

# High efficiency, three-digit numeric displays

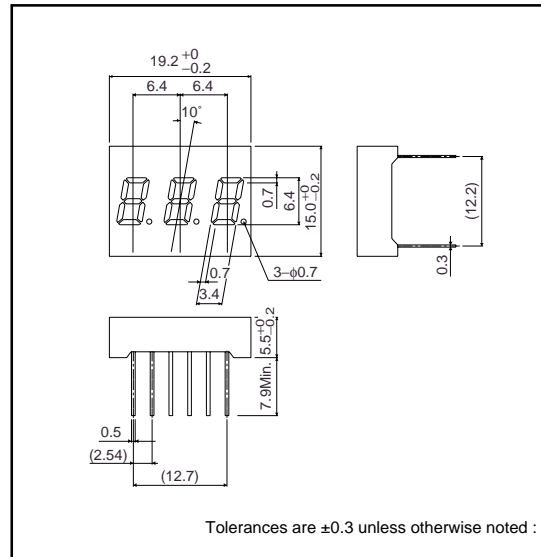
## LB-203BL Series

The LB-203BL series are small, three-digit numeric displays with a character height of 6.4mm. These displays can be combined with appropriate displays in the two-digit LB-202BL series to form a multi-digit display with an equal pitch interval between characters.

**●Features**

- 1) Four colors are available : red, orange, yellow, and green.
- 2) Common anode and common cathode configurations are available.
- 3) Dynamic lighting system to minimize the number of pins.
- 4) Equal pitch interval between characters even with multi-digit display.
- 5) The package surface is painted black and the segments are colored the display color.

**●External Dimensions (Units : mm)**

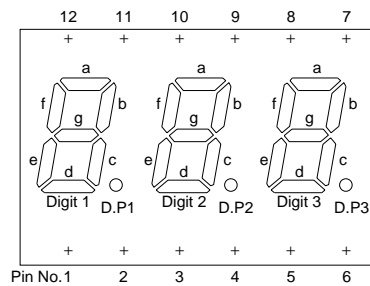


**●Selection guide**

Emitting color	Red	Orange	Yellow	Green
Common				
Anode	LB-203VB	LB-203DB *	LB-203YB *	LB-203MB
Cathode	LB-203VL	LB-203DL *	LB-203YL *	LB-203ML

\* Order-based production.

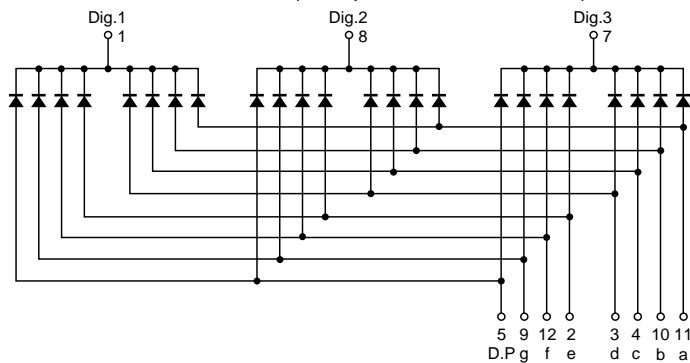
**●Pin assignments**



Pin No.	Function
1	Digit 1 Common
2	Segment "e"
3	Segment "d"
4	Segment "c"
5	D.P
6	N.C
7	Digit 3 Common
8	Digit 2 Common
9	Segment "g"
10	Segment "b"
11	Segment "a"
12	Segment "f"

LED displays

● Internal circuit schematic (example of common cathode)



● Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Red	Orange	Yellow	Green	Unit
		LB-203VB / VL	LB-203DB / DL	LB-203YB / YL	LB-203MB / ML	
Power dissipation	P <sub>D</sub>	960	960	960	960	mW
Power dissipation	P <sub>D</sub> / seg	40	40	40	60	mW
Forward current	I <sub>F</sub>	15	15	15	15	mA
Peak forward current	I <sub>FP</sub>	60*	60*	60*	60*	mA
Reverse voltage	V <sub>R</sub>	3	3	3	3	V
Operating temperature	T <sub>opr</sub>	-25--+75				°C
Storage temperature	T <sub>stg</sub>	-30--+85				°C

\* Pulse width 1ms duty 1 / 5

● Electrical and optical characteristics (Ta=25°C)

Parameter	Symbol	Conditions	Red			Orange			Yellow			Green			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
Forward voltage	V <sub>F</sub>	I <sub>F</sub> =10mA	-	2.0	2.8	-	2.0	2.8	-	2.1	2.8	-	2.1	2.8	V
Reverse current	I <sub>R</sub>	V <sub>R</sub> =3V	-	-	100	-	-	100	-	-	100	-	-	100	μA
Peak wavelength	λ <sub>P</sub>	I <sub>F</sub> =10mA	-	650	-	-	610	-	-	585	-	-	563	-	nm
Spectral line half width	Δλ	I <sub>F</sub> =10mA	-	40	-	-	40	-	-	40	-	-	40	-	nm

©Not designed for radiation resistance.

● Luminous intensity

Color	λ <sub>P</sub>	Type	Min.	Typ.	Max.	Unit
Red	650	LB-203VB	2.2	6.3	-	mcd
		LB-203VL				
Orange	610	LB-203DB	2.2	6.3	-	mcd
		LB-203DL				
Yellow	585	LB-203YB	2.2	6.3	-	mcd
		LB-203YL				
Green	563	LB-203MB	2.2	6.3	-	mcd
		LB-203ML				

Note : Measured at I<sub>F</sub>=10mA