



High-Definition Multimedia Interface Cable (HDMI) and Digital Visual Interface Cable (DVI)

Description

The High-Definition Multimedia Interface (HDMI) Cable is provided for transmitting digital television audiovisual signals from DVD players, set-top boxes and other audiovisual sources to television sets, projectors and other video displays. HDMI can carry high quality multi-channel audio data and can carry all standard and high-definition consumer electronics video formats. Content protection technology is available.

The Digital Visual Interface (DVI) Cable is quite similar to the HDMI cable, but excluded the audio signal transfer, the maximum resolution can be reach to SXGA (1280x1024 pixels) in Single-Link and QXGA (2048x1536 pixels) in Dual-Link.

Both high-end digital cables are developed which based on the TMDS (Transition Minimized Differential Signaling) Technology.

Application

Desktop PC to LCD Monitor, Plasma Display, Video Projector and LED Display Panel.



Comparison Table between HDMI and DVI cables:

		HDMI (Digital)	DVI	
			Digital	Analog
Physical Performance	Connector No. of Pins	19 (Single Link) / 29 (Dual Link)	18+1 (Single Link) 24+1 (Dual Link)	5 + 6
	Cable's Construction	5C + 4TP + 1TP (S) 5C + 7TP + 1TP (D)	3C + 4TP + 1TP (S) 3C + 7TP + 1TP (D)	3 Coaxial + 7C
	Video Signal	4TP - Red, Green, Blue, Clock (S) 7TP - (Red, Green, Blue)x 2, Clock (D)	4TP - Red, Green, Blue, Clock (S) 7TP - (Red, Green, Blue)x 2, Clock (D)	Analog Red, Green, Blue + Control
	Audio Signal	8 Digital Audio Channel	N/A	N/A
	Plug Size	13.9 x 4.45mm (S) / 21.2 x 4.45mm (D)	24.16 x 7.9 mm (S/D)	24.16 x 7.9 mm (S/D)
	Overmold size limit	20.9 x 11.45mm (S) 30.2 x 13.45mm (D)	39.5 x 15.13mm Max.	39.5 x 15.13mm Max.
Electrical Performance	Impedance	100 ± 10 Ohm	100 ± 20 Ohm	75 ± 4 Ohm
	Attenuation	< 8dB (300kHz - 825MHz) < 21dB (825MHz - 2.475GHz) < 30dB (2.475GHz - 4.125GHz)	8dB / Cable @ 825MHz	< 0.14dB (1MHz) < 0.45dB (10MHz) < 1.0dB (50MHz) < 1.5dB (100MHz) < 2.1dB (200MHz) < 3.0dB (400MHz) < 4.3dB (700MHz) < 5.4dB (1000MHz)
	Max. Inter-pair Skew	2.42ns	5.05ns/m	N/A
	Max. Intra-pair Skew	151ps	151ps	N/A
	Rise Time	≤ 200ps (10%-90%)	< 160ps (10%-90%)	< 140ps (10%-90%)
	Far End Crosstalk	< -26dB (5%)	-30.5dB (3%)	-30.5dB (3%)
	Near End Crosstalk	N/A	-28.0dB (4%)	N/A
	Signal Method	TMDS*	TMDS*	Analog RGB
Data Transmission	Single Link	≤ 165Mpixels/sec.	≤ 165Mpixels/sec.	2.5GHz Bandwidth
	Dual Link	> 165Mpixels/sec.	> 165Mpixels/sec.	
Resolution (Please refer to the below graph for details)	60 Hz LCD	Same as DVI - Digital	[VGA(640x480), SVGA(800x600), XGA(1024x768), SXGA(1280x1024), UXGA(1600x1200) & HDTV(1920x1080)] (S) [QXGA(2048x1536)] (D)	VGA(640x480), SVGA(800x600), XGA(1024x768), SXGA(1280x1024), UXGA(1600x1200), QXGA(2048x1536), WUXGA(1900x1200), QXGA(2048x1536)
	60 Hz CRT	Same as DVI - Digital	[VGA(640x480), SVGA(800x600), XGA(1024x768), SXGA(1280x1024) & UXGA(1600x1200)] (S) [HDTV(1920x1080) & QXGA(2048x1536)] (D)	VGA(640x480), SVGA(800x600), XGA(1024x768), SXGA(1280x1024), UXGA(1600x1200), QXGA(2048x1536), WUXGA(1900x1200), QXGA(2048x1536)
	75 Hz or Higher CRT	Same as DVI - Digital	[VGA(640x480), SVGA(800x600), XGA(1024x768) & SXGA(1280x1024)] (S) [UXGA(1600x1200), HDTV(1920x1080) & QXGA(2048x1536)] (D)	VGA(640x480), SVGA(800x600), XGA(1024x768), SXGA(1280x1024), UXGA(1600x1200), QXGA(2048x1536), WUXGA(1900x1200), QXGA(2048x1536)
Application	Audio Signal	Yes	N/A	N/A
	Content Protection	Yes (HDCP 1.10)*	N/A	N/A
	Applied Device	Plasma TV, Projector, LCD Monitor	Plasma TV, Projector, PC LCD Monitor	PC LCD/CRT Monitor, Projector