGaAs PIN PD	1550nm 1G FP-LD/ InGaAs PIN PD
Input and Output Signal	TMDS Signal(DVI 1.0 standard)	TMDS Signal(DVI 1.0 standard)
Video Bandwidth	2.25Gbps / Channel	
Module Dimension	74.66 x 40.2 x15.9 mm (L x W x H)	
Module Weight	68 g	
Used electrical Connector	24 PIN DVI-D Plug	24 PIN DVI-D Plug
Optical Connector	1 LC Connector	1 LC Connector
Recommended Fiber	Single-mode glass-fiber	
Maximum Supported Resolution	WUXGA(1920x1200) / 60Hz	

Dimensions

Unit :mm





Electrical Specifications

- Transmitter Module

Parameter		Symbol	Min.	Typ.	Max.	Units	Conditions
P O W E R	Supply Voltage	V _{cc}		5.0		V	External Power
	Supply Current	I _{cc}		500		mA	
	Power Dissipation	P _o		2.0		W	
T M D S	Reference Voltage for Graphic Signal	V _{REF}	3.0	3.3	3.6	V	
	Single-ended high level input voltage	V _H	V _{REF} -0.2		V _{REF} +0.01	V	
	Single-ended low level input voltage	V _L	V _{REF} -0.7		V _{REF} -0.4	V	
	Single-ended input swing voltage	V _{ISWING}	0.4		0.6	V	
	Single-ended standby input voltage		V _{REF} -0.01		V _{REF} +0.01	V	
	Data Output Load	R _{LD}		50.0		Ω	

- Receiver Module

Parameter		Symbol	Min.	Typ.	Max.	Units	Conditions
P O W E R	Supply Voltage	V _{cc}		5.0		V	External Power
	Supply Current	I _{cc}		500		mA	
	Power Dissipation	P _o		2.0		W	
T M D S	Reference Voltage for Graphic Signal	V _{REF}	3.1	3.3	3.5	V	
	Single-ended Output swing voltage	V _{ISWING}	0.4		0.6	V	AC coupled
	Differential Input Clock Frequency	F _{RXC}	25		225	MHz	



PIN Description

No	Pin Assignment	Functional Description
1	TMDS2-	TMDS Data Signal Channel 2 Negative
2	TMDS2+	TMDS Data Signal Channel 2 Positive
3	TMDS2 Shield	TMDS Data Signal Channel 2 Shield
4	No Connect	
5	No Connect	
6	SCL	HDCP/DDC communication clock
7	SDA	HDCP/DDC communication data
8	No Connect	
9	TMDS1-	TMDS Data Signal Channel 1 Negative
10	TMDS1+	TMDS Data Signal Channel 1 Positive
11	TMDS1 Shield	TMDS Data Signal Channel 1 Shield
12	No Connect	
13	No Connect	
14	+5V Power	5 V Input for Transmitter for Host, 5 V Output for Monitor from Receiver
15	Ground	Ground for +5V
16	Hot Plug Detect	Signal is driven by monitor to enable the system to identify the presence of a monitor
17	TMDS0-	TMDS Data Signal Channel 0 Negative
18	TMDS0+	TMDS Data Signal Channel 0 Positive
19	TMDS0 Shield	TMDS Data Signal Channel 0 Shield
20	No Connect	
21	No Connect	
22	TMDS Clock+	TMDS Clock Channel Positive
23	TMDS Clock Shield	TMDS Clock Channel Shield
24	TMDS1Clock-	TMDS Clock Channel Negative

Reach

No	Fiber	Reach	Index
1	SMF	1 Km	

Notes

* The inherent design of this component causes it to be sensitive to electrostatic discharge(ESD). To prevent ESD-induced damage and/or degradation to equipment, take normal ESD precautions when handling this product

* The FP-LD is a class 1 laser and should be treated as a potential eye hazard. Due to the size of the component, the applicable warning logotype, aperture label, and certification / identification label cannot be placed on the component itself.



Clarion Laser

DMSL-010FH6

Rev. 1.0

Optical DVI Extender