



WINSTAR Display Co.,Ltd.
華凌光電股份有限公司

SPECIFICATION

MODULE NO.: WO32032A

General Specification

Item	Dimension	Unit
Number of dots	320 x 32	—
Module dimension	114.32 x 27.56 x 5.6	mm
View area	109.12 x 15.26	mm
Active area	106.865 x 12.85	mm
Dot size	0.319 x 0.388	mm
Dot pitch	0.334 x 0.402	mm
Drive Method	1/32Duty, 1/9 Bias	
Backlight Type	LED	
IC	ST7586S	
Interface	3-Line SPI/ 4-Line SPI	

Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	T _{OP}	-20	—	+70	°C
Storage Temperature	T _{ST}	-30	—	+80	°C
Digital Power Supply Voltage	V _{DDI}	-0.3	—	3.6	V
LCD Power supply voltage	V _{0-XV0}	-0.3	—	19.0	V
Input Voltage	V _{IN}	-0.3	—	V _{DDI} +0.3	V

Electrical Characteristics

Item	Symbol	Condition	Min	Typ	Max	Unit
Digital Operating Voltage	V _{DDI} -V _{SS}	—	2.7	3.0	3.3	V
Analog Operating Voltage	V _{DDA} -V _{SS}	—	2.7	3.0	3.3	
Supply Voltage For LCM	V _{0-XV0}	T _a =-20°C	—	—	—	V
		T _a =25°C	9.8	10.0	10.2	V
		T _a =70°C	—	—	—	V
Input High Volt.	V _{IH}	—	0.7 V _{DD}	—	V _{DD}	V
Input Low Volt.	V _{IL}	—	V _{SS}	—	0.3 V _{DD}	V
Output High Volt.	V _{OH}	—	0.8 V _{DD}	—	V _{DD}	V
Output Low Volt.	V _{OL}	—	V _{SS}	—	0.2 V _{DD}	V
Supply LCM Current	I _{DD}	V _{DD} =3.0V	—	1.1	2.0	mA

Interface Pin Function

Pin No.	Symbol	Function Description						
1	ESD_GND	ESD_Ground						
2	SCL	Serial clock line						
3	SDA	Serial data line						
4	A0	The function of this pin is different in parallel and serial interface. In serial interface: this pad will be used as SCL (serial-clock) input						
5	RSTB	Reset input pin						
6	IF1	These pins select interface operation mode.						
		<table><tr><th>IF1</th><th>MPU interface type</th></tr><tr><td>H</td><td>4-Line</td></tr><tr><td>L</td><td>3-Line</td></tr></table>	IF1	MPU interface type	H	4-Line	L	3-Line
		IF1	MPU interface type					
		H	4-Line					
L	3-Line							
7	CSB	Chip select input pin						
8	VDDI	Power supply for Digital Operating Voltage						
9	VD1	VD1I is the power source of digital circuits.						
10	VSS	Ground						
1	VDDA	Power supply for Analog Operating Voltage						
12	VM	VM is the power of SEG-drivers						
13	V0	Positive operating voltage of COM-drivers.						
14	XV0	Negative operating voltage of COM-drivers.						
15	VG	VG is the power of SEG-drivers						
16	K	LED-						
17	A	LED+						
18	ESD_GND	ESD_Ground						

Contour Drawing & Block Diagram

