

# DATA SHEET

## DVI Active Optical Cable, DVFC-100

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## Description

New active optical DVI cable, DVFC-100 is designed compact enough to be fitted into various installation environments. The DVFC-100 enables to transmit WUXGA (1920x1200) or 1080p at 60Hz signal up to 150m (492feet) over optical hybrid cable, avoiding any tricks such as scaling or data compression for lessening a burden of data transmission.

The DVFC-100 gives slim, light, easy installation like a general copper DVI cable. With low power consumption technology in OPTICIS, the DVFC-100 can be operated by DDC 5V in DVI port without any external DC power or USB power.

There are male DVI-D connectors at each end. The high-speed graphic data transmission is accomplished by using a VCSEL array inside the transmitter connector, and a Pin-PD array inside the receiver connector.

The shipping items are shown as follows;

- 1) One (1) DVI AOC cable
- 2) User's Manual

## Features

- Extends WUXGA (1920x1200) at 60Hz or 1080p at 60Hz (36bit, 3.4 Gbps/ch).
- Operated by DVI source without external power.
- Transmits DVI data up to 150m (492feet) over Optical hybrid cable.
- Supports HDMI1.4, 36bit color depth (4K 30Hz).
- Supports 3D contents transmission.
- Complies with EDID, HDCP
- Certifications: FCC /CE standards for EMI/RFI emission.

## Applications

- Home AV
- Digital signage
- Control room / AV Rental Staging
- Conference room
- Any High Definition Display Application

## Absolute Maximum Ratings

Stresses in excess of the absolute maximum ratings can cause permanent damage to the device. These are absolute stress ratings only. Functional operation of the device is not implied at these of any other conditions in excess of those given in the operational sections of the datasheet. Exposure to absolute maximum ratings for extended periods can adversely affect device reliability.

Parameter	Symbol	Min	Typ	Max	Units
Storage Temperature <sup>1</sup>	T <sub>ST</sub>	-30		70	°C
Volt Supply <sup>1</sup>	V <sub>CC</sub> -V <sub>EE</sub>	-0.3		12	V
Relative Humidity <sup>2</sup>	RH	8		90	%
Electrostatic Discharge(Air)	ESD	-8		+8	KV

## Recommended Operating Conditions

Parameter	Symbol	Min	Typ	Max	Units
Bitrate	B			3.4	Gbps
Operation Temperature Range	T <sub>O</sub>	0		50	°C
Supply Voltage	V <sub>CC</sub>	4	5	6	V
Supply Current	I <sub>CC</sub>		45	50	mA
Differential Impedance	R		100		ohm
<b>TX</b>					
Input Voltage differential (P-P)	V <sub>IP</sub> - V <sub>IN</sub>	400		1500	mV
Input Rise / Fall time	T <sub>R</sub> , T <sub>F</sub>	50		75	Ps
Input Skew between differential				25	Ps
<b>RX</b>					
Output differential Voltage(P-P)	V <sub>OP</sub> -V <sub>ON</sub>	500	600	800	mV
Output pull-up resistor	R <sub>P</sub>	40	50	60	ohm

## Cable Fabric

4 channel Optical Ribbon Fiber  
 6 channel Copper Ribbon Cable  
 Shield jacket & shield cable  
 PVC cable jacket

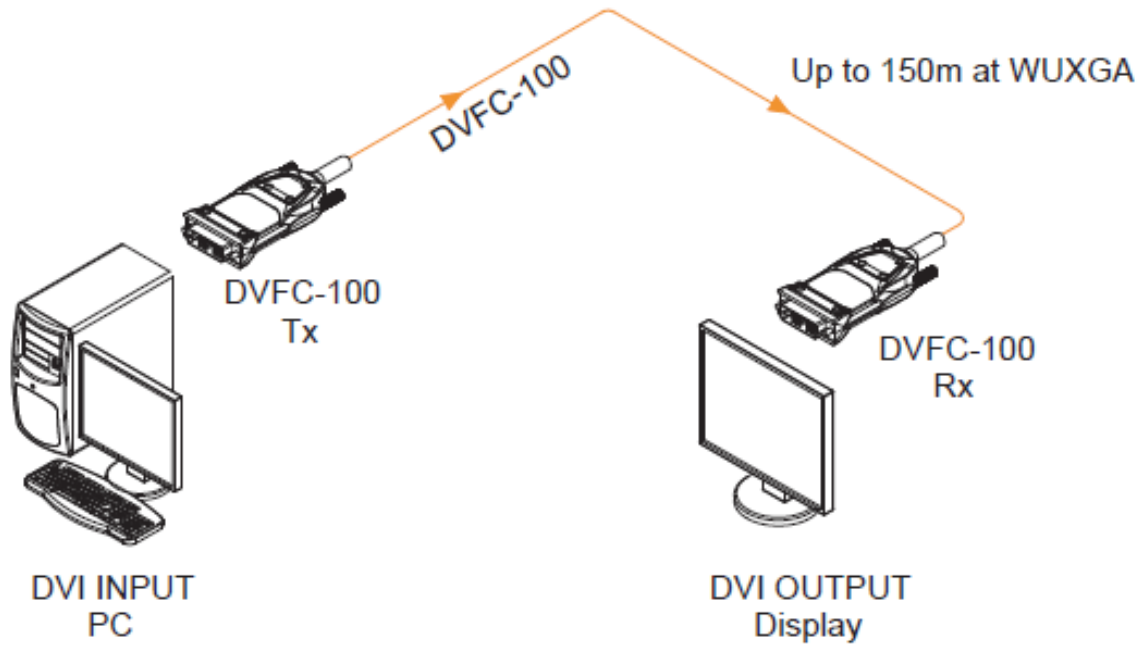
## DVI PIN Description

Pin	Symbol	Functional Description
1	CH2-	TMDS Data Signal Channel 2 Negative
2	CH2+	TMDS Data Signal Channel 2 Positive
3	GND	TMDS Data Signal Channel 2 Shield
4		
5		
6	DDC Clock	DDC Clock line for DDC2B communication
7	DDC Data	DDC Data line for DDC2B communication
8	N.C.	
9	CH1-	TMDS Data Signal Channel 1 Negative
10	CH1+	TMDS Data Signal Channel 1 Positive
11	GND	TMDS Data Signal Channel 1 Shield
12		
13		
14	5 V	5 V Input for Transmitter from Host 5 V Output for Monitor from Receiver
15	GND	Ground
16	Hot plug Detect	Signal is driven by monitor to enable the system to identify the presence of a monitor
17	CH0-	TMDS Data Signal Channel 0 Negative
18	CH0+	TMDS Data Signal Channel 0 Positive
19	GND	TMDS Data Signal Channel 0 Shield
20		
21		
22	GND	TMDS Clock Signal Shield
23	CLK+	TMDS Clock Channel Positive
24	CLK-	TMDS Clock Channel Negative

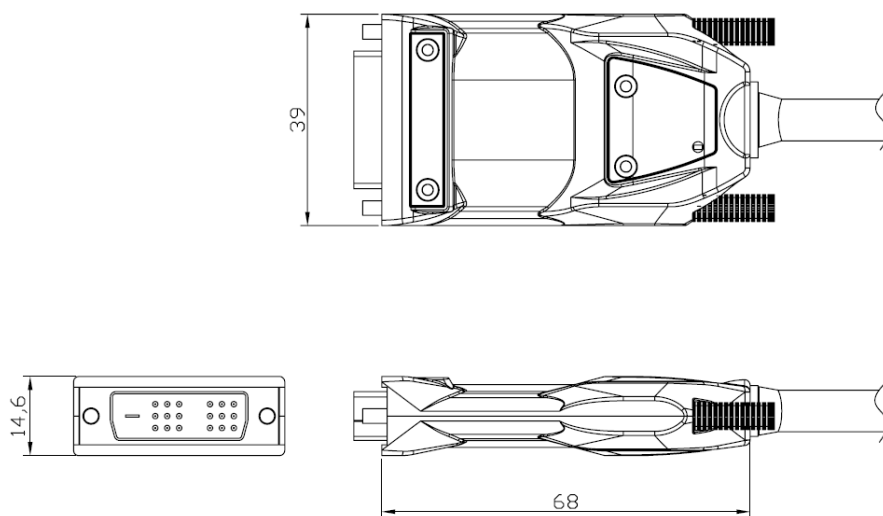
## Reliability TEST

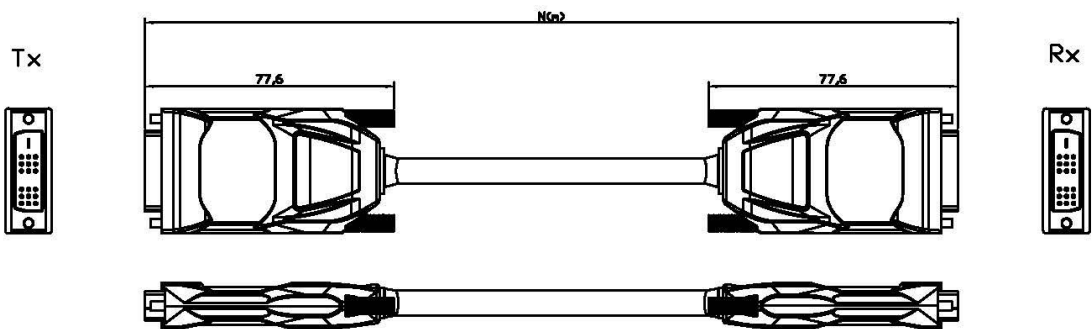
Parameter	Specification
Cable	
Endurance at Bend Radius	Over 10k cycles at 50 mm Radius
Pull Strength	44 pounds
Minimum Bend Radius	78mm
Operation	
High Temp & High Humidity	40 °C / 95% / 120hr
Temp cycling	-10~60°C / 30min / 20 cycle
High Temp	60 °C / 168hr
Storage	
Thermal Shock	- 20 °C / 75 °C Each 30min (20cycle)

### Connection Diagram



**Dimensions (L\*W\*H):** 68 x 39 x 14.6mm





Cable length N(m)
10
15
20
30
40
50
70
100

