



VARITRONIX

VL-FS-VI_321_V00 REV.A
(VI_321_DP-RC)
JAN/2007
PAGE 1 OF 11

DOCUMENT NUMBER AND REVISION

**VL-FS-VI_321_V00 REV. A
(VI_321-DP-RC)**

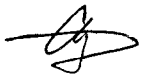
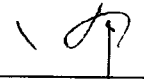

DOCUMENT TITLE:

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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VARITRONIX LIMITED

**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).

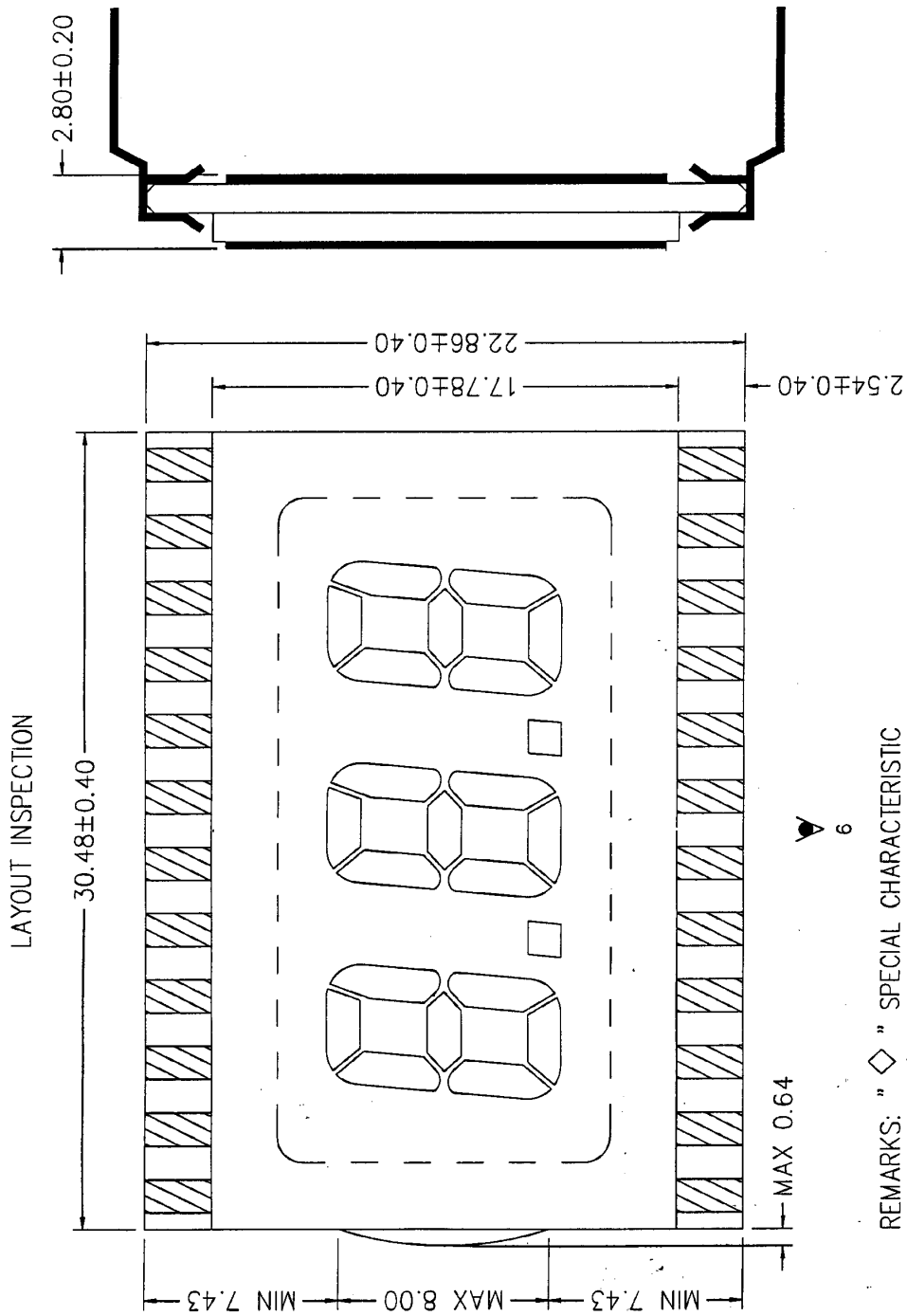
2. Mechanical Specifications

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

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° ANGLE PROJECTION
REV. 0	Drawn by : YIN	SIGN : YIN	Date : 2002-07-05	
FIGURE: VI-321-DP0	Checked by : MAKLO	SIGN : MAKLO	Date : 2002/3/16	

Figure 1: LCD Drawing 1

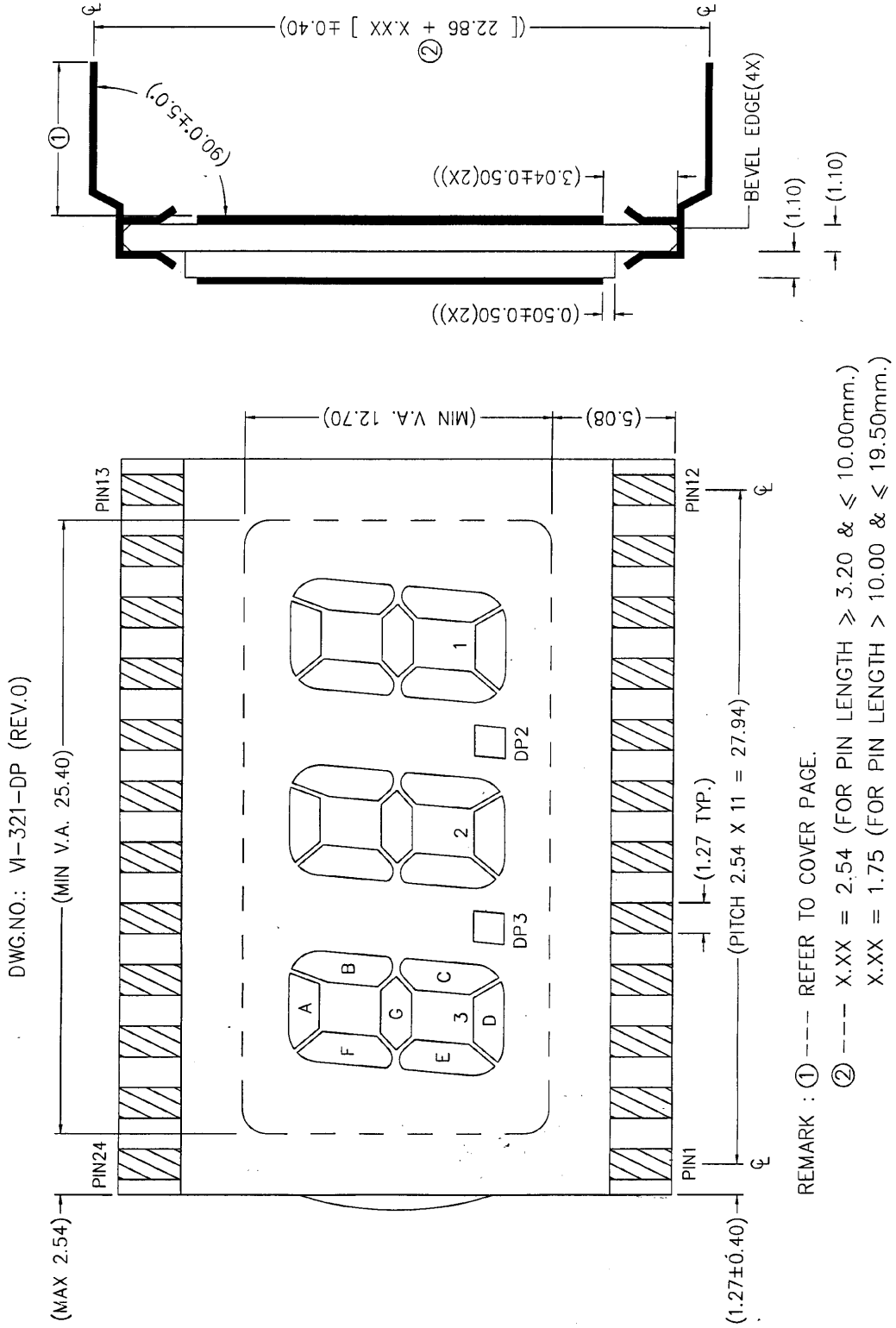


Figure 2: LCD Drawing 2

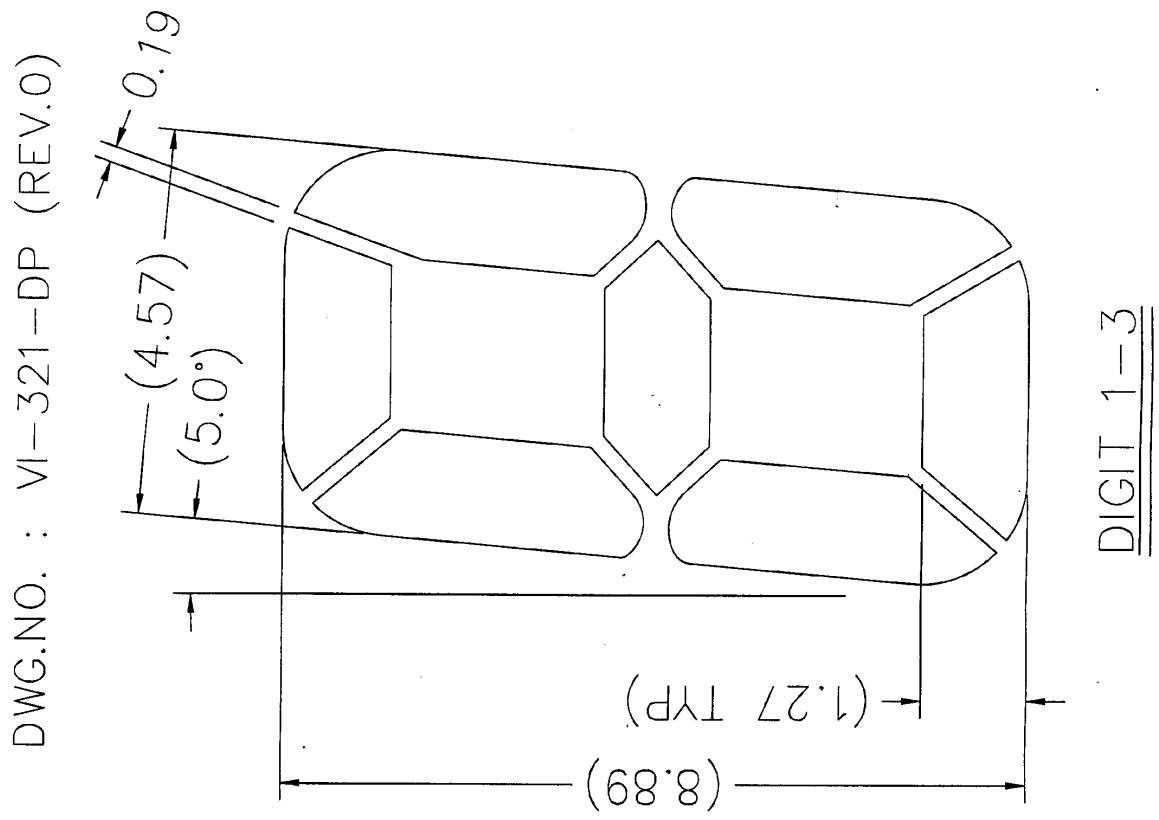



Figure 3: LCD Drawing 3

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		SCALE
POLARIZER LOCATION DIAGRAM		Do not scale
DOC. NO. : PL-VI-321-DP-01		Drawn by : YIN Date : 2002/07/05
		Checked by : MAKU Date : 2002/07/05
		Approved by :  Date : 2002/07/05

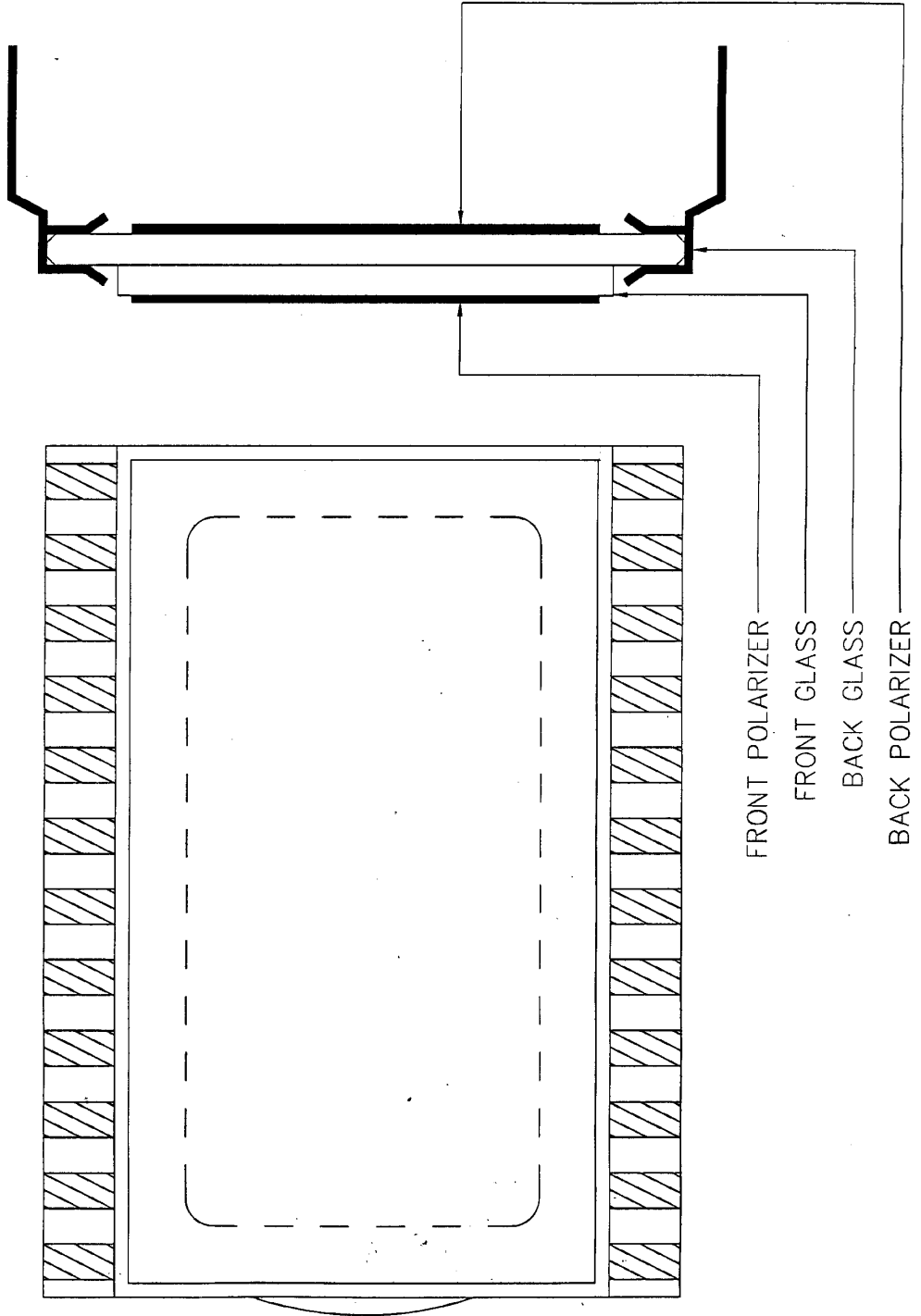


Figure 5: LCD Drawing 5

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

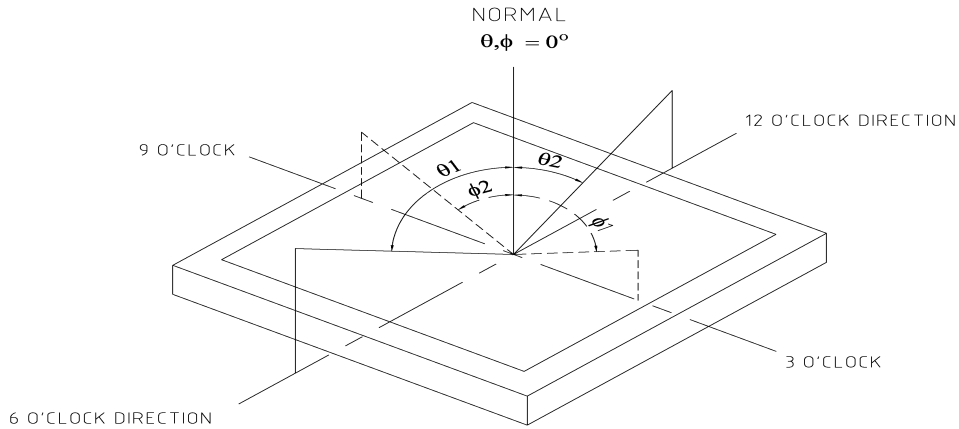
Table 3

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	$\theta 1(6 \text{ o'clock})$	+25	60	70	-	DEG	Vop= Optimum voltage (Remark 1)
	$\theta 2(12 \text{ o'clock})$		15	25	-		
	$\phi 1(3 \text{ o'clock})$		50	60	-		
	$\phi 2(9 \text{ o'clock})$		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

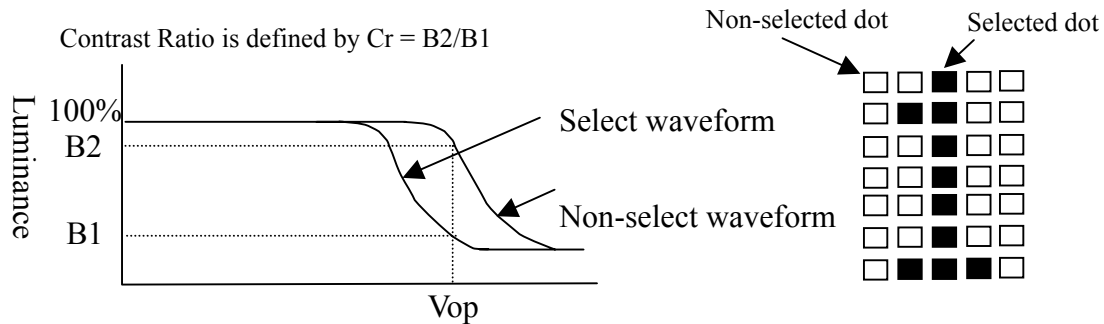
a.) Viewing Angle



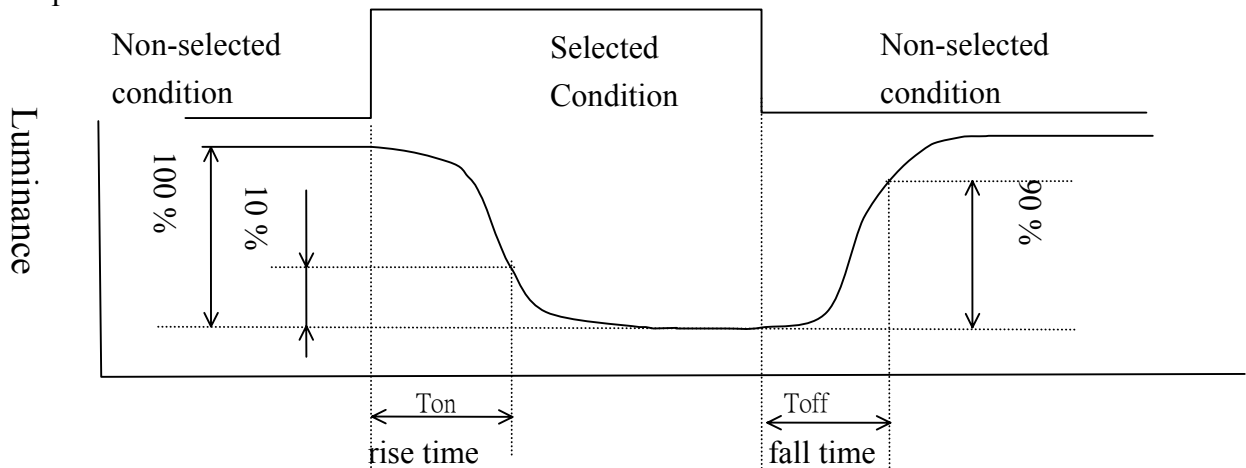
b.) Contrast Ratio

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.”

TEL:(852) 2197-6000.

FAX:(852) 2343-9555.

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- END -

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