

### ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Min.	Max.	Unit
Supply Voltage(Logic)	$V_{DD}/V_{DD2} - V_{SS}$	-0.3	3.6	V
Supply Voltage(LCD)	$V_{OUT} - V_{SS}$	-0.3	13.5	V
Input Voltage	$V_I$	-0.3	$V_{DD} + 0.3$	V
Operating Temp.	$T_{opr}$	-20	70	°C
Storage Temp.	$T_{stg}$	-30	80	°C

### MECHANICAL DATA

Item	Nominal Dimensions	Unit
Module Size (W x H x T)	55.0 x 31.0 x 8.7	mm
Viewing Area (W x H)	52.0 x 15.0	mm
Dot Pitch (W x H)	0.365 x 0.415	mm
Dot Size (W x H)	0.345 x 0.395	mm
Weight	Approx. 12	g

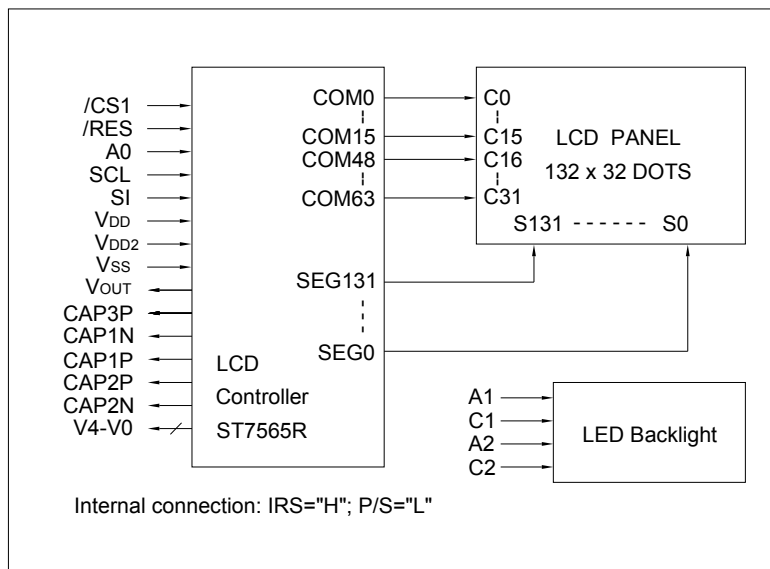
### ELECTRICAL CHARACTERISTICS ( $V_{DD}/V_{DD2}=2.7V$ to $3.3V$ )

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input High Voltage	$V_{IH}$	--	$0.8V_{DD}$	--	$V_{DD}$	V
Input Low Voltage	$V_{IL}$	--	0	--	$0.2V_{DD}$	V
Output High Voltage	$V_{OH}$	$I_{OH} = -0.1mA$	$0.8V_{DD}$	--	$V_{DD}$	V
Output Low Voltage	$V_{OL}$	$I_{OL} = 0.1mA$	0	--	$0.2V_{DD}$	V
Supply Current	$I_{DD}$	$V_{DD}/V_{DD2}=3.0V$	--	150	250	µA
LCD Driving Voltage	$V_0 - V_{SS}$	$T_a=25^\circ C$	--	7.6	--	V

### PIN CONNECTIONS

Pin	Symbol	Level	Function
1	A1	3.3V	LED backlight anode 1
2	C1	0V	LED backlight cathode 1
3-18	NIL	--	Nil
19	C2	0V	LED backlight cathode 2
20	A2	3.3V	LED backlight anode 2
21-25	V0-V4	--	Power supply for LCD drive
26	VSS	0V	GND
27	CAP2N	--	Capacitor 2 negative connection
28	CAP2P	--	Capacitor 2 positive connection
29	CAP1P	--	Capacitor 1 positive connection
30	CAP1N	--	Capacitor 1 negative connection
31	CAP3P	--	Capacitor 3 positive connection
32	VOUT	--	DC/DC voltage converter output
33	VSS	0V	GND
34	VDD2	2.7 to 3.3V	Power supply for booster
35	VDD	2.7 to 3.3V	Power supply for logic
36	SI	H/L	Serial data input
37	SCL	H/L	Serial clock input
38	A0	H/L	H: Display data L: Instruction code
39	/RES	L	Reset signal. Active "L".
40	/CS1	L	Chip selection signal. Active "L".

### BLOCK DIAGRAM



### LED BACKLIGHT SPECIFICATIONS ( $T_a=25^\circ C$ )

Item	Symbol	Parallel	Series	Unit
Forward Voltage	$V_f$	$V_{f1}=V_{f2}=3.3$	$V_{f1}+V_{f2}=6.6$	V
Forward Current	$I_f$	$I_{f1}+I_{f2}=30$	$I_{f1}=I_{f2}=15$	mA
LED Color		White		