

1.5 Pin Definition

Pin Number	Symbol	Type	Function																								
Power Supply																											
9	VDD	P	<p><i>Power Supply for Logic</i> This is a voltage supply pin. It must be connected to external source.</p>																								
8	VSS	P	<p><i>Ground of Logic Circuit</i> This is a ground pin. It acts as a reference for the logic pins. It must be connected to external ground.</p>																								
28	VCC	P	<p><i>Power Supply for OEL Panel</i> This is the most positive voltage supply pin of the chip. A stabilization capacitor should be connected between this pin and VSS when the converter is used. It must be connected to external source when the converter is not used.</p>																								
29	VLSS	P	<p><i>Ground of Analog Circuit</i> This is an analog ground pin. It should be connected to VSS externally.</p>																								
Driver																											
26	IREF	I	<p><i>Current Reference for Brightness Adjustment</i> This pin is segment current reference pin. A resistor should be connected between this pin and VSS. Set the current lower than 12.5µA.</p>																								
27	VCOMH	O	<p><i>Voltage Output High Level for COM Signal</i> This pin is the input pin for the voltage output high level for COM signals. A capacitor should be connected between this pin and VSS.</p>																								
DC/DC Converter																											
6	VBAT	P	<p><i>Power Supply for DC/DC Converter Circuit</i> This is the power supply pin for the internal buffer of the DC/DC voltage converter. It must be connected to external source when the converter is used. It should be connected to VDD when the converter is not used.</p>																								
4 / 5 2 / 3	C1P / C1N C2P / C2N	I	<p><i>Positive Terminal of the Flying Inverting Capacitor</i> <i>Negative Terminal of the Flying Boost Capacitor</i> The charge-pump capacitors are required between the terminals. They must be floated when the converter is not used.</p>																								
Interface																											
10 11 12	BS0 BS1 BS2	I	<p><i>Communicating Protocol Select</i> These pins are MCU interface selection input. See the following table:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <th></th> <th>BS0</th> <th>BS1</th> <th>BS2</th> </tr> <tr> <td>I2C</td> <td>0</td> <td>1</td> <td>0</td> </tr> <tr> <td>3-wire SPI</td> <td>1</td> <td>0</td> <td>0</td> </tr> <tr> <td>4-wire SPI</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>8-bit 68XX Parallel</td> <td>0</td> <td>0</td> <td>1</td> </tr> <tr> <td>8-bit 80XX Parallel</td> <td>0</td> <td>1</td> <td>1</td> </tr> </table>		BS0	BS1	BS2	I2C	0	1	0	3-wire SPI	1	0	0	4-wire SPI	0	0	0	8-bit 68XX Parallel	0	0	1	8-bit 80XX Parallel	0	1	1
	BS0	BS1	BS2																								
I2C	0	1	0																								
3-wire SPI	1	0	0																								
4-wire SPI	0	0	0																								
8-bit 68XX Parallel	0	0	1																								
8-bit 80XX Parallel	0	1	1																								
14	RES#	I	<p><i>Power Reset for Controller and Driver</i> This pin is reset signal input. When the pin is low, initialization of the chip is executed.</p>																								

1.5 Pin Definition (Continued)

Pin Number	Symbol	I/O	Function
<i>Interface (Continued)</i>			
13	CS#	I	<p><i>Chip Select</i> This pin is the chip select input. The chip is enabled for MCU communication only when CS# is pulled low.</p>
15	D/C#	I	<p><i>Data/Command Control</i> This pin is Data/Command control pin. When the pin is pulled high, the input at D7~D0 is treated as display data. When the pin is pulled low, the input at D7~D0 will be transferred to the command register. For detail relationship to MCU interface signals, please refer to the Timing Characteristics Diagrams. When the pin is pulled high and serial interface mode is selected, the data at SDIN is treated as data. When it is pulled low, the data at SDIN will be transferred to the command register. In I2C mode, this pin acts as SA0 for slave address selection.</p>
17	E/RD#	I	<p><i>Read/Write Enable or Read</i> This pin is MCU interface input. When interfacing to a 68XX-series microprocessor, this pin will be used as the Enable (E) signal. Read/write operation is initiated when this pin is pulled high and the CS# is pulled low. When connecting to an 80XX-microprocessor, this pin receives the Read (RD#) signal. Data read operation is initiated when this pin is pulled low and CS# is pulled low.</p>
16	R/W#	I	<p><i>Read/Write Select or Write</i> This pin is MCU interface input. When interfacing to a 68XX-series microprocessor, this pin will be used as Read/Write (R/W#) selection input. Pull this pin to "High" for read mode and pull it to "Low" for write mode. When 80XX interface mode is selected, this pin will be the Write (WR#) input. Data write operation is initiated when this pin is pulled low and the CS# is pulled low.</p>
18~25	D0~D7	I/O	<p><i>Host Data Input/Output Bus</i> These pins are 8-bit bi-directional data bus to be connected to the microprocessor's data bus. When serial mode is selected, D1 will be the serial data input SDIN and D0 will be the serial clock input SCLK. When I2C mode is selected, D2 & D1 should be tied together and serve as SDAout & SDAin in application and D0 is the serial clock input SCL.</p>
<i>Reserve</i>			
7	N.C.	-	<p><i>Reserved Pin</i> The N.C. pins between function pins are reserved for compatible and flexible design.</p>
1, 30	N.C. (GND)	-	<p><i>Reserved Pin (Supporting Pin)</i> The supporting pins can reduce the influences from stresses on the function pins. These pins must be connected to external ground.</p>