

DATA SHEET

Optical Multichannel Distributor

M5-2001

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Optical Multichannel Distributor

1. General Specifications

	Parameter	Specifications
Optical	Input Signal	850nm Multi-mode (Min -10.5dBm)
	Output Signal	"
Electrical	Output Signal	TMDS Level (complying with DVI1.0)
	Supported Resolution (Graphic Data)	Max. 1.08Gbps(SXGA)
Connect	Optical connector	2 Duplex LC connectors
	Electric Connector Type from Modules and to Displays	24 pin DVI-D plug
	DC Power Jack	2.0 ϕ DC Adapter Jack
	Recommended Fiber	50/125 um Multi-mode Glass Fiber

2. Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Units
Storage Temperature	T _{stg}	- 30	+ 70	°C
Supply Voltage	V _{CC}	8	16	V
Input signal	V _d	-	1	V
Humidity	RH	10	85	%

3. Operating Conditions

Parameter	Symbol	Minimum	Typical	Maximum	Units
Operating Temperature	T _A	-10		+ 50	°C
Data Output Load	R _{LD}		50		Ω
Supply Voltage	V _{CC}	+ 11.4	+ 12.0	+ 12.6	V

4. Power Consumption

($T_A = 0\text{ }^{\circ}\text{C}$ to $+40\text{ }^{\circ}\text{C}$, unless otherwise noted)

Parameter	Symbol	Minimum	Typical	Maximum	Units
Supply Voltage	V_{CC}	11.4	12.0	12.6	V
Operating Current	I_{CC}	-	2.6	3	A
Power Dissipation	P_{CC}		31.2	37.8	W

5. Optical & Electrical Specifications

	Parameter	Symbol	Minimum	Typical	Maximum	Units
Optical Link (Note1)	Output Optical Power	P_o	-9.5		-3.6	dBm
	Wavelength	λ	830	850	860	nm
	Spectral width in RMS	$\Delta\lambda$			0.85	nm
	Relative Intensity of Noise (Note2)	RIN		-117		dB/Hz
	Extinction Ratio	Ext	9			dB
	Rising/Falling Time	T_{rise}/T_{fall}			260	ps
	Jitter in p-p value (Note3)	T_{jitter}			270	ps
TMDS	Data Output Load	R_{LD}		50		Ω
	Graphic Supply Voltage (Note4)	GV_{CC}	+ 3.1	+ 3.3	+ 3.5	V
	Differential Output Level	GV_{ISWING}		800		mV
Optical Link (Notes)	Receiving Optical Power	P_o	-20		-3.6	dBm
	Receiving Wavelength	λ	830	850	860	nm
	Signal_Detect Good	SDg			-17	dBm
	Signal_Detect Fail	SDf	-25			dBm
	Link Power Budget	P_{bgt}	10.5			dB

Note1. Measure signals at the end of 2 meter 50/125um MMGOF

Note2. Measure in 1GHz of frequency bandwidth

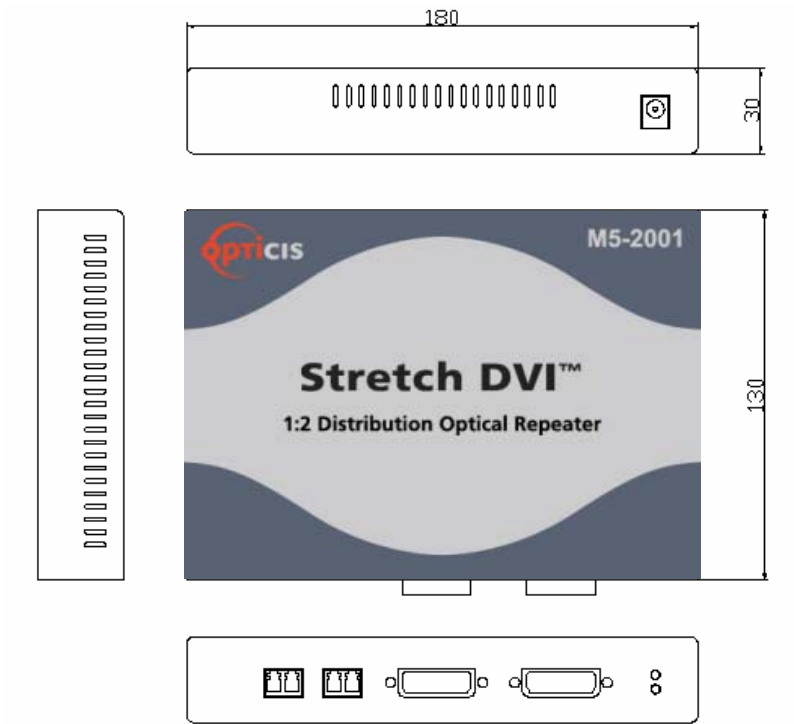
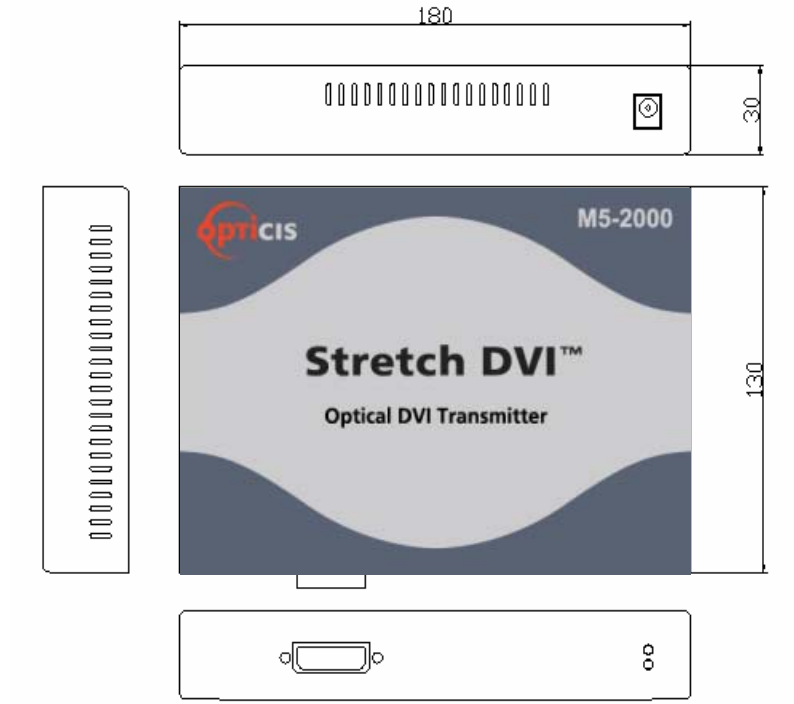
Note3. Use PPG (Pulse Pattern Generator) source with jitter 50ps

Note4. Graphic Supply Voltage is regulated reference voltage for signal processing in modules

Note5. Measure signals at the end of 2 meter 50/125um MMGOF

6. Drawing of Modules

dimension[mm]



7. 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 2/4 Shield
4		TMDS Data Signal Channel 4 Negative
5		TMDS Data Signal Channel 4 Positive
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 1/3 Shield
12		TMDS Data Signal Channel 3 Negative
13		TMDS Data Signal Channel 3 Positive
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 0/5 Shield
20		TMDS Data Signal Channel 5 Negative
21		TMDS Data Signal Channel 5 Positive
22	GND	TMDS Clock Signal Shield
23	CLK+	TMDS Clock Channel Negative
24	CLK-	TMDS Clock Channel Positive

8. Reliability Test Results

Temp.& Humidity Test Data

Heading	Test	Conditions	Duration	Sample Size	Failure	Remarks
Operating Test	Operating at each Temperature (See Note)	* -10 ~ 50 °C (Interval: 10 °C)	120 Min (Each Temperature)	n=3	0	Note: Evaluate display quality of Laser Beam Projector connected to Graphic Signal Generator (Quantum Data: GD-802B) at each temperature. 1. T _S : Storage Temperature 2. RH: Relative Humidity
Storage Test	Low Temperature	* T _S = -30 °C	96 HR	n=3	0	
	High Temperature	* T _S = 70 °C	96 HR	n=3	0	
	High Humidity / High Temperature	* T _S : 60 °C * RH: 90%	96 HR	n=3	0	