LCD MODEL NOTATION

DISPLAY MODEL NUMBER NOTATION

VIM 808( ) - DP7.5 - RC - S - HV4.5 - G - N -12 - FM - REMARKS

APPLICATION
Blank : watch
L : Clock
C : Calculator
I : Instrument
G : Graphic

DRIVE SCHEME
Blank : Static
M : Multiplex

MODEL NUMBER
( ) : Version No. (if any)

CONNECTOR TYPES
1 : Pin type (Pins not Suppied)
2 : Elastomeric (Zebra) type
DP : DIL pins + pin length (Blank : 6.35)

POLARIZER GRADE
RC : Commercial Reflective
FC : Commercial Transflective
TC : Commercial Transmissive
RH : Reflective, high stability
FH : Transflective, high stability
TH : Transmissive, high stability
NP : No Polarizer
SP : Separate Polarizer (non-attached)

FLUID
S : Standard
W : Wide temperature*

DRIVE VOLTAGE
LV : 3.1V for Multiplexing* voltage (xx.x)
HV : 3.9 - 4.7V for Multiplexing voltage (xx.x)

STN MODE
G : Green/Yellow
S : Silver
B : Blue (Negative)
Blank : TN

MODE
Blank : Positive
N : Negative

VIEWING DIRECTION
Blank : 6 o'clock
12 : 12 o'clock
3 : 3 o'clock, etc.

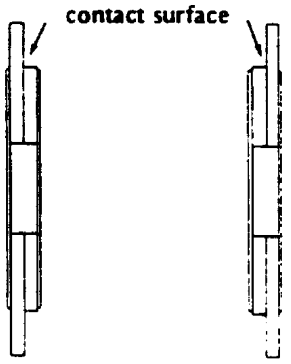
FIRST MINIMUM
Blank : 2nd minimum

(Optional)

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

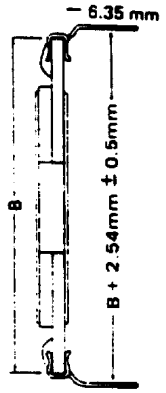
CONNECTOR TYPES **

VIEW DIRECTION



-2
For elastomer or zebra

-1
For pins or Clip-on-connector

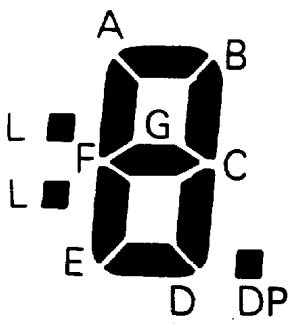


-DP
Epoxy DIL Pins

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

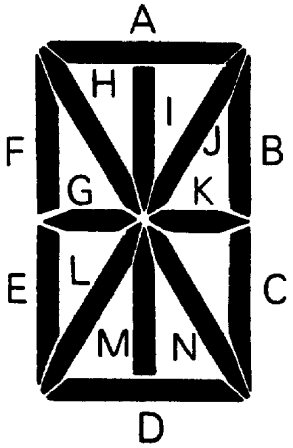
SEGMENT NOTATION

7 SEGMENT

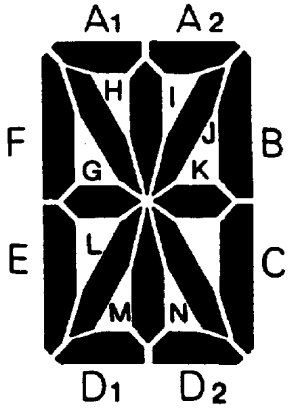


(Digit number starts from right to left)

14 SEGMENT



16 SEGMENT



TYPICAL ELECTRO-OPTICAL CHARACTERISTICS

FLUID *			TN COMMERCIAL (S)								TN EXTENDED (W)					SUPERTWIST			
PARAMETER				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 †		℃	-10~60	0 ~ 50			-10 ~ 60			0~50	-40~84	-30 ~ 80				-10~50		-10~70	-20~80
Storage Temperature		℃	-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℃	mSec	350	400			200			600	100	180			250	400	450	350	350
	25℃		120	120			80			150	40	55			70	120	150	120	120
Decay Time	0℃	mSec	250	350			180			550	100	110			250	450	450	450	450
	25℃		100	120			80			150	50	50			70	120	150	120	120
Temperature Coefficient (0~40°C)V_{10}		mV/℃	---	-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/mm²	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/mm²	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

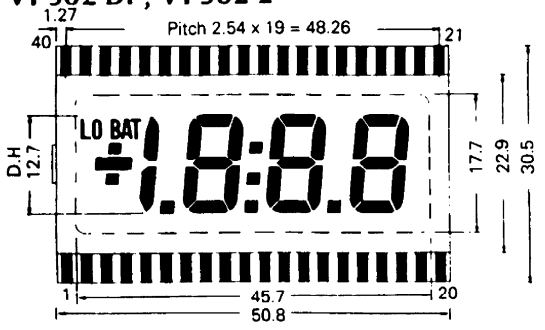
▲ Expected lifetime under normal operating conditions
- 50.000 hours (commercial) / 100,000 hours (extended temperature).
These are minimum tests. For other specifications, please consult VARITRONIX.

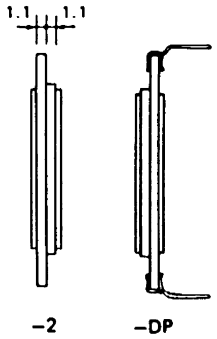
MECHANICAL TESTS

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")



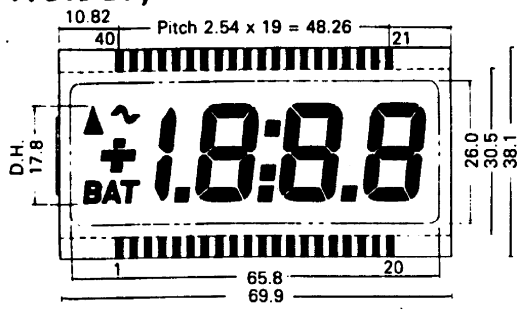


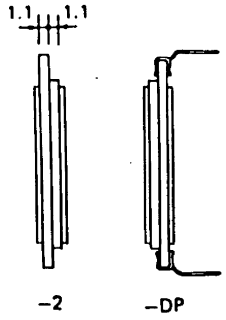
Pin No.	Segment	Pin No.	Segment	Pin No.	Segment	Pin No.	Segment
1	COM	11	3C	21	1A	31	3F
2	–	12	3DP	22	1F	32	3G
3	B-C	13	2E	23	1G	33	NC
4	NC	14	2D	24	2B	34	NC
5	NC	15	2C	25	2A	35	NC
6	NC	16	2DP	26	2F	36	NC
7	NC	17	1E	27	2G	37	NC
8	4DP	18	1D	28	L	38	LO BAT
9	3E	19	1C	29	3B	39	‖
10	3D	20	1B	30	3A	40	COM

DRIVER: Intersil ICL7106, Teledyne 7106

VI-319-DP, VI-319-2

DIGIT HEIGHT 17.8 mm (0.7")





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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

DRIVER: Intersil ICL 7106, Teledyne 7106