

Application

This specification is applied to the 7 inch WVGA supported TFT-LCD module, and can display true 16.7M colors with dithering (8 bit/ color). The module is designed for OA, Car TV application and other electronic products which require flat panel display of digital signal interface. This module is composed of a 7" TFT-LCD panel, a driver circuit and backlight unit and used as the input devices for general electric appliances via both finger and Capacitive stylus pen.

Features

- WVGA (800×480 pixels) resolution
- LED driver circuit is built in this module to provide PWM Dimmer function.
- HDMI Interface
- Projected Capacitive Touch
 - USB Interface
 - Multi Touch (Ten points)
 - 2048 x 2048 resolution

General Specifications

Item	Specifications	Unit
Screen Size	7 (Diagonal)	inch
Display Format	800RGB(H)×480(V)	dot
Active Area	152.4(H)×91.44(V)	mm
Pixel Pitch	0.1905(H)×0.1905(V)	mm
Pixel Configuration	RGB Vertical Stripe	-
Display Mode	IPS / Transmissive Mode / Normally Black	-
Surface Treatment	Clear(7H)	-
Viewing Direction	Full view angle	-
Outline Dimension	166.6(W)×109.4(H)×14.85(D)	mm
Weight	(270)	g
RoHS Compliance	RoHS Compliance	-

▼ Absolute Maximum Ratings

Absolute Ratings of Environment

Item	Symbol	Value		Unit	Note
		Min.	Max.		
Storage Temperature	T _{ST}	-30	+80	°C	(1)(2)(3)(4)
Operating Ambient Temperature	T _{OP}	-20	+70	°C	(1)(2)(3)(4)

Note (1) (a) 90 %RH Max. (T_a ≤ 40 °C).

(b) Wet-bulb temperature should be 39 °C Max. (T_a > 40 °C).

(c) No condensation.

Note (2) T_a = Ambient Temperature, T_p = Panel Surface Temperature.

Note (3) This rating applies to all parts of the module and should not be exceeded.

Note (4) If the product were used out of the operation and storage range, it will have quality issue

Should a module be used with any of the absolute maximum ratings exceeded, the characteristics of the module may not be recovered, or in an extreme case, the module may be permanently destroyed.

▼ Electrical Absolute Ratings

TFT-LCD Module

(T_a=25±2°C, GND=V_{SS}=0V)

Item	Symbol	Value		Unit	Note
		Min.	Max.		
Power Supply Voltage	VCC	-0.3	30	V	-
BLEND	PWM	-0.3	6	V	

Electrical Characteristics

TFT-LCD Module

Item	Symbol	Value			Unit	Note
		Min.	Typ.	Max.		
Power Supply Voltage	VCC	11.5	12.0	12.5	V	-
Power Supply Current	ICC	-	420	558	mA	(1)
Power Supply Voltage	VCC	23.5	24.0	24.5	V	-
Power Supply Current	ICC	-	240	336	mA	(1)
VSYNC Frequency	F _V	-	60	-	Hz	-
PWM signal Low voltage	V _{PWML}	0	-	0.4	V	-
PWM signal High voltage	V _{PWMH}	1.5	-	5	V	-
PWM frequency	f _{PWM}	100	-	1000	Hz	-
LED Life Time(25°C)	-	65000	-	-	hr	(2)

Note (1) The specified power consumption is under the conditions at VCC=12 V or 24V, F_V=60Hz, whereas a power dissipation check pattern below is displayed.

White Pattern / 255 Gray



Active Area

Note (2) : LED life time is defined as under 25±2°C , when the average brightness decrease to 50% of original brightness

Projected Capacitive Touch

(Ta=25±2°C)

Item	Symbol	Value			Unit	Note
		Min.	Typ.	Max.		
Power Supply Voltage	VDD	4.8	5.0	5.2	V	-
Power Supply Current	IDD	-	32.0	45.0	mA	(1)
Output High Threshold Voltage	V _{OH}	2.8	-	-	V	-
Output Low Threshold Voltage	V _{OL}	-	-	0.8	V	-
Differential Input Sensitivity (D+)-(D-)	V _{DI}	0.2	-	-	V	-
Differential Input Common Mode Range	V _{CM}	0.8	-	2.5	V	
Power Consumption	P _L	-	160	225	mW	@5.0V
Report Rate	R _R	-	60	-	Hz	-

Note (1) This test condition is touched with 10 points

Input / Output Terminals Pin Assignment

TFT-LCD Module

Connector: Mini-HDMI Connector

No.	Symbol	I/O	Description
1	TMDS Data2 Shield	I	Ground
2	TMDS Data2+	I	Channel-2 positive receiver input – Positive side of channel-2 TMDS low-voltage signal differential input pair. Channel-2 receives red-pixel data in active display and CTL2, CTL3 control signals in blank.
3	TMDS Data2–	I	Channel-2 negative receiver input – Negative side of channel-2 TMDS low-voltage signal differential input pair.
4	TMDS Data1 Shield	I	Ground
5	TMDS Data1+	I	Channel-1 positive receiver input – Positive side of channel-1 TMDS low-voltage signal differential input pair. Channel-1 receives green-pixel data in active display and CTL1 control signals in blank.
6	TMDS Data1–	I	Channel-1 negative receiver input – Negative side of channel-1 TMDS low-voltage signal differential input pair.
7	TMDS Data0 Shield	I	Ground
8	TMDS Data0+	I	Channel-0 positive receiver input – Positive side of channel-0. TMDS low-voltage signal differential input pair. Channel-0 receives blue pixel data in active display and HSYNC, VSYNC control signals in blank.
9	TMDS Data0–	I	Channel-0 negative receiver input – Negative side of channel-0. TMDS low-voltage signal differential input pair.
10	TMDS Clock Shield	I	Ground

No.	Symbol	I/O	Description
11	TMDS Clock+	I	Clock positive receiver input – Positive side of reference clock. TMDS low-voltage signal differential input pair
12	TMDS Clock–	I	Clock negative receiver input – Negative side of reference clock. TMDS low-voltage signal differential input pair
13	DDC Ground	I	Ground
14	N.C.	I	Not Connection
15	DCC_SCL	I	Serial Clock for EEPROM
16	DCC_SDA	I	Serial Data for EEPROM
17	Reserved (N.C. on device)	I	Not Connection
18	+5V Power	I	5V for EEPROM
19	HPD	I	Hot Plug Detect High: Active link Low: Inactive link

Connector

Connector: CI4412M2HR0

No.	Symbol	Functions
1	VCC	power supply for LCM
2	VCC	power supply for LCM
3	BLEN	PWM Dimmer
4	D+	USB data+ for PCT
5	D-	USB data- for PCT
6	VDD	+5V power supply for PCT
7	NC	Not Connected
8	NC	Not Connected
9	NC	Not Connected
10	NC	Not Connected
11	GND	Ground
12	GND	Ground

MINI USB Connector

Connector: CU04SCM15B0-R0

No.	Symbol	Functions
1	VDD	+5V power supply for PCT
2	D-	USB data- for PCT
3	D+	USB data+ for PCT
4	ID	A type : connect to GND B type : keep floating
5	GND	Ground

Outline Drawing

