

P8894-I

2.12" CIF+, 352 x RGB x 416

LTPS Transflective Display Module

This high-performance display, the first Philips solution to offer CIF+ resolution as supported by the Symbian Series 60 Platform, delivers superior LTPS TFT LCD performance. It has built-in low-power features and combines excellent color quality with a backlight to produce images that are readable in all conditions, even in direct sunlight.

Its 352 x RGB x 416 resolution displays all S60 Symbian software and applications at a sharpness that is higher than QCIF+ and QVGA displays, so email is easy to read, downloaded images are crisp and bright, and snapshots look great.

Philips has succeeded in reducing the module size by 25%, so the display takes up less room, enabling smaller phone form factors or freeing up space (for a larger battery, perhaps) in existing designs.



APPLICATION INFORMATION

- Mobile Phones, TV-on-Mobile, Mobile Video Players

PRODUCT ADVANTAGES

- Superior transflective performance: sparkling colors, total readability even under direct sunlight
- LifePix™, a smart, embedded video-algorithm which renders the display to perceived color performance higher than 40%
- Twice the available pixels of any QVGA displays for ultra-sharp pictures, videos, games
- 25% reduction in module size
- Viewing angle performance equal in all directions



SPECIFICATIONS

Mechanical

Width	41.20 mm
Height	53.80 mm
Module Thickness	3.05 mm
Weight	12.04 grams
Active Area	34.85 x 41.18 mm
Pixel Pitch	0.099 mm
Resolution	352 x RGB x 416
Pixel Configuration	RGB Vertical Stripe

Electrical

Technology	LTPS Active Matrix LCD
Supply Voltage	Logic 1.65V - 1.95V Analog 2.3V - 2.9V
Power Supply	14.4V
Consumption LED	216mW(serial)
BL Power Consumption	15 mA @ 14.4V (typ)
IC	R69600

Temperature Conditions

Operating	-30°C to +70°C
Storage	-40°C to +85°C

Interface

3-wire serial, 18 bit RGB

Optical

Image Mode	Normally White
Illumination Mode	Transflective
Backlight	4 LED's (white)
Color	262k
Response Time	30 ms (Ton + Toff)

Backlight ON

Contrast Ratio	125:1
NTSC (u'v')	40%
Viewing Angle Top-Down, CR>=2	>60°
Viewing Angle Left-Right, CR>=2	>60°
Luminance (module)	200 Cd/m ²
Uniformity	1.2

Backlight OFF

Reflectance Diffuse	6%
Contrast Ratio Diffuse	10:1
NTSC (u'v')	5%
Viewing Angle Top-Down, CR>=2	>60°
Viewing Angle Left-Right, CR>=2	>60°

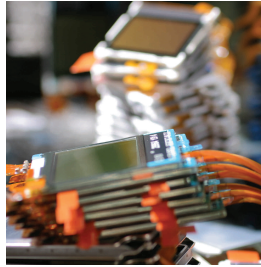
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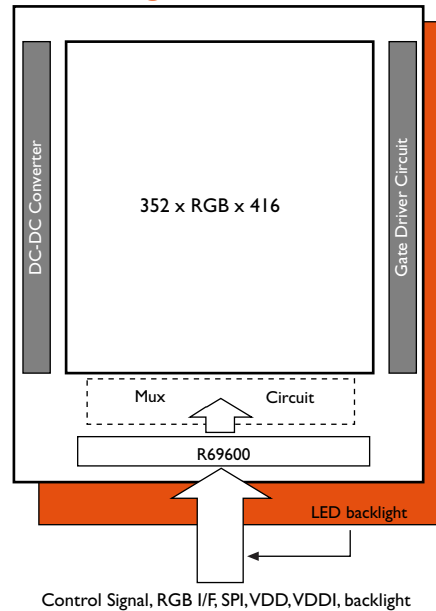
Pinning

PIN	SYMBOL	I/O	FUNCTION
1	XRES	I	Reset, active low
2	HS	I	Horizontal sync.
3	VS	I	Vertical sync.
4	D17(R5)	I	Data bus
5	D15(R3)	I	Data bus
6	GND	P	Ground (0V)
7	D13(R1)	I	Data bus
8	D11(G5)	I	Data bus
9	D9(G3)	I	Data bus
10	D7(G1)	I	Data bus
11	GND	P	Ground (0V)
12	D5(B5)	I	Data bus
13	D3(B3)	I	Data bus
14	D1(B1)	I	Data bus
15	SCL	I	Serial clock
16	GND	P	Ground (0V)
17	VDD1	P	Supply voltage
18	VDD	P	Supply voltage
19	GND	P	Ground (0V)
20	LEDIN	LED	LED current source
21	LEDOUT	LED	LED current sink
22	GND	P	Ground (0V)
23	XCS	I	Chip select
24	DOUT	O	Serial data
25	DIN	I	Serial data
26	D0(B0)	I	Data bus
27	D2(B2)	I	Data bus
28	GND	P	Ground (0V)
29	D4(B4)	I	Data bus
30	D6(G0)	I	Data bus
31	D8(G2)	I	Data bus
32	GND	P	Ground (0V)
33	D10(G4)	I	Data bus
34	D12(R0)	I	Data bus
35	D14(R2)	I	Data bus
36	D16(R4)	I	Data bus
37	GND	P	Ground (0V)
38	PCLK	I	Pixel clock
39	GND	P	Ground (0V)
40	DE	I	Data enable



www.mds.philips.com

Block Diagram



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date of release: May 2005



Published in Hong Kong

Philips confidential.