

MINI-LVDS INTERFACE 0.71 INCH DISPLAY

DSL-6356-S000



Description

This is a 1.8 cm (0.71inxh) diagonal, 1920(RGB) × 1080 dots active matrix color OLED (Organic Light Emitting Display) panel module based on single crystal silicon transistors. The module integrates panel driver and logic driver, and achieves smaller size, light in weight and high resolution. .

Features

Small size and high resolution type 0.70 display
 Effective dots: 1920 (RGB)×1080 = 6.22 M dots
 Ultra high contrast
 Wide color gamut
 Fast response speed
 Thin and light in weight
 Power saving (PS) function
 Scan direction selection, up or down and right or left.
 Orbit supported

Module Structure

Active matrix color OLED display with on-chip driver based on single crystal silicon transistors

Absolute Maximum Ratings

Item	Symbol	Min.	Maximum Ratings	Unit
1.8V power supply	VDD1	-0.3	2.0	V
1.8V power supply (IF)	VDD1IF	-0.3	2.5	V
10 V power supply	VDD2	-0.3	12.0	V
EL cathode voltage	Vcath	-0.3	0.3	V
Logic input voltage ※	Vi	-0.3	VDD1+0.3	V
IF input voltage ※※	ViIF	-0.3	VDD1IF+0.3	V
Storage temperature	Tpnl	-30	+80	°C

※ Pin no. 14,15,16,18,19,22,23,24 & 62

※※Pin no. 29 to 40,43,44 & 47 to 58

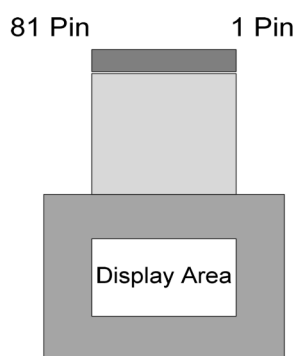
Recommended Operating Conditions

Item	Symbol	Min.	Typ.	Max.	Unit
1.8V power supply	VDD1	1.62	1.8	1.98	V
1.8V power supply (IF)	VDD1IF	1.62	1.8	1.98	V
10 V power supply	VDD2	9.7	10.0	10.3	V
EL cathode voltage	Vcath	-0.3	0	0.3	V
Operating temperature range	Tpnl	-20		70	°C



Pin Description

Pin Assignment



5.2 Pin description (mini-LVDS)

Pin No. (FPC Side)	Symbol	Type	Description	Equivalent circuit
1	VCATH	Power Supply	EL cathode power supply	
2	VCATH	Power Supply	EL cathode power supply	
3	VCCP_O	Power Supply	VCCP power supply	
4	VCCP_I	Power Supply	VCCP power supply	
5	VCCP_I	Power Supply	VCCP power supply	
6	VDD2	Power Supply	10V power supply	
7	VDD2	Power Supply	10V power supply	
8	VSS	Power Supply	GND	
9	VSS	Power Supply	GND	
10	VSS	Power Supply	GND	
11	VSS	Power Supply	GND	
12	VDD1	Power Supply	1.8V power supply	
13	VDD1	Power Supply	1.8V power supply	
14	XCS	Input	Serial communication Chip select	※1
15	XCK	Input	Serial communication Serial clock	※1
16	SI	Input	Serial communication Data input	※1
17	SO	Output	Serial communication Data output	※2
18	PSCNT	Input	Power save communication enable Low: Valid (fixed)	※1
19	XCLR	Input	System reset	※1
20	TEST	Output	Test pin (no connect)	※3
21	NC	-	Connect to GND	



Pin No. (FPC Side)	Symbol	Type	Description	Equivalent circuit
22	XVD	Input	Vertical sync signal (negative polarity)	※4
23	TEST	Input	Test pin (connect to GND)	※5
24	CLK1	Input	Horizontal period trigger signal input	※1
25	TEST	Input / Output	Test pin (connect to GND)	※4
26	TEST	Output	Test pin (no connect)	※1
27	VDD1IF	Power Supply	1.8V power supply for mini-LVDS	
28	VSSIF	Power Supply	GND for mini-LVDS	
29	LV0A	Input	mini-LVDS data input	※6
30	LV0B	Input	mini-LVDS data input	※6
31	LV1A	Input	mini-LVDS data input	※6
32	LV1B	Input	mini-LVDS data input	※6
33	LV2A	Input	mini-LVDS data input	※6
34	LV2B	Input	mini-LVDS data input	※6
35	LV3A	Input	mini-LVDS data input	※6
36	LV3B	Input	mini-LVDS data input	※6
37	LV4A	Input	mini-LVDS data input	※6
38	LV4B	Input	mini-LVDS data input	※6
39	LV5A	Input	mini-LVDS data input	※6
40	LV5B	Input	mini-LVDS data input	※6
41	VDD1IF	Power Supply	1.8V power supply for mini-LVDS	
42	VSSIF	Power Supply	GND for mini-LVDS	
43	CLKA	Input	Clock for mini-LVDS	※6
44	CLKB	Input	Clock for mini-LVDS	※6
45	VSSIF	Power Supply	GND for mini-LVDS	
46	VDD1IF	Power Supply	1.8V power supply for mini-LVDS	
47	LV6A	Input	mini-LVDS data input	※6
48	LV6B	Input	mini-LVDS data input	※6
49	LV7A	Input	mini-LVDS data input	※6
50	LV7B	Input	mini-LVDS data input	※6
51	LV8A	Input	mini-LVDS data input	※6
52	LV8B	Input	mini-LVDS data input	※6
53	LV9A	Input	mini-LVDS data input	※6
54	LV9B	Input	mini-LVDS data input	※6
55	LV10A	Input	mini-LVDS data input	※6
56	LV10B	Input	mini-LVDS data input	※6
57	LV11A	Input	mini-LVDS data input	※6



Pin No. (FPC Side)	Symbol	Type	Description	Equivalent circuit
58	LV11B	Input	mini-LVDS data input	※6
59	VSSIF	Power Supply	GND for mini-LVDS	
60	VDD1IF	Power Supply	1.8V power supply for mini-LVDS 用	
61	TEST	Output	Test pin (no connect)	※1
62	IFSW	Input	Interface select pin (connect to VDD1)	※1
63	VDD1	Power Supply	1.8V power supply	
64	VDD1	Power Supply	1.8V power supply	
65	VSS	Power Supply	GND	
66	VSS	Power Supply	GND	
67	TEST	Input	Test pin (connect to GND)	※7
68	VCAL	Output	Output of temperature sensing circuit	※8
69	R_IB	Input / Output	Bias current adjustment resistance connect pin	※8
70	VREF	Output	VREF voltage	※8
71	VG255	Output	Gamma top voltage	※8
72	VG0	Output	Gamma bottom voltage	※8
73	VOFS	Output	Vofs voltage	※8
74	VSS	Power Supply	GND	
75	VSS	Power Supply	GND	
76	VDD2	Power Supply	10V power supply	
77	VDD2	Power Supply	10V power supply	
78	VCCP_I	Power Supply	VCCP power supply	
79	VCCP_I	Power Supply	VCCP power supply	
80	VCATH	Power Supply	EL cathode power supply	
81	VCATH	Power Supply	EL cathode power supply	



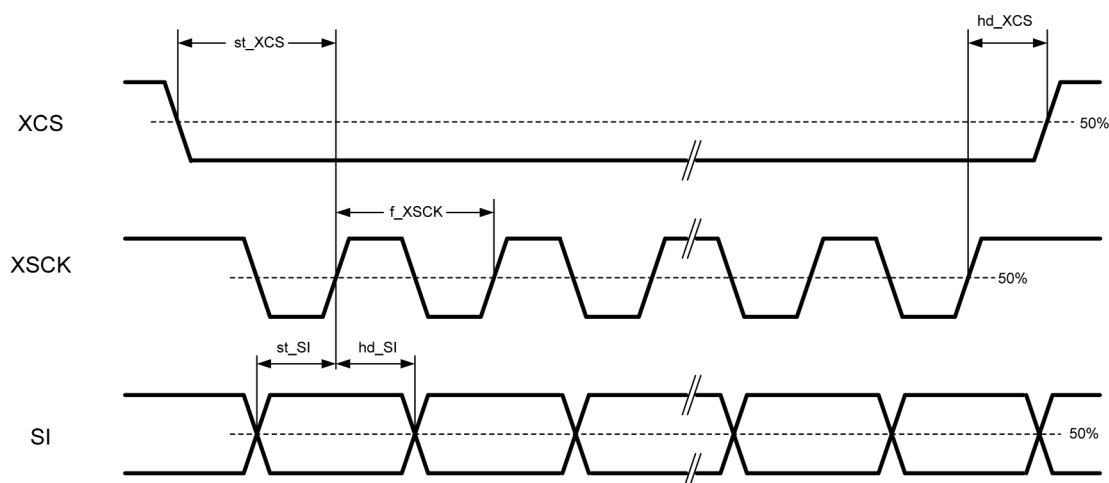
Electrical Characteristics

DC Characteristics

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
High-level input voltage	VIH		0.7VDD1		VDD1	V
Low-level input voltage	VIL		0		0.3VDD1	V
Logic High -level Output voltage	VOH		VDD1 - 0.5			V
Logic Low -level Output voltage	VOL				0.5	V

8.2. AC Characteristics

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
XSCK frequency	f_XSCK			0.8	2.5	MHz
XCS setup time	st_XCS		0.4			μs
XCS hold time	hd_XCS		0.2			μs
SI setup time	st_SI		0.2			μs
SI hold time	hd_SI		0.2			μs





Power Consumption

Item	Symbol	Condition	Typ. (*)						Unit
			3000	1500	500	300	120	Standby	
VDD1 power consumption	PDD1	VDD1=1.8V VDD2=10V mini-LVDS input T _{pnl} =40°C	35	35	35	35	35	0.5	mW
VDD1IF power consumption	PDD1IF		15	15	15	15	15	0	mW
VDD2 power consumption	PDD2		1170	710	400	340	290	0	mW
Total power consumption	PDDTTL		1220	760	450	390	340	0.5	mW

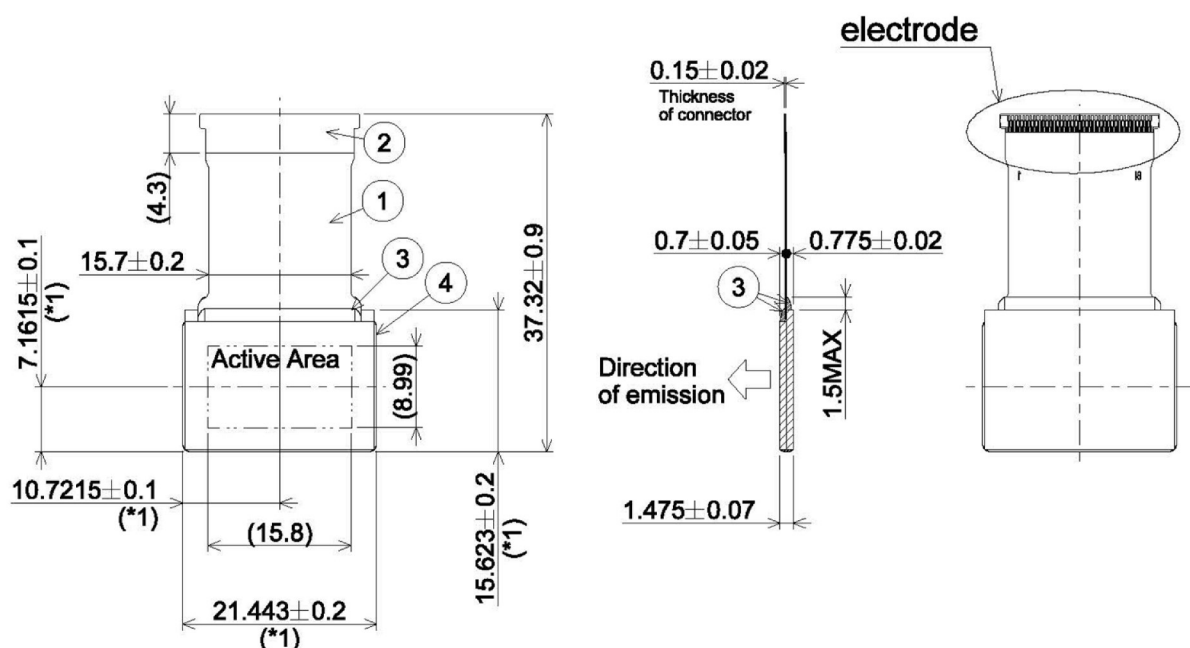
*: All white raster display, Clock frequency = 148.5MHz, Frame rate = 60Hz

Optical Characteristics

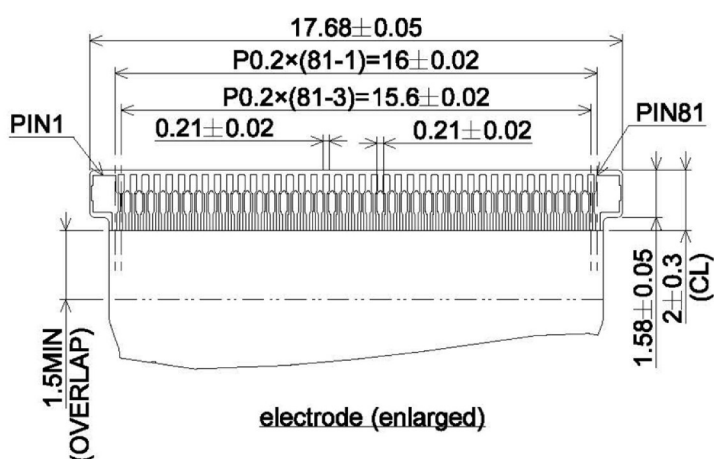
	Item	Symbol	Min.	Typ.	Max.	Unit
Luminance	Mode 1	L1	102	120	138	Cd/m ²
	Mode 2	L2	255	300	345	Cd/m ²
	Mode 0	L0	425	500	575	Cd/m ²
	Mode 3	L3	1275	1500	1725	Cd/m ²
	Mode 4	L4	2400	3000	3600	Cd/m ²
White chromaticity	Mode 1	W1x	0.298	0.313	0.328	CIE
		W1y	0.335	0.350	0.365	CIE
	Mode 2	W2x	0.301	0.313	0.325	CIE
		W2y	0.317	0.329	0.341	CIE
	Mode 0	W0x	0.301	0.313	0.325	CIE
		W0y	0.317	0.329	0.341	CIE
	Mode 3	W3x	0.298	0.310	0.322	CIE
		W3y	0.298	0.310	0.322	CIE
	Mode 4	W4x	0.295	0.310	0.325	CIE
W4y		0.295	0.310	0.325	CIE	
Monochrome chromaticity	R	Rx	0.630	0.650	0.670	CIE
		Ry	0.310	0.330	0.350	CIE
	G	Gx	0.250	0.270	0.290	CIE
		Gy	0.590	0.610	0.630	CIE
	B	Bx	0.130	0.150	0.170	CIE
		By	0.050	0.070	0.090	CIE
Contrast		CR	10,000	—	—	

Module Outline

(Unit : mm)



*1: including End-face coating



No	Description
1	FPC
2	Stiffener
3	Reinforcing material
4	End-face coating

Mass: 1.3g

System Block Diagram

