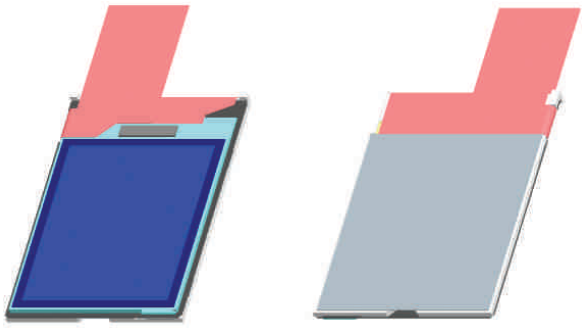
P609158

1.77", 128 x RGB x 160

TFT LCD Transmissive with 262k colors

This slim, 1.7" module, optimized for use in mobile phones, uses transmissive technology with fast switching, 128 RGB x 160 resolution, 262k colors, and high color saturation. A special optical foil improves readability without the backlight in ambient conditions. The module includes a COG-mounted IC, a 3LED backlight, and an FPS with passive components. It connects to the PCB via an 18-bit parallel CPU interface with ZIF connection.



Mobile Display Systems

APPLICATION INFORMATION

- Mobile/Audio-Video players

PRODUCT ADVANTAGES

- High brightness and contrast
- Superior color reproduction with 262k colors
- Industry-leading reflectivity via optical foils
- Low power consumption
- Compact module
- Mass production Q3/05

SPECIFICATIONS

Mechanical	
Width	34.0 mm
Height	50.0 mm
Module Thickness	2.7 mm
Active Area	28.032 x 35.04 mm
Resolution	128 x RGB x 160
Pixel Configuration	RGB Vertical Stripe
Diagonal	1,77" (active area)
Electrical	
Technology	LTPS TFT Active Matrix LCD
Supply Voltage	2.8 V
Logic Input Voltage	2.8 V
Power Consumption	5.3mW (max)
Power Supply / Consumption LED	3.1V / 20mA (typ)
Driver IC	Wisepal WP0128
Temperature Conditions	
Operating	-20°C to +70°C
Storage	-30°C to +80°C
Interface	
i80/M68 CPU, 8/9/16/18bit	
Optical	
Image Mode	Normally White
Illumination Mode	Transmissive, reflective enhanced
Backlight	3 LEDs (white)
Viewing Direction	6 o'clock
Color	262k
Response Time	35ms (Ton + Toff)
Backlight ON	
Contrast Ratio	300 (at max)
NTSC (u',v')	42 (preliminary value)
Luminance (module)	220 cd/m2
Uniformity	1.3
BL Power Consumption	20mA (typ)
Backlight OFF	
Reflectance Diffuse	2%

PHILIPS

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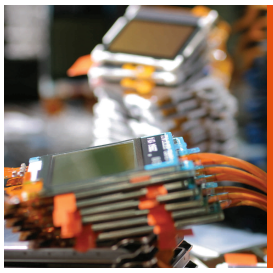
1.77", 128 x RGB x 160, TFT LCD Transmissive with 262k colors

Pinning

PIN	SYMBOL	I/O	FUNCTION	REMARK
1	GND	-	Ground	
2	V_{SOURCE}	O	Source voltage monitor	Note 4.2
3	CSX (DE)	I	Chip Select / Data Enable control signal I80/M68 mode 0 = chip select enabled 1 = chip select disabled RGB mode 0 = bus data invalid 1 = bus data valid	
4	RS	I	Command/Data control signal 0 = command 1 = data	
5	WRX (R/W, HS)	I	Data access control / Raster-row synchronizing signal i80 CPU mode RAM/Registers write (low active) M68 CPU mode RAM/Registers read (high active) / write (low active) RGB mode Raster-row synchronizing	
6	RDX (E, VS)	I	Data access control / Frame synchronizing signal i80 CPU mode RAM/Registers read (low active) M68 mode RAM/Registers access enable RGB mode Frame synchronizing	
7-24	D[17:0] (RIN[5:0], GIN[5:0], BIN[5:0])	I/O	18-bit parallel bi-directional data bus CPU Mode 8-bit bus: D[7:0] 9-bit bus: D[8:0] 16-bit bus: D[15:0] 18-bit bus: D[17:0] RGB Mode 16-bit bus: D[15:0] 18-bit bus: D[17:0]	Note 4.3
25	RESETX	I	System circuitry reset signal 0 = initialize driver 1 = normal operation	Note 4.4
26	VDD	-	Power supply voltage panel	Note 4.5
27	LED1	-	Power supply voltage backlight	Note 4.6
28	LED2	-	Power supply voltage backlight	Note 4.6
29	LED3	-	Power supply voltage backlight	Note 4.6
30	GND	-	Ground	

Note:

4.2: Do not connect! Only used for testing purpose.
4.3: Pull-up unused data bus pins to VDD, otherwise current leakage possible through input pins.
4.4 Driver must be initialized after power-on.
4.5 Typical power supply voltage 2.8V.
4.6 LED's are connected in parallel, typical forward voltage 3.1V.



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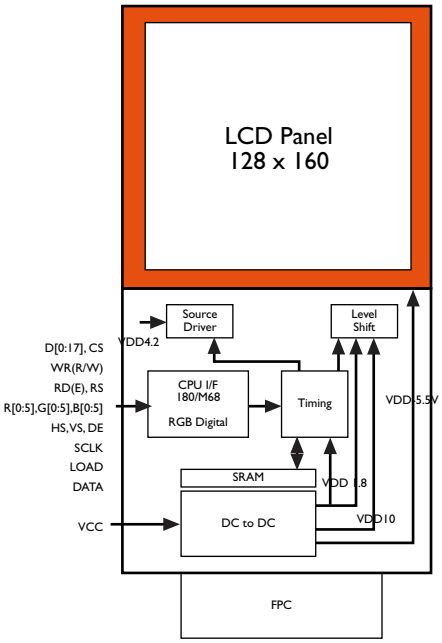
Block Diagram



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