

# 4-Digit Large-Area Clock / DPM Display

Optoelectronic Products

# FLB4018X1 FLB4018X2

## General Description

The FLB4018X1 and FLB4018X2 are liquid crystal displays that are hermetically sealed with glass frit. They are available in pinned or elastomeric connector configurations, offer four polarizer options and operate at the standard temperature range of  $-20^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$ . Applications include clock, digital panel meter and general instrumentation.

## 0.7-Inch Digits (18 mm)

Decimal Points for DPMs

Colon for Timekeeping

Four Polarizer Options

Glass-Frit Seal for High Reliability

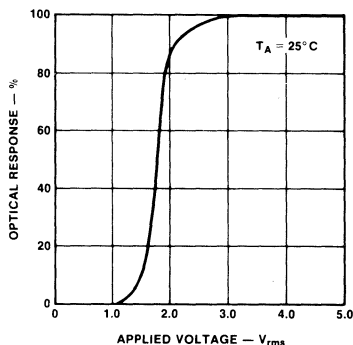
**Electrical Characteristics** Measured at  $25^{\circ}\text{C}$  with drive voltage of 5.0 V, square wave at 32 Hz.

Characteristic	Min	Typ	Max	Units
Operating Voltage	2.8	5.0	12	V
Saturation Voltage	2.0	2.2	2.4	V
DC Drive Component Allowable			50	mV
Operating Frequency Range	30	32	1000	Hz
Drive Current at 3.0 V, All Segments On			10	$\mu\text{A}$
Viewing Angle		45		degrees
Contrast Ratio		20:1		
Response Times: $t_{\text{on}}$ (Includes Delay Time)		70	150	ms
$t_{\text{off}}$ (Includes Delay Time)		100	150	ms
Operating Temperature Range (Note)	$-20$		60	$^{\circ}\text{C}$
Storage Temperature Range	$-20$		80	$^{\circ}\text{C}$
Humidity	50/60			$^{\circ}\text{C}/\text{RH}$
Life Time		50k		hrs

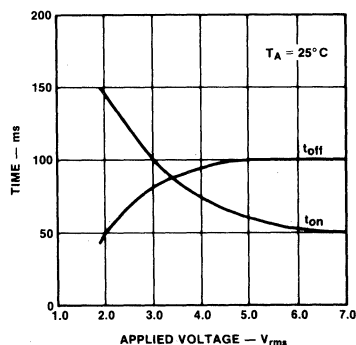
## Note

Higher operating temperature is available. Consult the factory for details.

## Voltage Characteristics



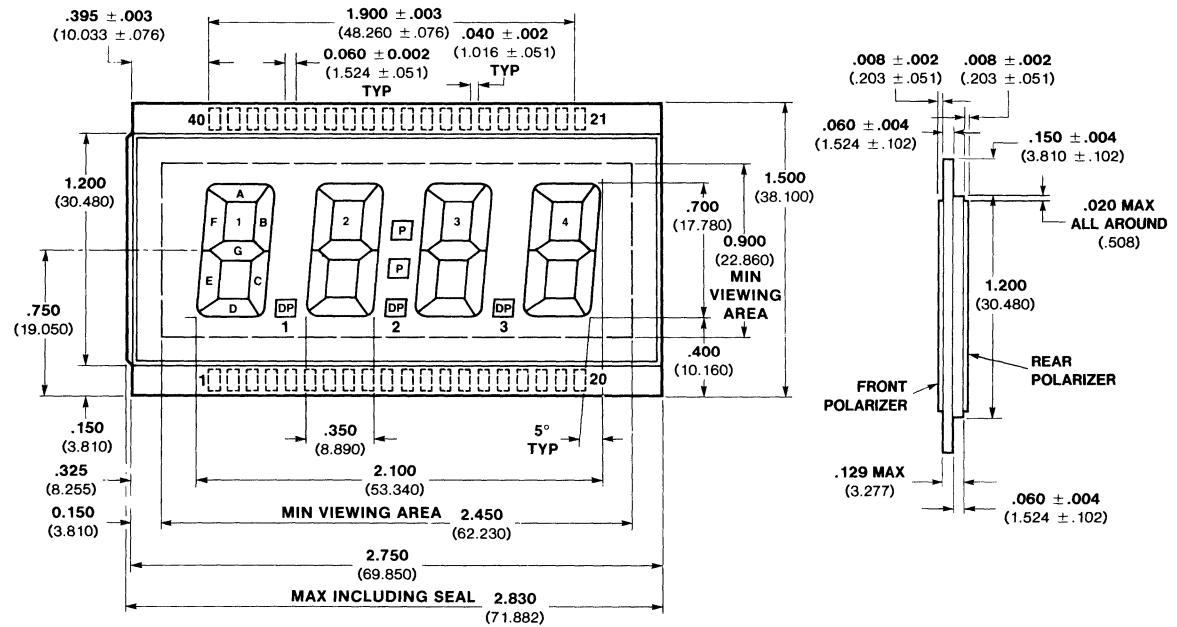
## Response Time



# Package Outline Pin Assignments

# FLB4018X1 FLB4018X2

## FLB4018X1 (Elastomer Connection)



### Note

All dimensions in inches **bold** and millimeters (parentheses).

### Pin Assignments

1 Backplane BP	9 Segment E <sub>2</sub>	17 Segment E <sub>4</sub>	25 Segment A <sub>3</sub>	33 NC
2 NC	10 Segment D <sub>2</sub>	18 Segment D <sub>4</sub>	26 Segment F <sub>3</sub>	34 Segment B <sub>1</sub>
3 NC	11 Segment C <sub>2</sub>	19 Segment C <sub>4</sub>	27 Segment G <sub>3</sub>	35 Segment A <sub>1</sub>
4 NC	12 Decimal Point 2	20 Segment B <sub>4</sub>	28 Colon P	36 Segment F <sub>1</sub>
5 Segment E <sub>1</sub>	13 Segment E <sub>3</sub>	21 Segment A <sub>4</sub>	29 Segment B <sub>2</sub>	37 Segment G <sub>1</sub>
6 Segment D <sub>1</sub>	14 Segment D <sub>3</sub>	22 Segment F <sub>4</sub>	30 Segment A <sub>2</sub>	38 NC
7 Segment C <sub>1</sub>	15 Segment C <sub>3</sub>	23 Segment G <sub>4</sub>	31 Segment F <sub>2</sub>	39 NC
8 Decimal Point 1	16 Decimal Point 3	24 Segment B <sub>3</sub>	32 Segment G <sub>2</sub>	40 NC

### Ordering Information

#### Elastomeric

Connector Configuration	Connector Pins	Polarizer Option
FLB4018A1	FLB4018A2	Non-polarized
FLB4018B1	FLB4018B2	Transflective
FLB4018C1	FLB4018C2	Reflective (smooth)
FLB4018D1	FLB4018D2	Transmissive

#### Connectors

Display is available in pinned or elastomeric configuration. See page 6-42 for elastomeric connector suppliers.

#### Drivers

See page 6-43 for available drivers.

