

## ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Min.	Max.	Unit
Supply Voltage(Logic)	V <sub>DD</sub> - V <sub>SS</sub>	-0.3	3.6	V
Supply Voltage(LCD)	V <sub>OUT</sub> - V <sub>SS</sub>	-0.3	14.5	V
Input Voltage	V <sub>I</sub>	-0.3	V <sub>DD</sub> + 0.3	V
Operating Temp.	T <sub>opr</sub>	-20	70	°C
Storage Temp.	T <sub>stg</sub>	-30	80	°C

## MECHANICAL DATA

Item	Nominal Dimensions	Unit
Module Size (W x H x T)	87.0 x 50.0 x 8.0	mm
Viewing Area (W x H)	70.0 x 37.0	mm
Dot Pitch (W x H)	0.51 x 0.51	mm
Dot Size (W x H)	0.495 x 0.495	mm
Weight	Approx. 28	g

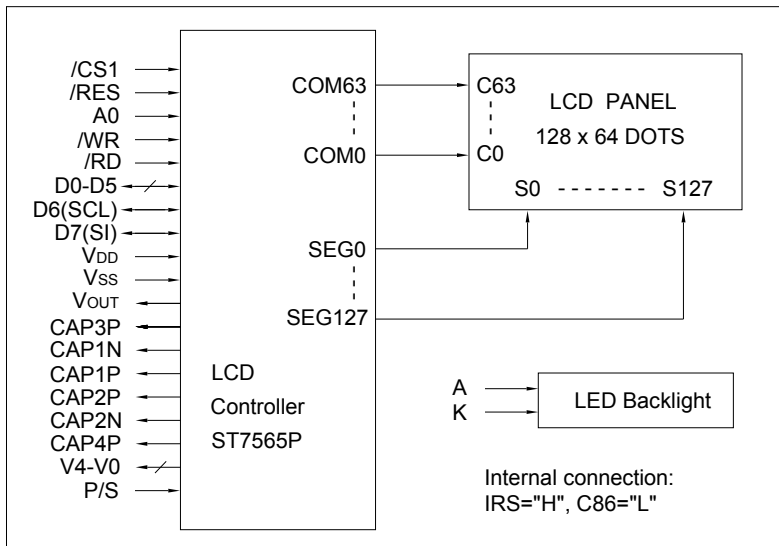
## ELECTRICAL CHARACTERISTICS (V<sub>DD</sub>=2.9V to 3.3V)

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input High Voltage	V <sub>IH</sub>	--	0.8V <sub>DD</sub>	--	V <sub>DD</sub>	V
Input Low Voltage	V <sub>IL</sub>	--	0	--	0.2V <sub>DD</sub>	V
Output High Voltage	V <sub>OH</sub>	I <sub>OH</sub> = -0.1mA	0.8V <sub>DD</sub>	--	V <sub>DD</sub>	V
Output Low Voltage	V <sub>OL</sub>	I <sub>OL</sub> = 0.1mA	0	--	0.2V <sub>DD</sub>	V
Supply Current	I <sub>DD</sub>	V <sub>DD</sub> = 3.3V	--	0.5	1.2	mA
LCD Driving Voltage	V <sub>0</sub> - V <sub>SS</sub>	T <sub>a</sub> =25°C	--	10.3	--	V

## PIN CONNECTIONS

Pin	Symbol	Level	Function
1	/CS1	L	Chip selection signal. Active "L".
2	/RES	L	Reset signal. Active "L".
3	A0	H/L	H:Display data L:Instruction code
4	/WR	L	Write signal. Active "L"
5	/RD	L	Read signal. Active "L"
6-11	D0-D5	H/L	P/S=H: D0 to D7 are 8-bit data bus.
12	D6(SCL)	H/L	P/S=L: D6 is serial clock input;
13	D7(SI)	H/L	D7 is serial data input.
14	V <sub>DD</sub>	2.9 to 3.3V	Power supply for logic and booster
15	V <sub>SS</sub>	0V	GND
16	V <sub>OUT</sub>	--	DC/DC voltage converter output
17	CAP3P	--	Capacitor 3 positive connection
18	CAP1N	--	Capacitor 1 negative connection
19	CAP1P	--	Capacitor 1 positive connection
20	CAP2P	--	Capacitor 2 positive connection
21	CAP2N	--	Capacitor 2 negative connection
22	CAP4P	--	Capacitor 4 positive connection
23-27	V4-V0	--	Power supply for LCD drive
28	P/S	H/L	H: Parallel mode L: Serial mode

## BLOCK DIAGRAM



## LED BACKLIGHT SPECIFICATIONS (T<sub>a</sub>=25°C)

Item	Symbol	Typ.	Max.	Unit
Forward Voltage	V <sub>f</sub>	3.0	3.2	V
Forward Current	I <sub>f</sub>	40	--	mA
LED Color		White		