



VARITRONIX

VL-FS-VI_321_V00 REV.A

(VI_321_DP-RC)

JAN/2007

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DOCUMENT NUMBER AND REVISION

VL-FS-VI_321_V00 REV. A

(VI_321-DP-RC)

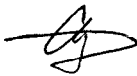


DOCUMENT TITLE:

SPECIFICATION

OF

LCD TYPE

MODEL NUMBER: VI_321_V00

DEPARTMENT	NAME	SIGNATURE	DATE
PREPARED BY	PHILIP CHENG		2007-01-26
CHECKED BY	ZHANG HUAI PING		2007-01-26
APPROVED BY	CYRUS CHEUNG		2007/1/26

DISTRIBUTION LIST: MARKETING

DOCUMENT REVISION HISTORY

DOCUMENT REVISION FROM TO	DATE	DESCRIPTION	CHANGED BY	CHECKED BY
A	2007.01.25	First Release. (Based on LCD Specifications: VI_321_V00, 2000.01.17, and counter drawing VI_321_DP(Rev. 0)).	PHILIP CHENG	ZHANG HUAI PING , HU JIN PING

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Specification of LCD Type Model No.: VI_321_V00

1. General Description

- Segments and icons LCD display.
- Positive, TN, grey, reflective mode.
- Viewing angle: 6 o'clock.
- Driving scheme: static.
- Bonded pins (length = 6.35+/-0.5mm).

2. Mechanical Specifications

The mechanical detail is shown in Fig. 1 to Fig. 5 and summarized in Table 1 below.

Table 1

Parameter	Specifications	Unit
Outline dimensions	31.12(W) x 22.86(H) x 2.80(D) (Exclude pins. Include LCD end-seal.)	mm
Display format	Segments and icons	-
Viewing area	25.40 MIN.(W) x 12.70 MIN.(H)	mm
Weight	Approx. 3.6312	grams



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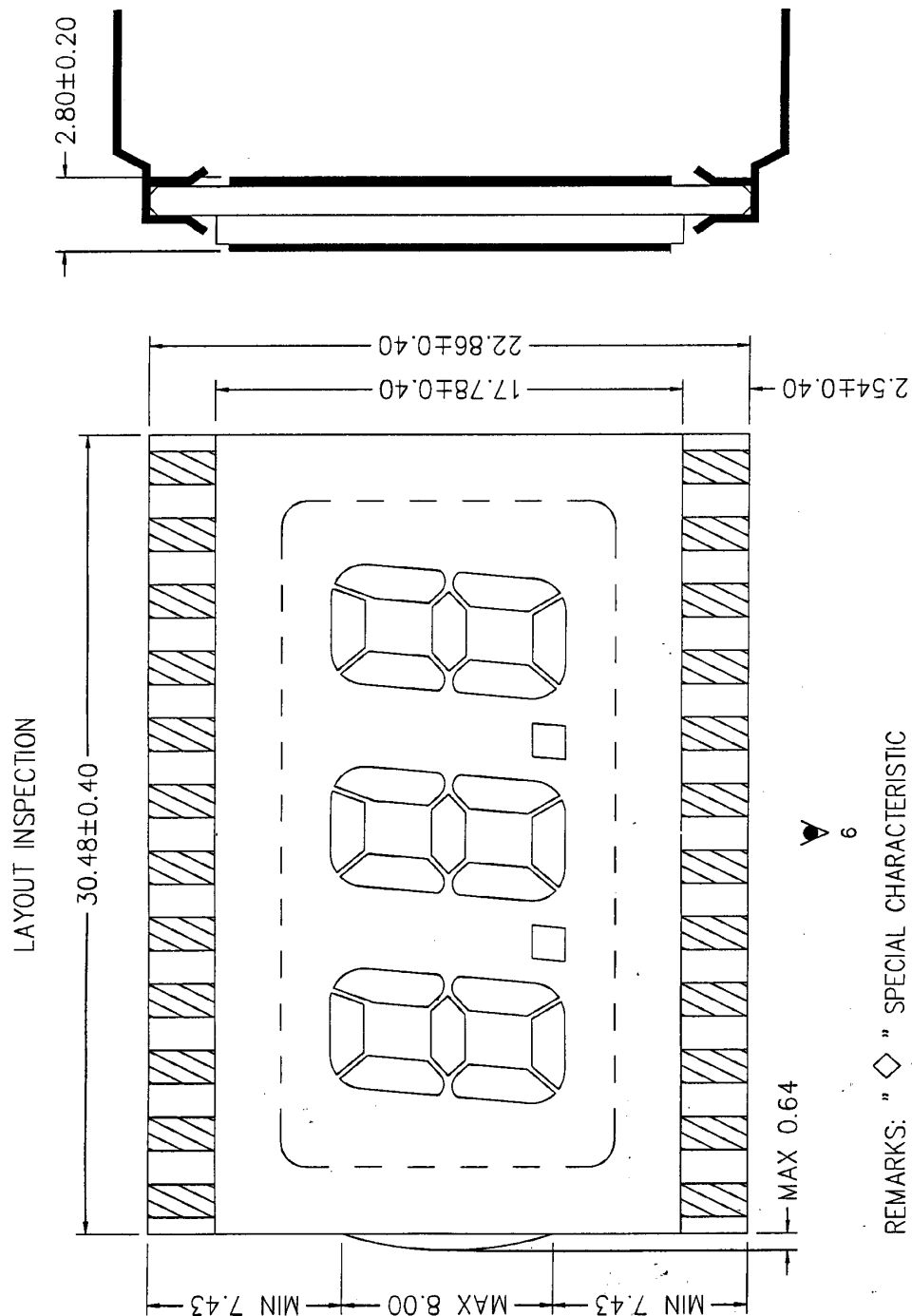
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3. LCD Specifications



REMARKS: "◇" " SPECIAL CHARACTERISTIC
" + " SAFETY CHARACTERISTIC
" () " REFERENCE ONLY
" ▽ " CRITICAL DIMENSION

VARITRONIX LTD.	Dimension : mm	TOL : 50% IF NOT SPECIFY	DO NOT SCALE DRAWING	3 rd ANGLE PROJECTION
REV. 0	Drawn by : YIN	SIGN : YIN	Date : 2002-07-05	
VI-321-DP0	Checked by : MAKU	SIGN : MAKU	Date : 2002/3/16	

Figure 1: LCD Drawing 1

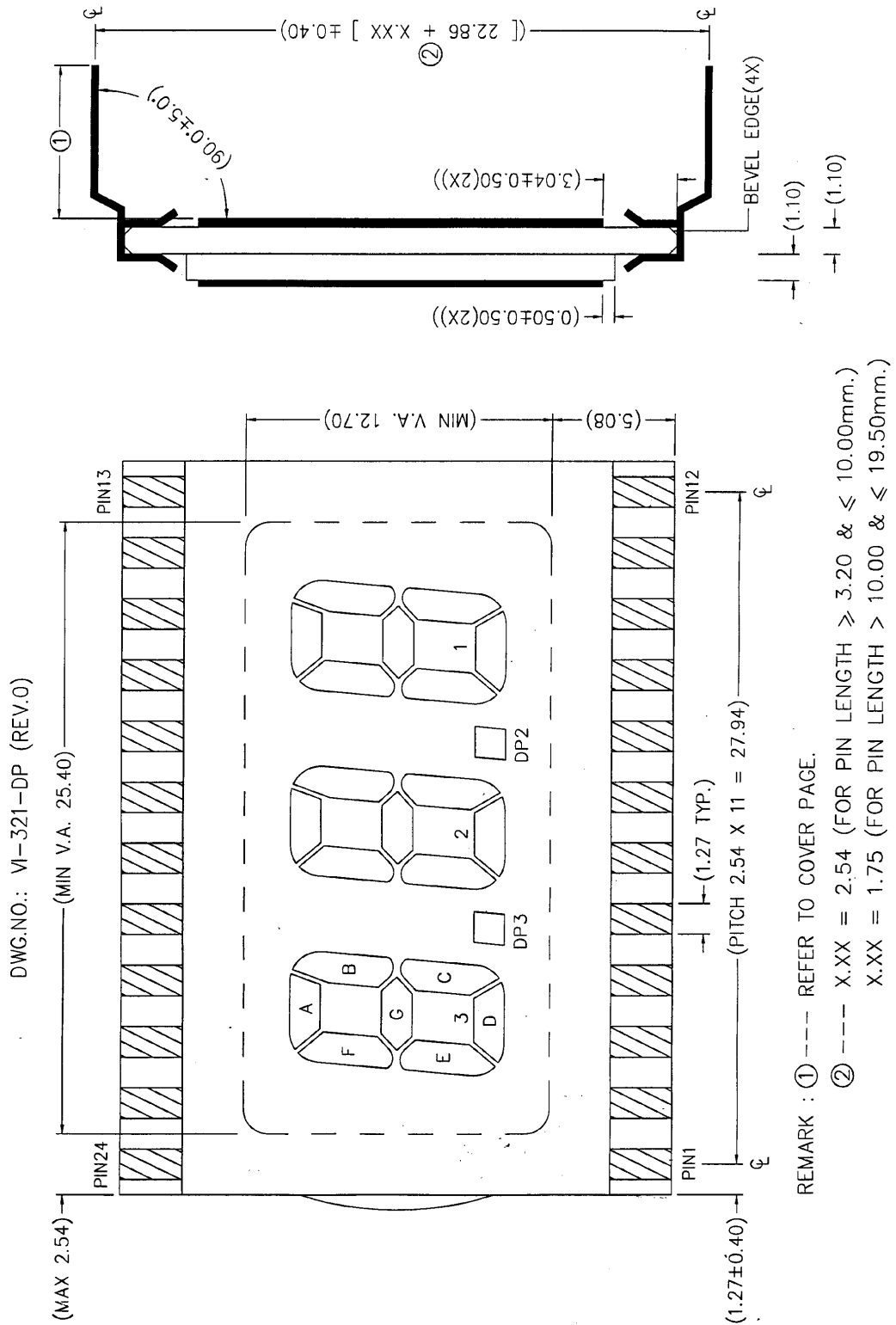


Figure 2: LCD Drawing 2

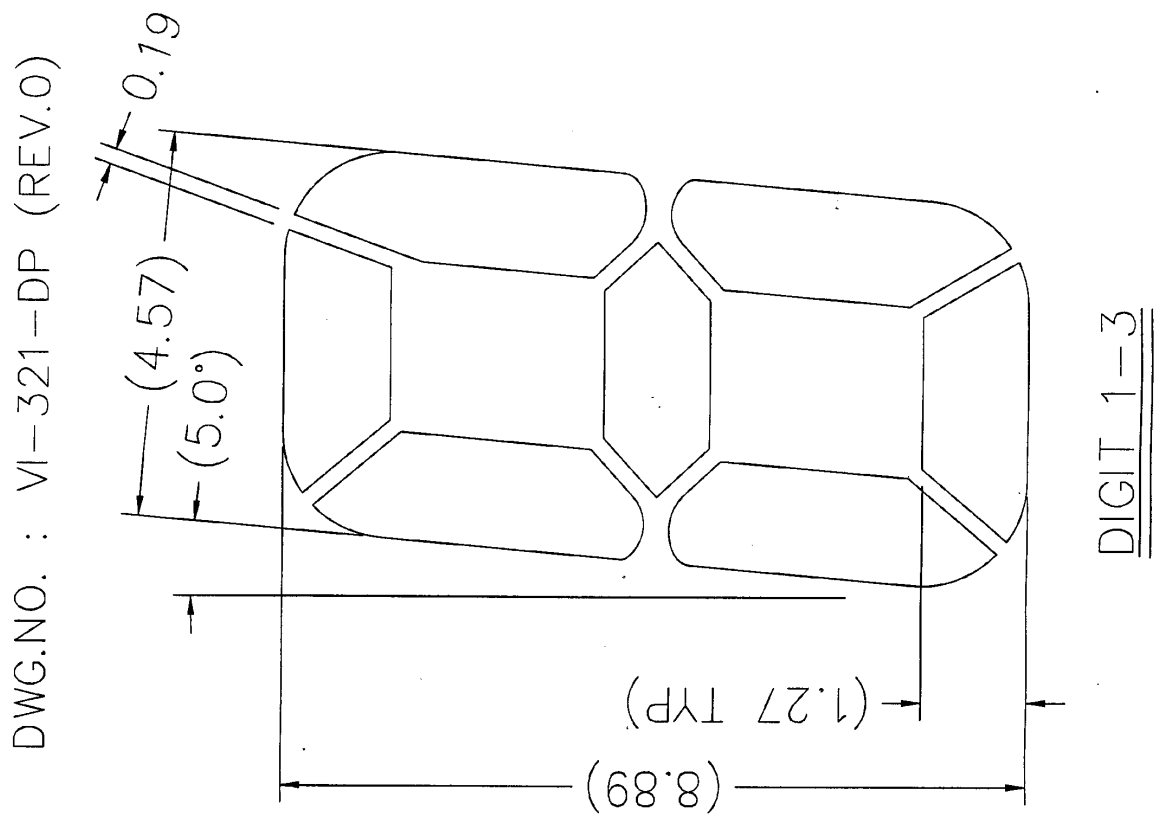


Figure 3: LCD Drawing 3

DWG.NO. : VI-321-DP (REV.0)

PIN	COM	PIN	COM
1	3E	13	1A
2	3D	14	1F
3	3C	15	1G
4	3DP	16	2B
5	2E	17	2A
6	2D	18	2F
7	2C	19	2G
8	2DP	20	3B
9	1E	21	3A
10	1D	22	3F
11	1C	23	3G
12	1B	24	COM

Figure 4: LCD Drawing 4

VARITRONIX LIMITED POLARIZER LOCATION DIAGRAM	OPEN LAYER :		SCALE
	p		Do not scale
	Drawn by :	YIN	Date : 2002/07/05
	Checked by :	MAKO	Date : 2002/07/05
DOC. NO. : PL-VI-321-DP-01		Approved by :	Date : 2002/07/05

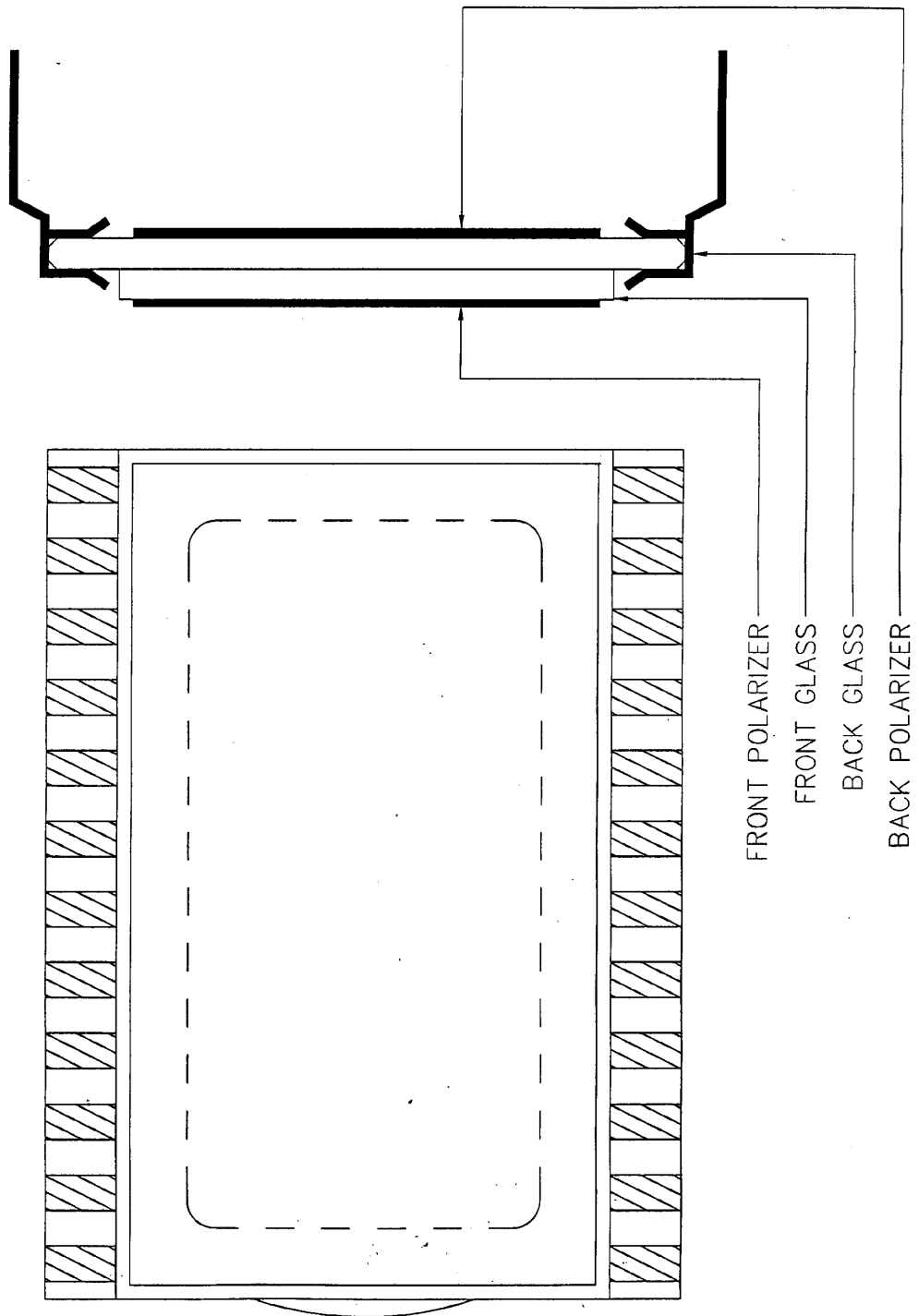


Figure 5: LCD Drawing 5

4. Environmental Condition

Table 2

Item	Operating temperature (Topr)		Storage temperature (Tstg) (Note 1)		Remark
	Min.	Max.	Min.	Max.	
Ambient temperature	-20°C	+60°C	-20°C	+60°C	Dry
Humidity (Note 1)	90% max. RH for $T_a \leq 40^\circ\text{C}$ < 50% RH for $40^\circ\text{C} < T_a \leq$ Maximum operating temperature				No condensation
Vibration (IEC 68-2-6) cells must be mounted on a suitable connector	Frequency: 10 ~ 55 Hz Amplitude: 0.75 mm Duration: 20 cycles in each direction.				3 directions
Shock (IEC 68-2-27) Half-sine pulse shape	Pulse duration: 11 ms Peak acceleration: $981 \text{ m/s}^2 = 100\text{g}$ Number of shocks: 3 shocks in 3 mutually perpendicular axes.				3 directions

Note 1: Product cannot sustain at extreme storage conditions for long time.

5. Electro-Optical Characteristics

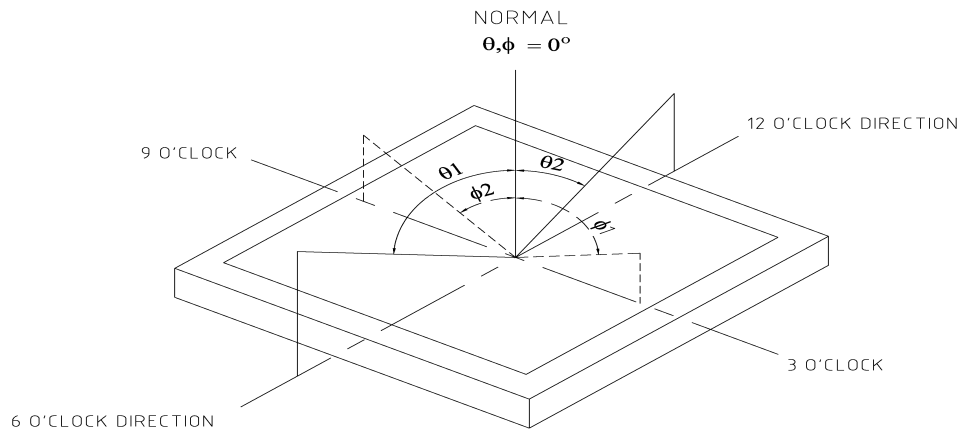
Table 3

Item	Symbol	Temp. °C	Value			Unit	Condition	
			Min.	Typ.	Max.			
Driving voltage	Vop	+25	-	3.0	-	V	Vop= optimum voltage	
Response time	Ton	+25	-	70	150	msec	Vop= Optimum voltage $\theta = 0^\circ, \phi = 0^\circ$	
	Toff		-	30	70			
Optimum viewing area Cr ≥ 2	θ1(6 o'clock)	+25	60	70	-	DEG	$\phi = 0^\circ$	Vop= Optimum voltage (Remark 1)
	θ2(12 o'clock)		15	25	-			
	φ1(3 o'clock)		50	60	-		$\theta = 0^\circ$	
	φ2(9 o'clock)		45	55	-			
Contrast ratio	Cr	+25	6	7	-	-	Vop = Optimum voltage $\theta = 0^\circ, \phi = 0^\circ$	

Remark 1: Due to hardware limitation, the maximum measurable angle is 70° .

5.1 Optical Characteristics Definition

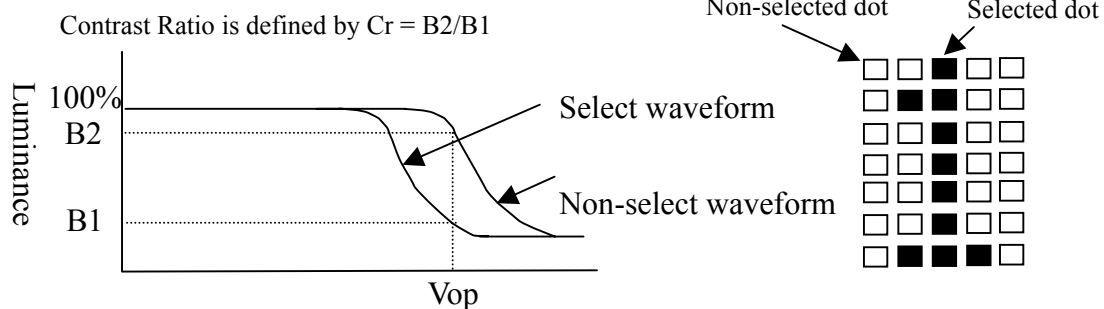
a.) Viewing Angle



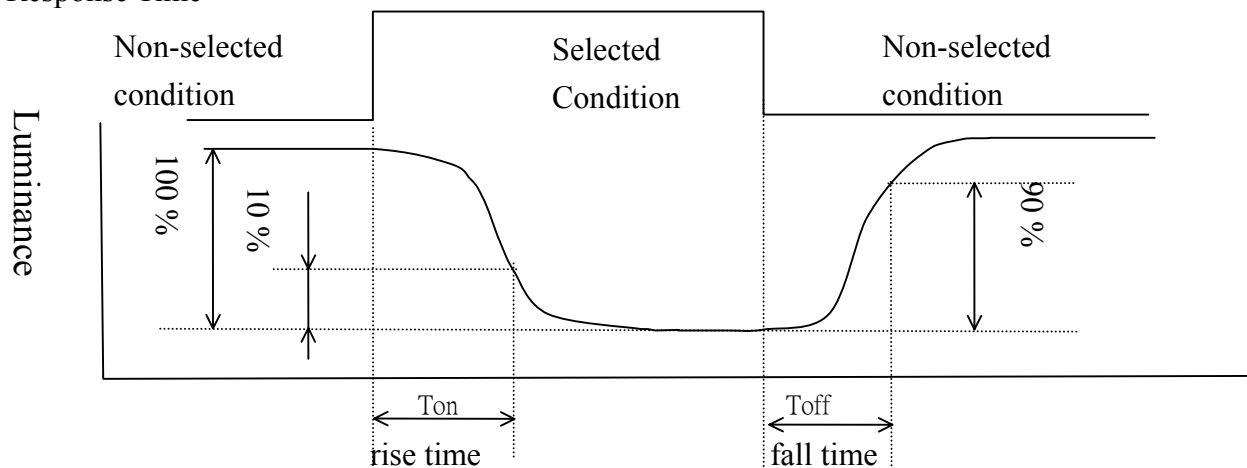
b.) Contrast Ratio

B1 = segments luminance in case of non-selected waveform

B2 = segments luminance in case of selected waveform



c.) Response Time



“Varitronix Limited reserves the right to change this specification.”

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- END -

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