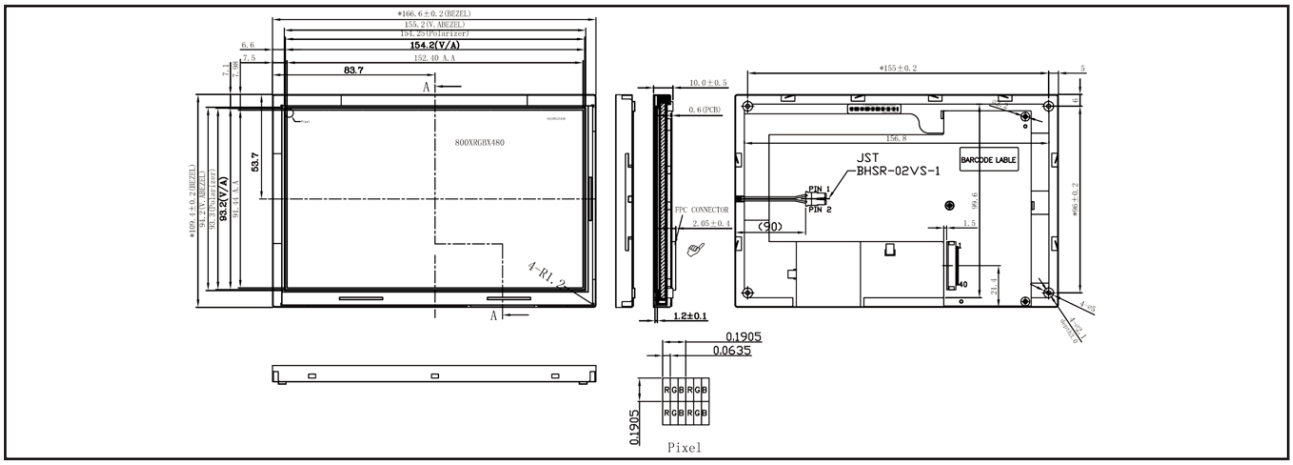
TFT TRANSMISSIVE LCD MODULES

YTS 700RLAB-02-103N

7'', 800 X 480 DOTS, 1/480 DUTY

EXTERNAL DIMENSION AND DISPLAY PATTERN



MECHANICAL DATA

ITEM	SPECIFICATION	UNIT
Module Size (W x H)	166.6 x 109.4 x 10.0	mm
Active Area (W x H)	152.4 x 91.44	mm
Viewing Direction	6:00	o´clock
Number of Dots	800 (RGB) x 480	dots
Color Sturation (NTSC)	16M	%

PIN CONFIGURATION

PIN	SYMBOL	I/O	SIGNAL DESCRIPTION
1-4	V_{CC}	I	+3.3V Power Supply
5	NC	I	No Connection
6	DE	I	Input Data Enable Control
7	V_{SS}	I	Ground
8	NC	I	No Connection
9	V_{SS}	I	Ground
10	NC	I	No Connection
11	V_{SS}	I	Ground
12	B_5	I	Blue Data 5 (MSB)
13	B_4	I	Blue Data 4
14	B_3	I	Blue Data 3
15	V_{SS}	I	Ground
16	B_2	I	Blue Data 2
17	B_1	I	Blue Data 1
18	B_0	I	Blue Data 0 (LSB)
19	V_{SS}	I	Ground
20	G_5	I	Green Data 5 (MSB)
21	G_4	I	Green Data 4
22	G_3	I	Green Data 3
23	V_{SS}	I	Ground
24	G_2	I	Green Data 2
25	G_1	I	Green Data 1
26	G_0	I	Green Data 0 (LSB)
27	V_{SS}	I	Ground
28	R_5	I	Red Data 5 (MSB)
29	R_4	I	Red Data 4
30	R_3	I	Red Data 3
31	GND	I	Ground
32	R_2	I	Red Data 2
33	R_1	I	Red Data 1
34	R_0	I	Red Data 0 (LSB)
35	NC	I	No Connection
36-37	V_{SS}	I	Ground
38	DCLK	I	Dot Clock
39-40	V_{SS}	I	Ground

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	MIN.	MAX.	UNIT
Power Supply Voltage (1)	V_{CC}	-0.3	7.0	V
Power Supply Voltage (2)	V_{DDA}	-0.3	13.5	V
Logic Output oltage	V_{OUT}	-0.3	7.0	V
Input Voltage	V_{IN}	-0.3	V_{DDA}+0.3	V
Operating Temperature	See page 8			
Storage Temperature				

Note (1): All of the voltage listed above are with respective to GND=V_{SSA}=0V
Note (2): Device is subject to be dmaged permanently if stresses beyond those absolute maximum ratings listed above.

ELECTRICAL CHARACTERISTICS, Ta = 25°C

ITEM	SYMBOL	CONDITION	SPEC. VALUE			UNIT
			MIN.	TYP.	MAX.	
TFT Gate ON Voltage	V_{GH}		16.0	18.0	19.0	V
TFT Gate OFF Voltage	V_{GL}	Ta=+25°C	-7.0	-6.0	-5.0	V
TFT Common Electrode Voltage	V_{comDC}		4.5	4.6	5.1	V

Note (3): V_{com} must be adjusted to optimize display quality: cross talk, contrast ratio and etc.
Note (4): V_{GH} is TFT gate operating voltage.
Note (5): V_{GL} is TFT gate operating voltage.
Note (6): Environmental condition: 25°C±5°C.
Note (7): Digital Power Input of Driver IC: V_{CC} min. ≥ 3.2V
Note (8): Operating Voltage V_{CC}=3.3V

BACKLIGHTING CHARACTERISTICS, Ta = 25°C, LED

ITEM	SYMBOL	CONDITION	SPEC. VALUE			UNIT
			MIN.	TYP.	MAX.	
Forward Voltage	V_f	I_F=200mA	9.0	9.9	10.5	V
Forward Current	I_F			200		mA
Power Dissipation	P_d			1.98		W
Luminous Intensity	L_V	I_F=200mA	3800	4000		cd/m²
Permeation LCD	I_V		450			cd/m²
Luminous Uniformity	ΔL_V		75	80		%
Chromaticity Coordinate	X	I_F=20mA, Ta=25°C each chip	0.28	0.31	0.34	
	Y		0.28	0.31	0.34	

Note (9): Operating temperature range Topr -20°C to +70°C; Storage temperature range Tsty -30°C to +80°C.
Note (10): Pin 1 = V_{LED_A} = Red, LED_Anode; Pin 2 = V_{LED_K} = Black, LED_Cathode.

digital electronic gmbh • Tel. +49 (0) 8221/708-0 Fax. +49 (0) 8221/708-80

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TIMING OF POWER SUPPLY: SYNC MODE

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
CLK Frequency	F_{CPH}		33.26		MHz
CLK Period	T_{CPH}		30.06		ns
CLK Pulse Duty	T_{CWH}	40	50	60	%
HS Period	T_H		1056		T_{CPH}
HS Pulse Width	T_{WH}	1	128		T_{CPH}
HS-first Horizontal Data Time	T_{HS}		STHD [7;0] +88 (1)		T_{CPH}
HS Active Time	T_{HA}		800		T_{CPH}
VS Period	T_V		525		T_H
VS Pulse Width	T_{WV}	1	2		T_H
VS DE Time	T_{VS}		STVD [6;0] +8		T_H
VS Active Time	T_{VA}		480		T_H

Note (1): $T_{HS} + T_{HA} < T_H$.

TIMING OF POWER SUPPLY: DE MODE

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
CLK Frequency	F_{CPH}		33.26		MHz
CLK Period	T_{CPH}		30.06		ns
CLK Pulse Duty	T_{CWH}	40	50	60	%
DE Period	$T_{DEH} + T_{DEL}$	1000	1056	1200	T_{CPH}
VS Pulse Width	T_{DH}		800		T_{CPH}
VS DE Time	T_{HS}	10	45	110	$T_{DEH} + T_{DEL}$
VS Active Time	T_{EP}		480		
OEV Pulse Width	T_{OEV}		150		
CKV Pulse Width	T_{CKV}		133		
DE Internal-STV Time	T_1		4		
DE Internal-CKV Time	T_2		40		
DE Internal-OEV Time	T_3		23		
DE Internal-POL Time	T_4		157		
STV Pulse Width			1		

Note (1): $T_{HS} + T_{HA} < T_H$.

CLOCK AND DATA INPUT WAVEFORM