

High efficiency, three-digit numeric displays

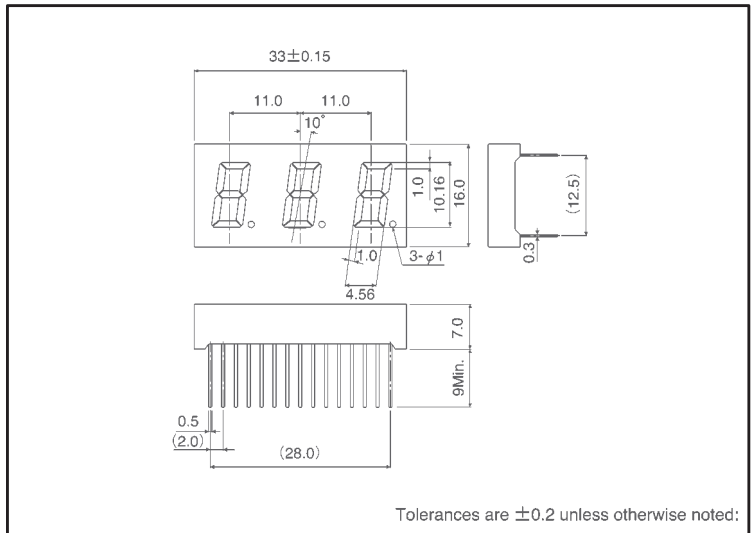
LB-403 DN Series

The LB-403 DN series were designed to meet the need for multi-digit numeric displays. These LED numeric displays use GaAsP on GaP for the emitting material (with the exception of green) and are housed in an epoxy resin package. They are three-digit displays with a character height of 10.16 mm.

●Features

- 1) Height of character: 10.16 mm.
- 2) Long 9 mm leads (minimum) on bottom of case.
- 3) High efficiency reflectors are used to achieve a bright, clear display.
- 4) The package surface is painted black and the segments are colored the display color.

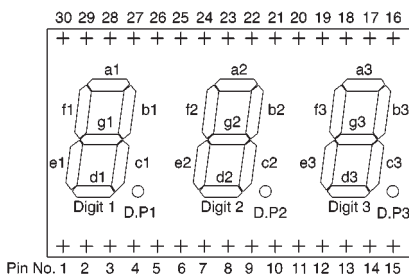
●External dimensions (Units: mm)



●Selection guide

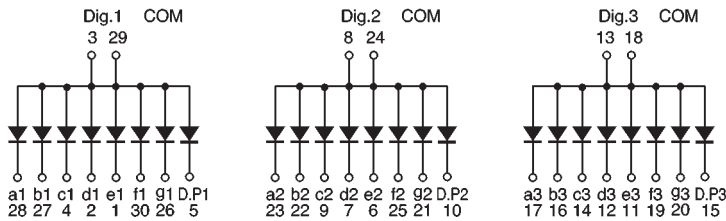
Emitting color	Red	Orange	Yellow	Green
	Common			
Anode	LB-403VD	LB-403DD	LB-403YD	LB-403MD
Cathode	LB-403VN	—	—	LB-403MN

●Pin assignments



Pin No.	Function	Pin No.	Function
1	Segment "e1"	16	Segment "b3"
2	Segment "d1"	17	Segment "a3"
3	Digit 1 Common	18	Digit 3 Common
4	Segment "c1"	19	Segment "f3"
5	D.P1	20	Segment "g3"
6	Segment "e2"	21	Segment "g2"
7	Segment "d2"	22	Segment "b2"
8	Digit 2 Common	23	Segment "a2"
9	Segment "c2"	24	Digit 2 Common
10	D.P2	25	Segment "f2"
11	Segment "e3"	26	Segment "g1"
12	Segment "d3"	27	Segment "b1"
13	Digit 3 Common	28	Segment "a1"
14	Segment "c3"	29	Digit 1 Common
15	D.P3	30	Segment "f1"

● Internal circuit schematic (example of common anode)



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

Parameter	Symbol	Red	Orange	Yellow	Green	Unit
		LB-403VD / VN	LB-403DD	LB-403YD	LB-403MD / MN	
Power dissipation	P_D	1344	1344	1344	1344	mW
Power dissipation	P_D / seg	56	56	56	56	mW
Forward current	I_F	20	20	20	20	mA
Peak forward current	I_{FP}	60*	60*	60*	60*	mA
Reverse voltage	V_R	5	5	5	5	V
Operating temperature	T_{opr}	-25~+85				$^\circ\text{C}$
Storage temperature	T_{stg}	-30~+100				$^\circ\text{C}$

* 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	μA
Peak wavelength	λ_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	λ_P	Type	Min.	Typ.	Max.	Unit
Red	650	LB-403VD	3.6	10	—	mcd
		LB-403VN				
Orange	610	LB-403DD	2.2	6.3	—	mcd
Yellow	585	LB-403YD	3.6	10	—	mcd
Green	563	LB-403MD	5.6	16	—	mcd
		LB-403MN				

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