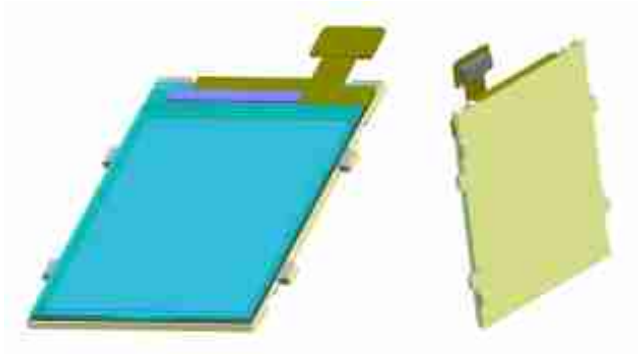


# P9144

2.0"/2.2"/2.4", QVGA 240 x RGB x 320

LTPS Transmissive Display Module

**P9144** is a product in the **QVGA** resolution range as supported by **S60 Symbian** and **Window CE** applications. It offers great **Transmissive LTPS TFT LCD** performance and combines ultra high color performance with high luminance and contrast. In addition, **P9144** is equipped with optical films, allowing excellent daylight readability, and is available in the sizes **2.0"**, **2.2"** and **2.4"**. Customization for optimal design-in is possible on outline dimensions and mechanical interface, optical foils for viewing angle characteristics, and backlight strength.

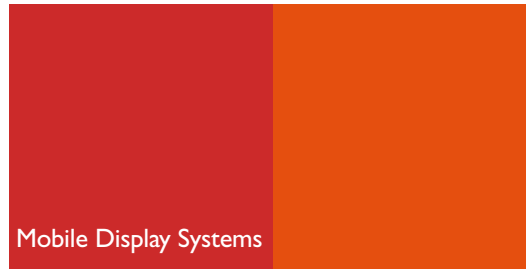


## APPLICATION INFORMATION

- Mobile Phones, PDA's / Smart Phones, Mobile Video Players

## PRODUCT ADVANTAGES

- Great transmissive performance with sparkling bright and rich colors and ultra contrast
- Mega Brightness 400 Nit
- 262 thousand colors
- Super Slim Module design (0.4 mm glass thickness)
- Availability in the sizes: 2.0", 2.2" and 2.4"



## SPECIFICATIONS

Technology	LTPS Active Matrix LCD, Transmissive
Resolution	240 x RGB x 320
Image Mode	Normally Black
Interface	18bit RGB without RAM
Color	262k
Viewing Direction	6 o'clock
Pixel Configuration	RGB Vertical Stripe
IC	LDS312
Supply Voltage	0.3 to 3.6V
Backlight	3 LEDs
Temperature Condition	
Operating	-20°C to +60°C
Storage	-30°C to +70°C

### 2.0"

<b>Mechanical</b>	
Module (WxH)	36.8 x 52.3 mm
Module Thickness	2.6 mm
Active Area	30.72 x 40.96 mm
Dot Pitch	0.128
<b>FoS performance</b>	
Contrast Ratio	300:1
NTSC (u',v')	60%
Luminance	400Nit

### 2.2"

<b>Mechanical</b>	
Module (WxH)	40.14 x 56.4 mm
Module Thickness	2.72 mm
Panel (WxH)	35.68 x 48.60 mm
Active Area	33.84 x 45.12 mm
Dot Pitch	0.141
<b>FoS Performance</b>	
Contrast Ratio	300:1
NTSC(u',v')	60%
Luminance	400Nit

### 2.4"

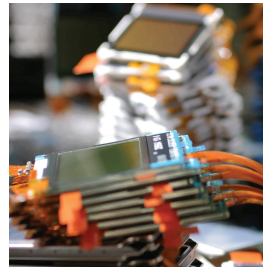
<b>Mechanical</b>	
Active Area	36.72 x 48.96 mm
Dot Pitch	0.153
<b>FoS Performance</b>	
Contrast Ratio	300:1
NTSC(u',v')	60%
Luminance	400Nit

# P9144

2.0"/2.2"/2.4", QVGA 240 x RGB x 320, LTPS Transmissive Display Module

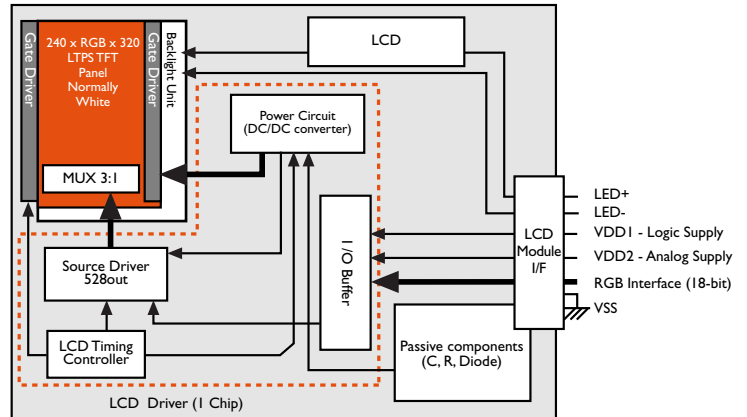
## Pinning

PIN	SYMBOL	I/O	DESCRIPTION
1	VSS	-	GND
2	VDC	-	Analog Power Supply
3	VDC	-	Analog Power Supply
4	VSS	-	GND
5	VDD	-	Logic Power Supply
6	VDD	-	Logic Power Supply
7	VSS	-	GND
8	NC	-	
9	SCL	-	Serial Clock
10	/CS	-	Chip Select
11	SDA	I/O	Serial Data Input/Output
12	VD0	I	Data Bit 0
13	VD1	I	Data Bit 1
14	VD2	I	Data Bit 2
15	VD3	I	Data Bit 3
16	VD4	I	Data Bit 4
17	VD5	I	Data Bit 5
18	VD6	I	Data Bit 6
19	VD7	I	Data Bit 7
20	VD8	I	Data Bit 8
21	VD9	I	Data Bit 9
22	VD10	I	Data Bit 10
23	VD11	I	Data Bit 11
24	VSS	-	GND
25	VD12	I	Data Bit 12
26	VD13	I	Data Bit 13
27	VD14	I	Data Bit 14
28	VD15	I	Data Bit 15
29	VD16	I	Data Bit 16
30	VD17	I	Data Bit 17
31	NC	-	
32	NC	-	
33	NC	-	
34	NC	-	
35	NC	-	
36	NC	-	
37	/RES	I	Reset Signal
38	NC	-	
39	VS	I	Vertical Sync Pulse (Frame Sync)
40	HS	I	Horizontal Sync Pulse (Line Sync)
41	DE	I	Data Enable Signal
42	DCK	I	Pixel Clock
43	VSS	-	GND
44	SD	I	Shutdown Control Pin
45	TB	I	Scan Direction Select Pin
46	CM	I	Power save mode select
47	RL	I	Source Shift Direction Select Pin
48	FCS	I	Function Pin Control Select
49	LED+	-	LED Power Supply Anode
50	LED-	-	LED Power Supply Cathode
51	NC	-	



www.mds.philips.com

## Block Diagram



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