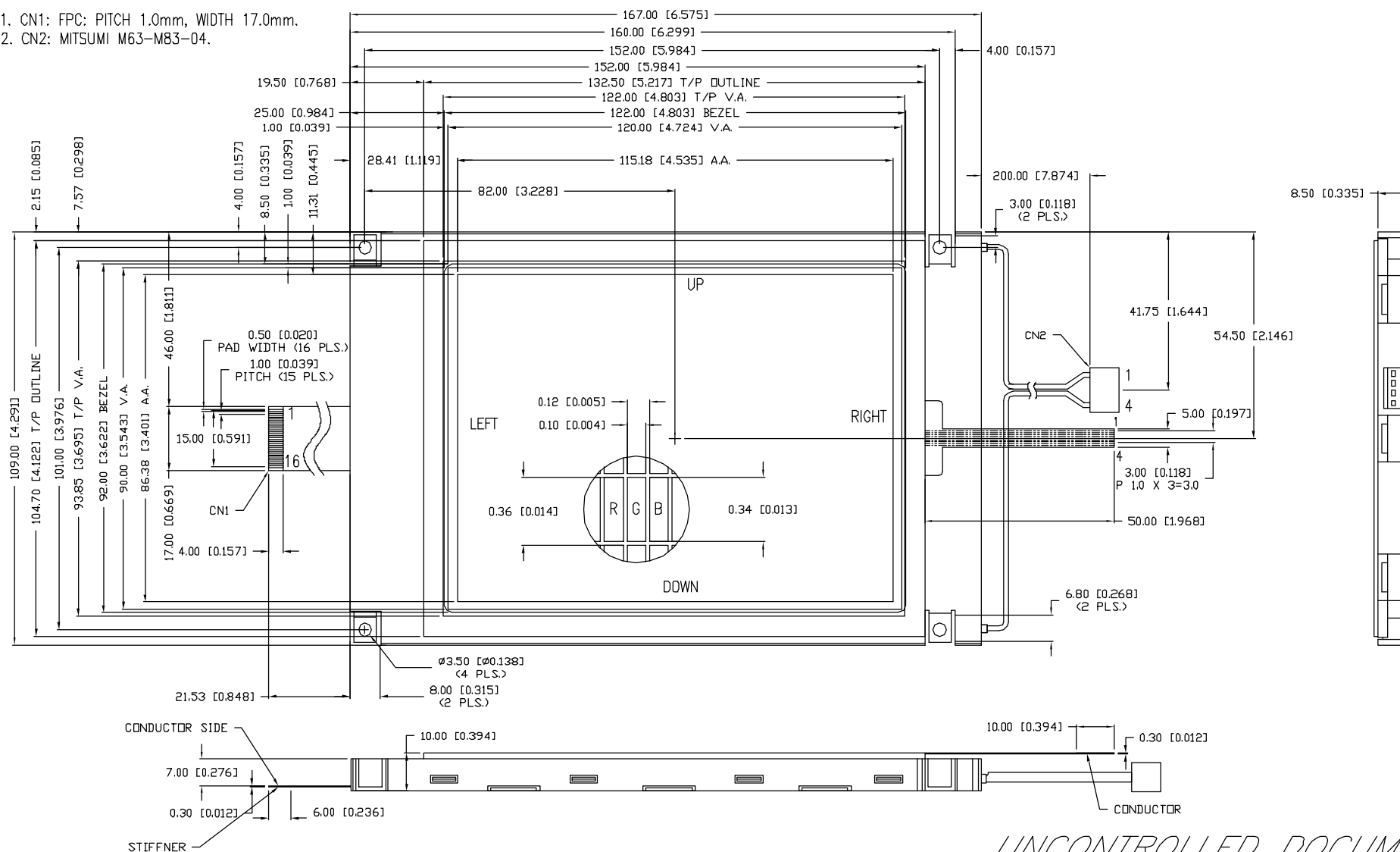


NOTES:

1. CN1: FPC: PITCH 1.0mm, WIDTH 17.0mm.
2. CN2: MITSUMI M63-M83-04.



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REV.

PART NUMBER

LCM-S320240GCN-57G

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PAGE: 1 OF 6

SCALE: N/A

5.7" COLOR STN, 320 x 240 GRAPHIC MODULE,
NEGATIVE, TRANSMISSIVE, CCFL BACKLIGHT, 1/242 DUTY,
6:00 VIEW, WEIGHT: 230g, ANALOG 4 WIRE TOUCH PANEL.

PIN CONFIGURATION CN1

PIN NO.	SYMBOL	LEVEL	FUNCTION
1	FLM	-	FIRST LINE MARKER
2	CL1	H/L	INPUT DATA LATCH SIGNAL (LOAD)
3	CL2	H/L	DATA SHIFT CLOCK (CP)
4	DISPOFF	-	DISPLAY CONTROL SIGNAL H:ON, L:OFF
5	VDD	-	LOGIC SUPPLY VOLTAGE
6	VSS	-	GND
7	VLCD	-	POWER SUPPLY FOR LCD DRIVER
8	D0	H/L	DISPLAY DATA
9	D1	H/L	DISPLAY DATA
10	D2	H/L	DISPLAY DATA
11	D3	H/L	DISPLAY DATA
12	D4	H/L	DISPLAY DATA
13	D5	H/L	DISPLAY DATA
14	D6	H/L	DISPLAY DATA
15	D7	H/L	DISPLAY DATA
16	VSS	-	GND

INPUT DATA ALLOCATION TABLE

DATA SIGNAL	D 7	D 6	D 5	D 4	D 3	D 2	D 1	D 0	D 7	D 6	D 5	D 4	D 3	D 2	D 1	D 0
Y	1	2	3	4	5	6	7	8	9	10	11	12	9	9	9	9
X	1	2	3	4	5	6	7	8	9	10	11	12	5	5	5	5
1	R	G	B	R	G	B	R	G	B	R	G	B	G	B	R	G
2	R	G	B	R	G	B	R	G	B	R	G	B	G	B	R	G
3	R	G	B	R	G	B	R	G	B	R	G	B	G	B	R	G
4	R	G	B	R	G	B	R	G	B	R	G	B	G	B	R	G
5	R	G	B	R	G	B	R	G	B	R	G	B	G	B	R	G
6	R	G	B	R	G	B	R	G	B	R	G	B	G	B	R	G
7	R	G	B	R	G	B	R	G	B	R	G	B	G	B	R	G
8	R	G	B	R	G	B	R	G	B	R	G	B	G	B	R	G
9	R	G	B	R	G	B	R	G	B	R	G	B	G	B	R	G
10	R	G	B	R	G	B	R	G	B	R	G	B	G	B	R	G
238	R	G	B	R	G	B	R	G	B	R	G	B	G	B	R	G
239	R	G	B	R	G	B	R	G	B	R	G	B	G	B	R	G
240	R	G	B	R	G	B	R	G	B	R	G	B	G	B	R	G

R: RED G: GREEN B: BLUE

PIN CONFIGURATION CN2

PIN NO.	SYMBOL	FUNCTION
1	H.V.	POWER SUPPLY VOLTAGE FOR CCFL
2	-	-
3	-	-
4	GND	CCFL GND

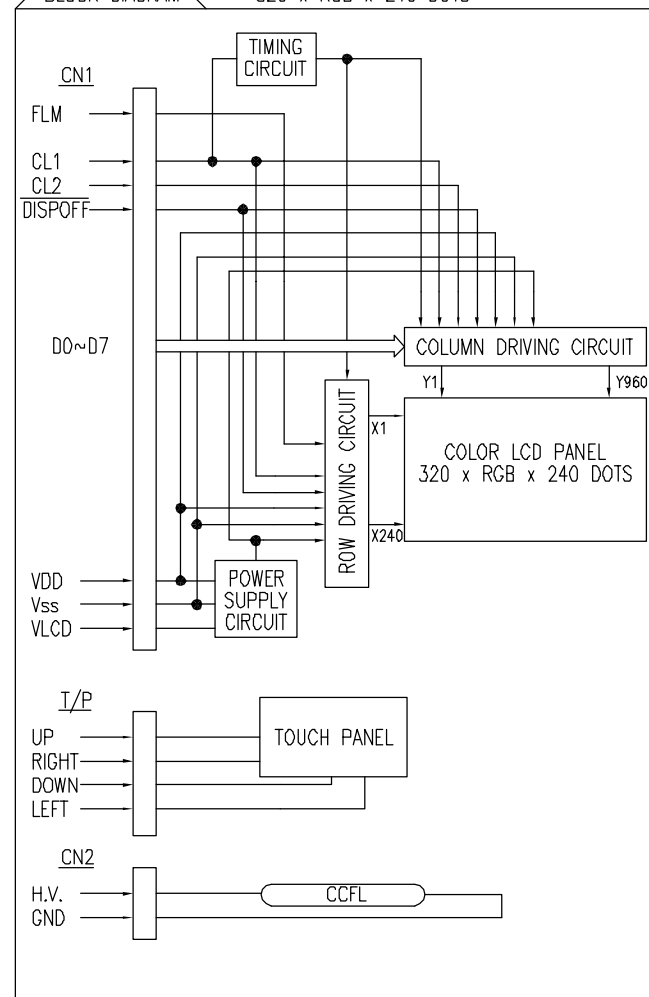
PIN CONFIGURATION T/P

SUITABLE FPC: PITCH 1mm, WIDTH 5mm.

PIN NO.	SYMBOL	FUNCTION
1	UP	UP DIRECTION
2	RIGHT	RIGHT DIRECTION
3	DOWN	DOWN DIRECTION
4	LEFT	LEFT DIRECTION

BLOCK DIAGRAM

320 x RGB x 240 DOTS



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REV.

PART NUMBER

LCM-S320240GCN-57G

5.7" COLOR STN, 320 x 240 GRAPHIC MODULE,
NEGATIVE, TRANSMISSIVE, CCFL BACKLIGHT, 1/242 DUTY,
6:00 VIEW, WEIGHT: 230g, ANALOG 4 WIRE TOUCH PANEL.

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ELECTRICAL CHARACTERISTICS FOR LCD

ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT
			MIN.	TYP.	MAX.	
SUPPLY VOLTAGE FOR LOGIC	V _{DD}	V _{DD} - V _{SS}	4.5	5.0	5.5	V
POWER SUPPLY CURRENT LOGIC	I _{DD}	V _{DD} =5.0V	—	1.0	5.0	mA
POWER SUPPLY CURRENT LCD	I _{EE}	V _{LCD} =22.5V	—	6.5	13.0	mA
RECOMMENDED LCD DRIVING VOLTAGE	V _{LCD} - V _{SS}	DUTY=1/242 BIAS=1/15 T _a =0°C	—	(23.6)	—	V
		T _a =25°C	22.0	22.5	23.0	
		T _a =50°C	—	(21.4)	—	
INPUT SIGNAL VOLTAGE (NOTE 1)	V _{IH}	"H" LEVEL	0.8V _{DD}	—	V _{DD}	V
	V _{IL}	"L" LEVEL	0	—	0.2V _{DD}	
FRAME FREQUENCY (NOTE 2)	f _{FLM}	—	115	120	125	Hz
CCFL BACKLIGHT	STARTING VOLTAGE	V _S T _a =5°C	—	350	—	V _{rms}
	LAMP VOLTAGE	V _L T _a =25°C	—	325	—	V _{rms}
	FREQUENCY	f _L T _a =25°C	40	60	80	KHz
	LAMP CURRENT	I _L T _a =25°C	5.0	5.5	6.0	mA _{rms}
	BRIGHTNESS	—	80	100	—	cd/m ²
LIFE HOURS	—	—	10000	20000	—	HOURS

CAUTION:

1. FLM, CL1, CL2, DISPOFF, D0~D7.
2. MAKE SURE THAT THERE IS NO FLICKER AND RIPPLE PHENOMENON WHEN SETTING THE FRAME FREQUENCY.
3. STARTING DISCHARGE VOLTAGE IS INCREASED WHEN LCM IS OPERATING AT LOW TEMPERATURES.
4. AVERAGE LIFE TIME OF CCFL WILL BE DECREASED WHEN LCM IS OPERATED AT LOW TEMPERATURES.

ELECTRICAL CHARACTERISTICS FOR TP

ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT
			MIN.	TYP.	MAX.	
RATING VOLTAGE	V _R	—	—	—	7.0	V
RESISTANCE OF ELECTRODES	R _{etd}	X-ELECTRODE	400	—	900	Ω
		Y-ELECTRODE	200	—	500	
INSULATION RESISTANCE	R _{off}	V _{DC} =25V	10	—	—	MΩ
LINEARITY	L	—	—	—	1.5	%
ACTIVATION FORCE	F _{on}	NOTE(1)	5	—	50	g
SURFACE HARDNESS	Sh	—	3	—	—	H
TRANSPARENCY	—	—	75	80	—	%
CHATTERING	—	NOTE(1)	—	—	20	ms

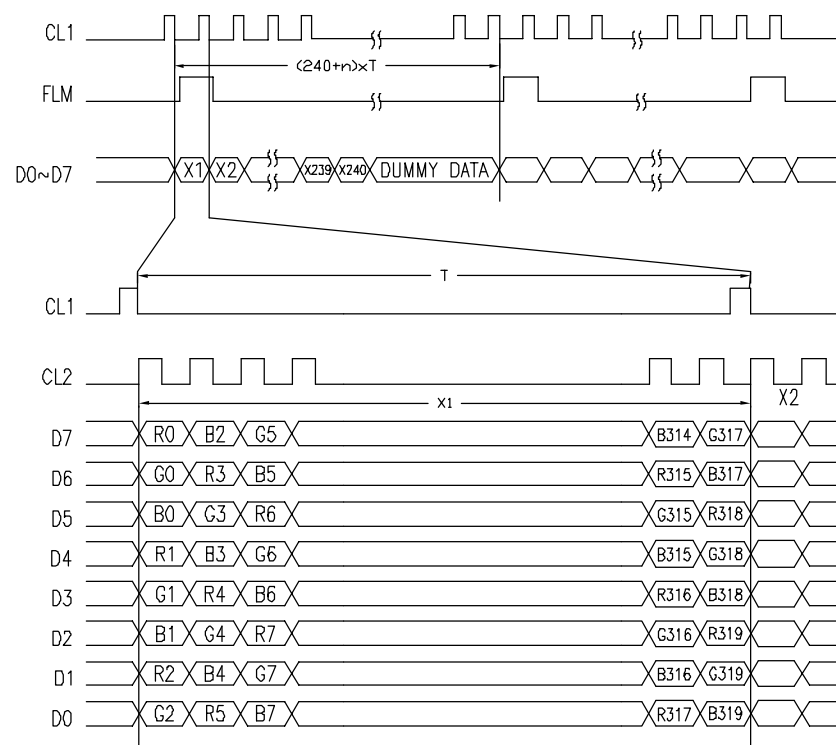
NOTES:

1. HOLD AN R0.8 POLYACETAL STYLUS AND TURN IT ON/OFF WITH THE SAME SPEED AS USUAL FINGER INPUT.

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LCM-S320240GCN-57G

INTERFACE TIMING CHART



ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
			MIN	MAX	
SUPPLY VOLTAGE FOR LOGIC	V _{DD} -V _{SS}	T _a =25°C	-0.3	7.0	V
POWER SUPPLY FOR LCD DRIVER	V _{LCD} -V _{SS}	T _a =25°C	0.0	45.0	V
INPUT VOLTAGE	V _I	T _a =25°C	-0.3	V _{DD} +0.3	V
OPERATING TEMPERATURE*	T _{opr}	—	0	+50	°C
STORAGE TEMPERATURE	T _{stg}	—	-20	+60	°C

REV.

PART NUMBER

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5.7" COLOR STN, 320 x 240 GRAPHIC MODULE,
NEGATIVE, TRANSMISSIVE, CCFL BACKLIGHT, 1/242 DUTY,
6:00 VIEW, WEIGHT: 230g, ANALOG 4 WIRE TOUCH PANEL.

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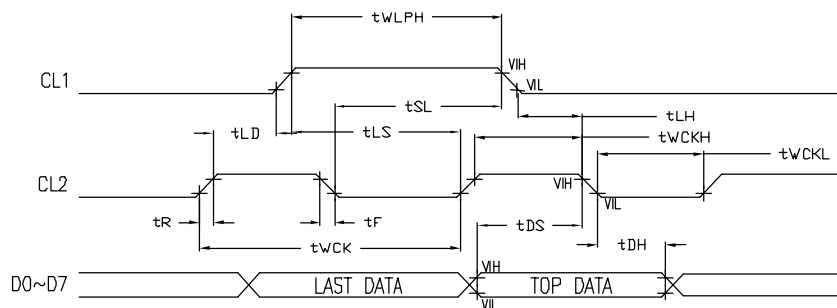
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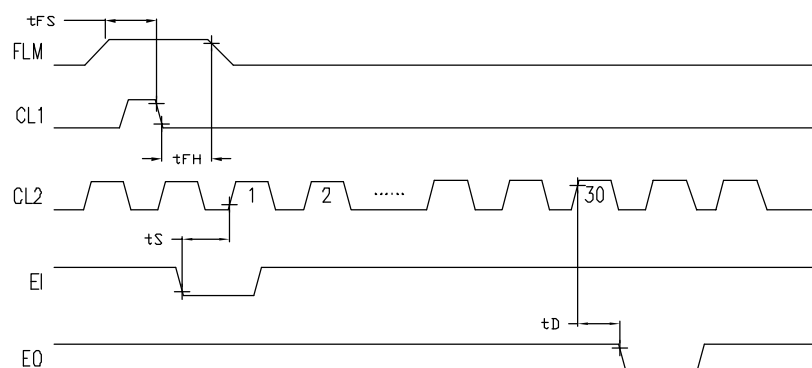
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SCALE: N/A

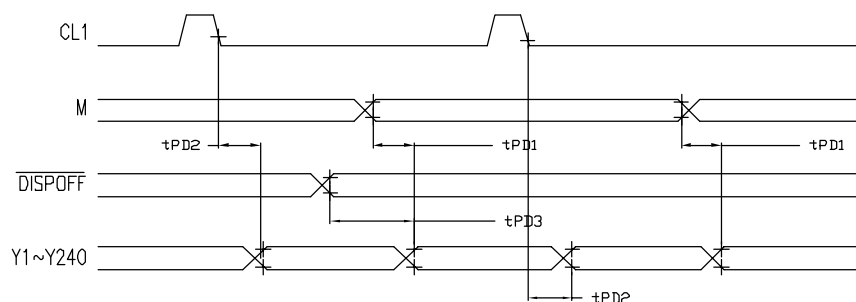
INPUT TIMING CHARACTERISTIC



INPUT/OUTPUT TIMING CHARACTERISTIC



INPUT/OUTPUT TIMING CHARACTERISTIC



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AC CHARACTERISTICS

(VDD = 3.0~4.5V, VSS = 0V, Ta = 0°C~+50°C)

ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT
			MIN.	TYP.	MAX.	
SHIFT CLOCK PERIOD	tWCK	—	66	—	—	ns
SHIFT CLOCK "H" PULSE WIDTH	tWCKH	—	23	—	—	ns
SHIFT CLOCK "L" PULSE WIDTH	tWCKL	—	23	—	—	ns
DATA SETUP TIME	tDS	—	10	—	—	ns
DATA HOLD TIME	tDH	—	25	—	—	ns
LATCH PULSE "H" PULSE WIDTH	tWLPH	—	30	—	—	ns
SHIFT CLOCK RISE TO LATCH PULSE RISE TIME	tLD	—	10	—	—	ns
SHIFT CLOCK FALL TO LATCH PULSE FALL TIME	tSL	—	30	—	—	ns
LATCH PULSE RISE TO SHIFT CLOCK RISE TIME	tLS	—	30	—	—	ns
LATCH PULSE FALL TO SHIFT CLOCK FALL TIME	tLH	—	30	—	—	ns
ENABLE SETUP TIME	tS	—	12	—	—	ns
INPUT SIGNAL RISE TIME	tR	—	—	—	50	ns
INPUT SIGNAL FALL TIME	tF	—	—	—	50	ns
OUTPUT DELAY TIME(1)	tD	—	—	—	44	ns
OUTPUT DELAY TIME(2)	tPD1	—	—	—	1.2	ns
OUTPUT DELAY TIME(3)	tPD2	—	—	—	1.2	ns
OUTPUT DELAY TIME(4)	tPD3	—	—	—	1.2	ns
FLM SETUP TIME	tFS	—	30	—	—	ns
FLM HOLD TIME	tFH	—	50	—	—	ns

REV.

PART NUMBER

LCM-S320240GCN-57G

5.7" COLOR STN, 320 x 240 GRAPHIC MODULE,
NEGATIVE, TRANSMISSIVE, CCFL BACKLIGHT, 1/242 DUTY,
6:00 VIEW, WEIGHT: 230g, ANALOG 4 WIRE TOUCH PANEL.

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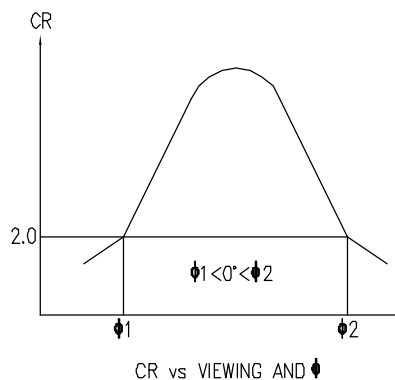
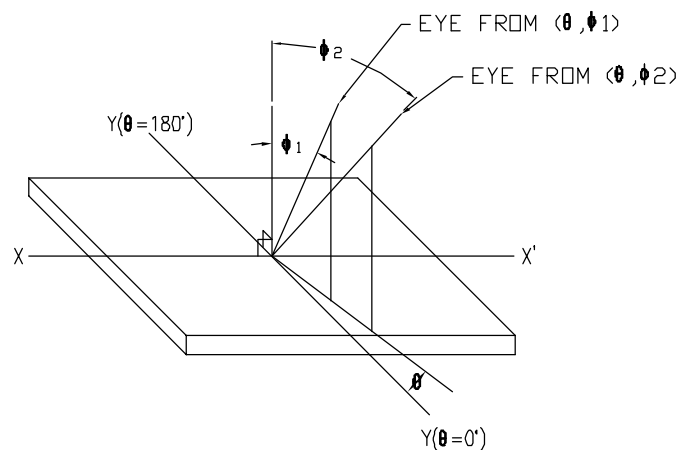
PAGE: 4 OF 6

SCALE: N/A

OPTICAL CHARACTERISTICS			Ta=25°C (BACKLIGHT ON)						
ITEM			SYMBOL	CONDITION	STANDARD VALUE			UNIT	
					MIN.	TYP.	MAX.		
VIEWING ANGLE RANGE			φ1,φ2	θ=0° CR≥2	—	40	—	DEG.	
CONTRAST RATIO			CR	θ=0°,φ=0°	—	40	—	—	
CHROMATICITY COORDINATES			R	X	θ=0°, φ=0°	0.44	0.49	0.54	—
				Y		0.30	0.35	0.40	—
			G	X		0.28	0.33	0.38	—
				Y		0.44	0.49	0.54	—
			B	X		0.15	0.20	0.25	—
				Y		0.16	0.21	0.26	—
			W	X		0.27	0.32	0.37	—
				Y		0.30	0.35	0.40	—
RESPONSE TIME	RISE: NOTE 1	Tr	—	250	—	ms			
	FALL: NOTE 2	Tf	—	200	—				

NOTES:

1. THE TIME THAT THE LUMINANCE LEVEL REACHES 90% OF FULL BRIGHTNESS LEVEL FROM 0% WHEN "ON" SIGNAL IS APPLIED.
2. THE TIME THAT THE LUMINANCE LEVEL REACHES 10% OF FULL BRIGHTNESS LEVEL FROM 100% WHEN "OFF" SIGNAL IS APPLIED.



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LCM-S320240GCN-57G

5.7" COLOR STN, 320 x 240 GRAPHIC MODULE,
NEGATIVE, TRANSMISSIVE, CCFL BACKLIGHT, 1/242 DUTY,
6:00 VIEW, WEIGHT: 230g, ANALOG 4 WIRE TOUCH PANEL.

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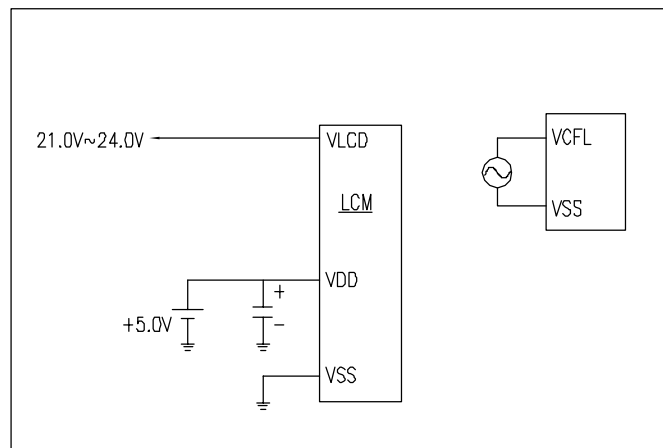
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POWER SUPPLY FOR LCM

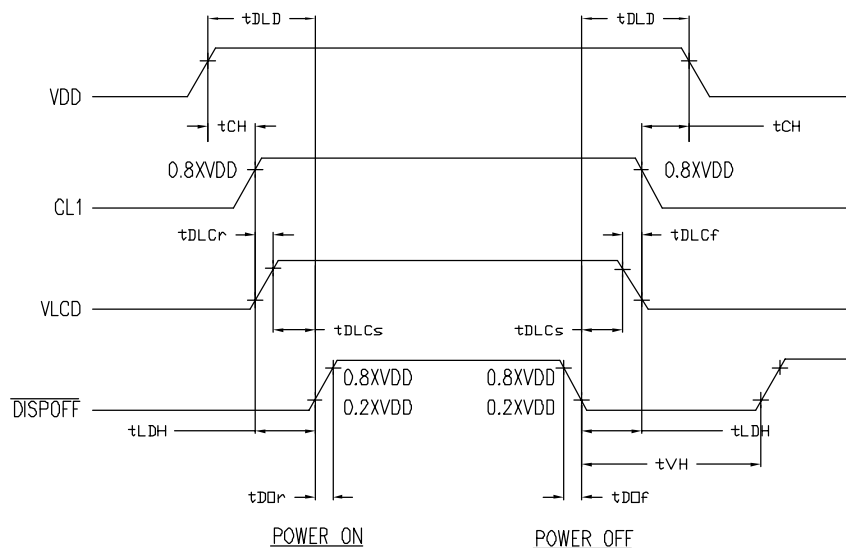


POWER SUPPLY SEQUENCE

SYMBOL	MIN.	MAX.	UNIT
t_{DLD}	200	—	ms
t_{CH}	0	—	ms
t_{LDH}	20	—	ms
t_{DOr}	—	100	ns
t_{DOF}	—	100	ns
t_{DLCr}	0	—	ms
t_{DLCf}	0	—	ms
t_{DLCs}	20	—	ms
t_{vH}	200	—	ms

WARNING:

1. POWER ON/OFF SHOULD BE PERFORMED USING DISPOFF FUNCTION.
2. INCORRECT POWER SUPPLY SIGNAL SEQUENCE MAY CAUSE PERMANENT DAMAGE TO THE LCD.



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