

High efficiency, two-digit numeric displays

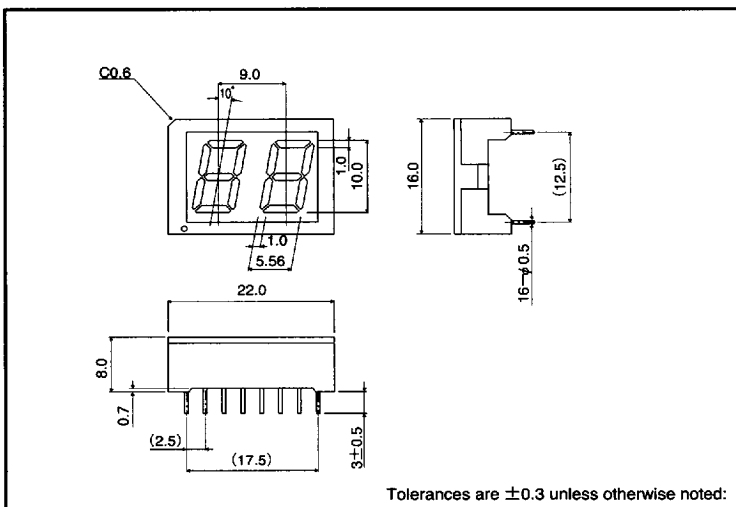
LB-402 FP Series

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 and static drive is possible.
- 4) Excellent visibility.
Uniform brightness.
Wide view angle.
Character shapes cannot be seen when not illuminated.

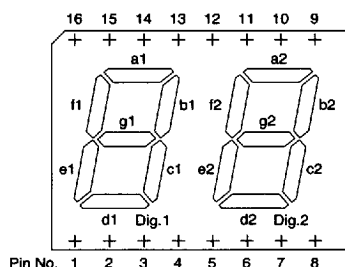
●External dimensions (Unit: mm)



●Selection guide

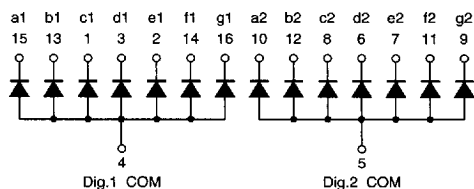
Emitting color	Red	Orange	Green
Common			
Anode	LB-402VF	LB-402DF	LB-402MF
Cathode	LB-402VP	LB-402DP	LB-402MP

●Pin layout



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/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	μA
Peak wavelength	λ_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 to be radiation resistant

● Luminous intensity

Color	λ_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 $I_F = 10\text{mA}$

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