

# High efficiency, three-digit numeric displays

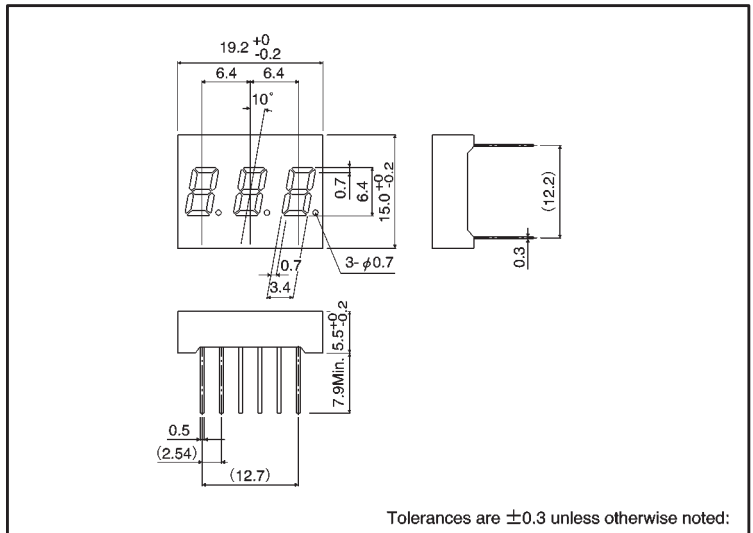
## LB-203 BL Series

The LB-203 BL series are small, three-digit numeric displays with a character height of 6.4 mm. These displays can be combined with appropriate displays in the two-digit LB-202 BL 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.

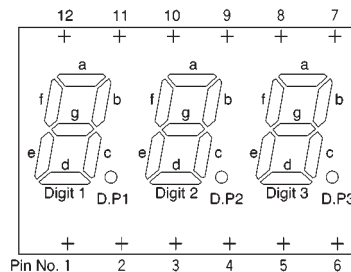
### ●External dimensions (Units: mm)



### ●Selection guide

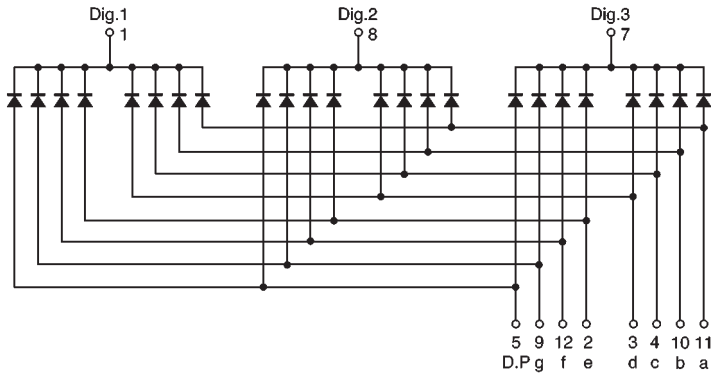
Emitting color	Common			
	Red	Orange	Yellow	Green
Anode	LB-203VB	LB-203DB	LB-203YB	LB-203MB
Cathode	LB-203VL	LB-203DL	LB-203YL	LB-203ML

### ●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"

● Internal circuit schematic (example of common cathode)



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

Parameter	Symbol	Red	Orange	Yellow	Green	Unit
		LB-203VB / VL	LB-203DB / DL	LB-203YB / YL	LB-203MB / ML	
Power dissipation	$P_D$	960	960	960	960	mW
Power dissipation	$P_D / \text{seg}$	40	40	40	40	mW
Forward current	$I_F$	15	15	15	15	mA
Peak forward current	$I_{FP}$	60*	60*	60*	60*	mA
Reverse voltage	$V_R$	3	3	3	3	V
Operating temperature	$T_{opr}$	-25~+75				$^\circ\text{C}$
Storage temperature	$T_{stg}$	-30~+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			Yellow			Green			Unit
			Min.	Typ.	Max.	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	—	2.1	2.8	V
Reverse current	$I_R$	$V_R=3\text{V}$	—	—	100	—	—	100	—	—	100	—	—	100	$\mu\text{A}$
Peak wavelength	$\lambda_P$	$I_F=10\text{mA}$	—	650	—	—	610	—	—	585	—	—	563	—	nm
Spectral line half width	$\Delta\lambda$	$I_F=10\text{mA}$	—	40	—	—	40	—	—	40	—	—	40	—	nm

©Not designed for radiation resistance.

## ● Luminous intensity

Color	$\lambda_P$	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  $I_F = 10\text{mA}$