

# High efficiency, two-digit numeric displays

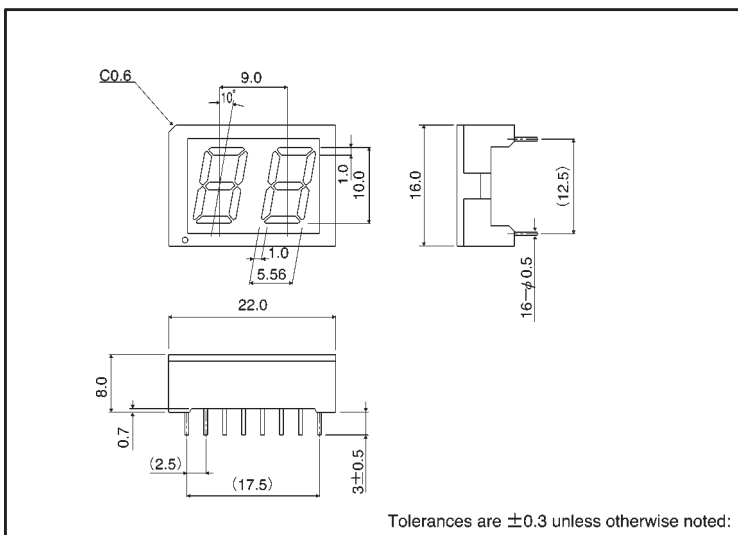
## LB-402 FP Series

The LB-402 FP series were designed to meet the need for multi-digit numeric displays. Featuring excellent visibility, these two-digit LED numeric displays have a character height of 10 mm. A colored cover case is attached to the surface of the display.

### ●Features

- 1) Three colors are available: red, orange and green.
- 2) Common anode and common cathode configurations are available.
- 3) Each segment has independent pin connections making static drive possible.
- 4) Excellent visibility.  
Uniform brightness.  
Wide view angle.  
Character shapes cannot be seen when not illuminated.

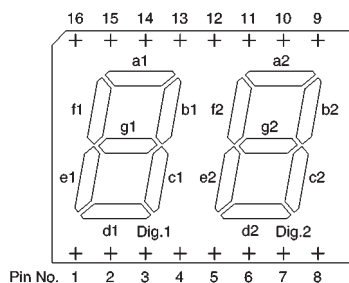
### ●External dimensions (Units: mm)



### ●Selection guide

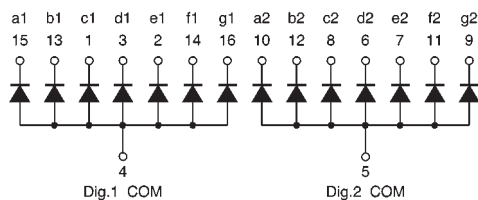
Emitting color	Red	Orange	Green
Common			
Anode	LB-402VF	LB-402DF	LB-402MF
Cathode	LB-402VP	LB-402DP	LB-402MP

### ●Pin assignments



Pin No.	Function	Pin No.	Function
1	Segment "c1"	9	Segment "g2"
2	Segment "e1"	10	Segment "a2"
3	Segment "d1"	11	Segment "f2"
4	Digit1 Common	12	Segment "b2"
5	Digit2 Common	13	Segment "b1"
6	Segment "d2"	14	Segment "f1"
7	Segment "e2"	15	Segment "a1"
8	Segment "c2"	16	Segment "g1"

● Internal circuit schematic (example of common anode)



● Absolute maximum ratings ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Red	Orange	Green	Unit
		LB-402VF / VP	LB-402DF / DP	LB-402MF / MP	
Power dissipation	$P_D$	840	840	840	mA
Power dissipation	$P_D / \text{seg}$	60	60	60	mW / seg
Forward current	$I_F$	20	20	20	mA
Peak forward current	$I_{FP}$	60	60	60	mA*
Reverse voltage	$V_R$	5	5	5	V
Operating temperature	$T_{opr}$	$-25 \sim +75$			$^\circ\text{C}$
Storage temperature	$T_{stg}$	$-30 \sim +85$			$^\circ\text{C}$

\* Pulse width 1ms duty 1 / 5

● Electrical and optical characteristics ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Conditions	Red			Orange			Green			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
Forward voltage	$V_F$	$I_F = 10\text{mA}$	—	2.0	2.8	—	2.0	2.8	—	2.1	2.8	V
Reverse current	$I_R$	$V_R = 3\text{V}$	—	—	100	—	—	100	—	—	100	$\mu\text{A}$
Peak wavelength	$\lambda_P$	$I_F = 10\text{mA}$	—	650	—	—	610	—	—	563	—	nm
Spectral line half width	$\Delta\lambda$	$I_F = 10\text{mA}$	—	40	—	—	40	—	—	40	—	nm

◎ Not designed for radiation resistance

● Luminous intensity

Color	$\lambda_P$	Type	Min.	Typ.	Max.	Unit
Red	650	LB-402VF	2.2	5.6	—	mcd
		LB-402VP				
Orange	610	LB-402DF	2.2	5.6	—	mcd
		LB-402DP				
Green	563	LB-402MF	2.2	5.6	—	mcd
		LB-402MP				

Note: Measured at  $I_F = 10\text{mA}$