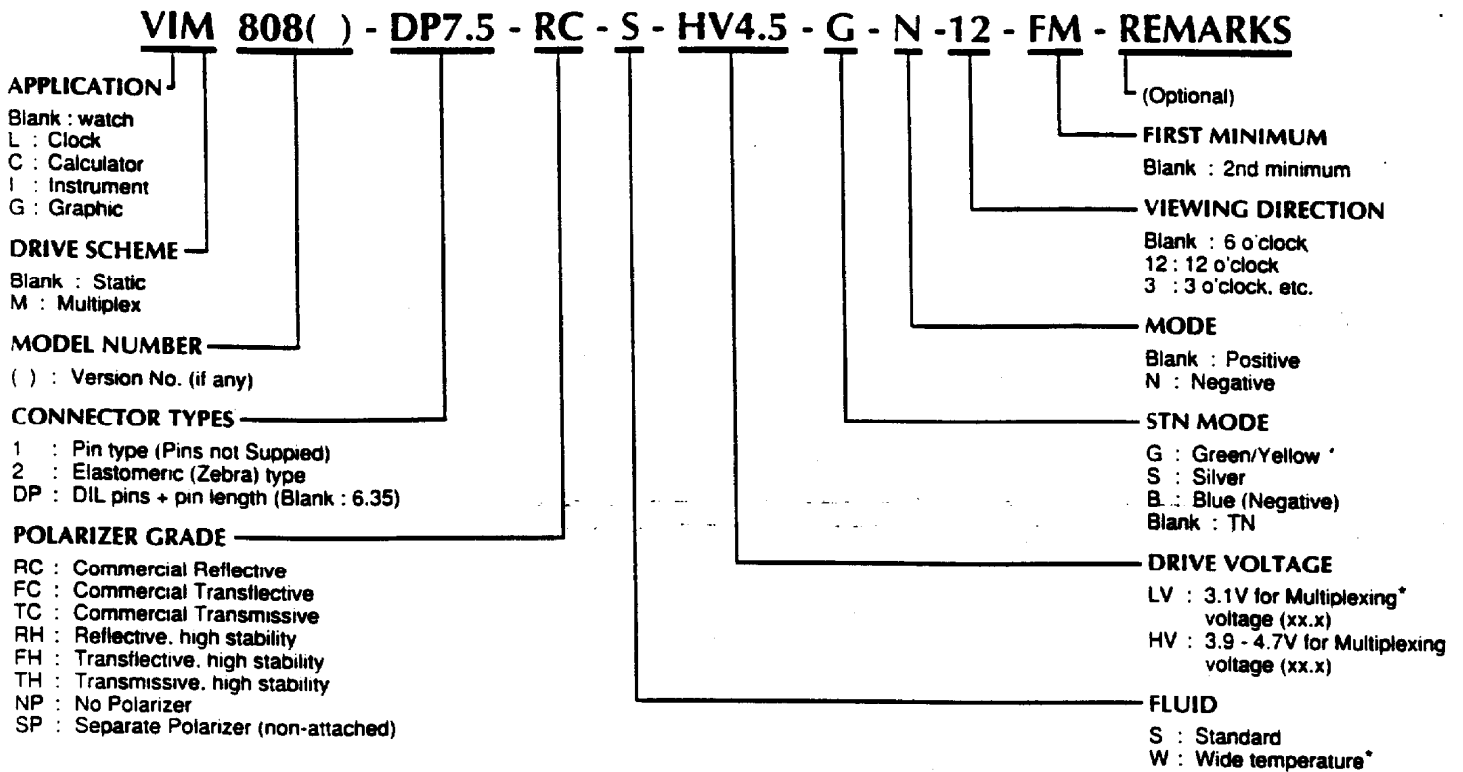


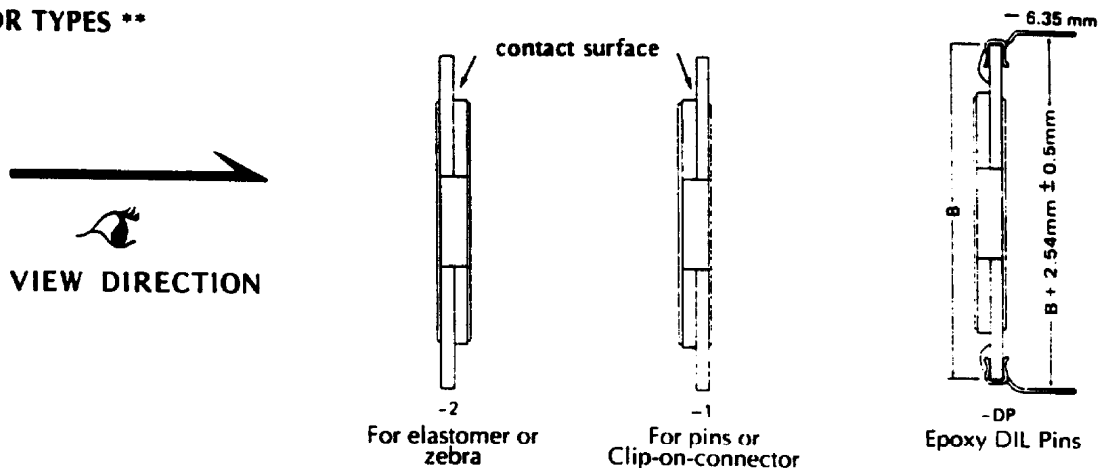
LCD MODEL NOTATION

DISPLAY MODEL NUMBER NOTATION



* NOTE: Wide temperature fluid requires higher voltage of drive (See P.21)

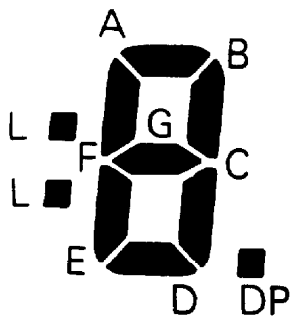
CONNECTOR TYPES **



NOTE: For DP, Standard pin length 6.35 mm (0.25"). Maximum 14.5 mm, pin pitch 2.54 mm
 For other Types of pins and pin pitch, please refer to P.20

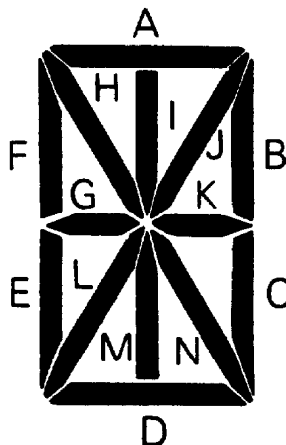
SEGMENT NOTATION

7 SEGMENT

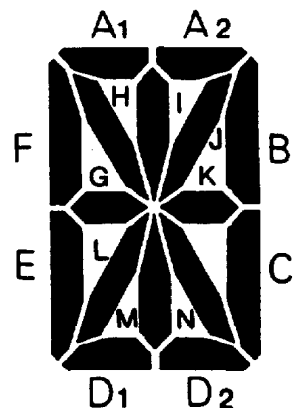


(Digit number starts from right to left)

14 SEGMENT



16 SEGMENT



TYPICAL ELECTRO-OPTICAL CHARACTERISTICS

PARAMETER		FLUID *	TN COMMERCIAL (S)							TN EXTENDED (W)					SUPERTWIST				
			Multiplex(LV)			Multiplex(HV)			LV	Multiplex(HV)				LV	LV	HV	HV-W		
Drive Method		Static	1/2	1/3	1/4	1/2	1/3	1/4	1/16	Static	1/2	1/3	1/4	1/16	1/8	1/16	1/16	1/16**	
Operating Temperature †		°C	-10~60	0 ~ 50			-10 ~ 60			0~50	-40~84	-30 ~ 80				-10~50		-10~70	-20~80
Storage Temperature		°C	-20 ~ 60			-20 ~ 70			-20~60	-40 ~ 85					-20~60		-30~70	-40~85	
Operating Voltage (25°C) ■		V	3.0	3.1		3.9	4.2	4.7	4.6	5.0	3.9	4.2	4.7	7.6	3.80	4.80	8.2	9.2	
Rise Time	0°C	mSec	350	400		200			600	100	180			250	400	450	350	350	
	25°C		120	120		80			150	40	55			70	120	150	120	120	
Decay Time	0°C	mSec	250	350		180			550	100	110			250	450	450	450	450	
	25°C		100	120		80			150	50	50			70	120	150	120	120	
Temperature Coefficient (0~40°C)V ₁₀		mV/°C	---	-10.0		-7.5			-7.0	---	-7.5				---				
Operating Frequency Range		Hz	30-300	60 - 300					60-100	30-300	60-300			60-100	60-120		60-300		
Capacitance		pF/mm ²	10					---	10			---	10						
DC Resistance		MΩ	100					100					100						
Contrast Ratio			20:1					10:1	20:1			10:1	25:1						
Current Consumption (Per Active Area)		pA/mm ²	15					12					12						

* For other fluids, please consult VARITRONIX

† No temperature compensation, drive voltage of Multiplexed display must be adjusted for optimum operation in the extreme temperature ranges

■ Maximum allowable is DC Voltage 50 mV

** 1/4 bias

TYPICAL ENVIRONMENTAL TESTS ▲

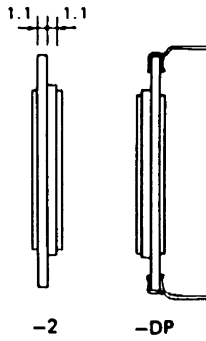
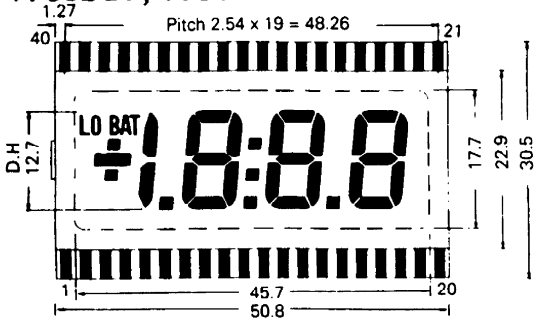
TEMPERATURE TESTS	COMMERCIAL GRADE	EXTENDED GRADE
High temperature storage (IEC 68-2-2)	+70°C/3 days	+85°C/4 days
Low temperature storage (IEC 68-2-1)	-25°C/3 days	-40°C/4 days
Temperature, cyclic (IEC 68-2-14)	-25°C/30 min +25°C/30 min +70°C/30 min +25°C/30 min 10 cycles	-40°C/30 min +25°C/30 min +85°C/30 min +25°C/30 min 10 cycles
Damp heat, cyclic (IEC 68-2-30)	25°C/95% RH/24h 40°C/93% RH/24h 6 cycles	25°C/95% RH/24h 40°C/93% RH/24h 21 cycles
Damp heat, steady state (IEC 68-2-3)	40°C/93% RH every 4 days	40°C/93% RH every 21 days

- ▲ Expected lifetime under normal operating conditions
 - 50,000 hours (commercial) / 100,000 hours (extended temperature).
 These are minimum tests. For other specifications, please consult VARITRONIX.

MECHANICAL TESTS

Low air pressure (IEC 68-2-13)		25°C/86 to 106kp2
Vibration (IEC 68-2-6) cells must be mounted on a suitable connector	frequency amplitude duration	10 to 55 Hz 0.75 mm 20 cycles in each direction
Shock (IEC 68-2-27) Half-sine pulse shape	pulse duration peak acceleration number of shocks	11 ms 981 m/s ² = 100 g 3 shocks in 3 mutually perpendicular axes
Bump (IEC 68-2-29)	pulse duration peak acceleration number of bumps	6 ms 392 m/s ² 1000 ± 10

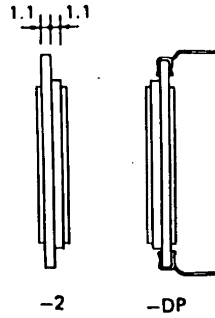
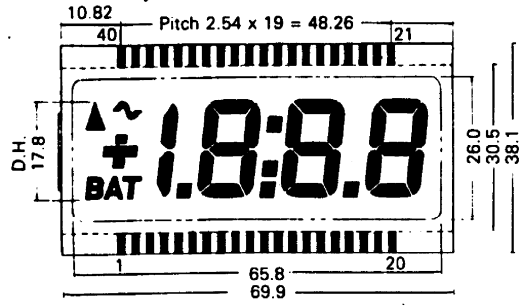
VI-302-DP, VI-302-2



DIGIT HEIGHT 12.7 mm (0.5")

Pin No.	Segment	Pin No.	Segment	Pin No.	Segment	Pin No.	Segment
1	COM	11	3C	21	1A	31	3F
2	-	12	3DP	22	1F	32	3G
3	B-C	13	2E	23	1G	33	NC
4	NC	14	2D	24	2B	34	NC
5	NC	15	2C	25	2A	35	NC
6	NC	16	2DP	26	2F	36	NC
7	NC	17	1E	27	2G	37	NC
8	4DP	18	1D	28	L	38	LO BAT
9	3E	19	1C	29	3B	39	█
10	3D	20	1B	30	3A	40	COM

VI-319-DP, VI-319-2



DIGIT HEIGHT 17.8 mm (0.7")

Pin No.	Segment	Pin No.	Segment	Pin No.	Segment	Pin No.	Segment
1	COM	11	3C	21	1A	31	3F
2	-	12	3DP	22	1F	32	3G
3	B-C	13	2E	23	1G	33	NC
4	NC	14	2D	24	2B	34	NC
5	NC	15	2C	25	2A	35	NC
6	NC	16	2DP	26	2F	36	NC
7	NC	17	1E	27	2G	37	~
8	4DP	18	1D	28	L	38	▲
9	3E	19	1C	29	3B	39	█
10	3D	20	1B	30	3A	40	BAT