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# High efficiency, three-digit numeric displays

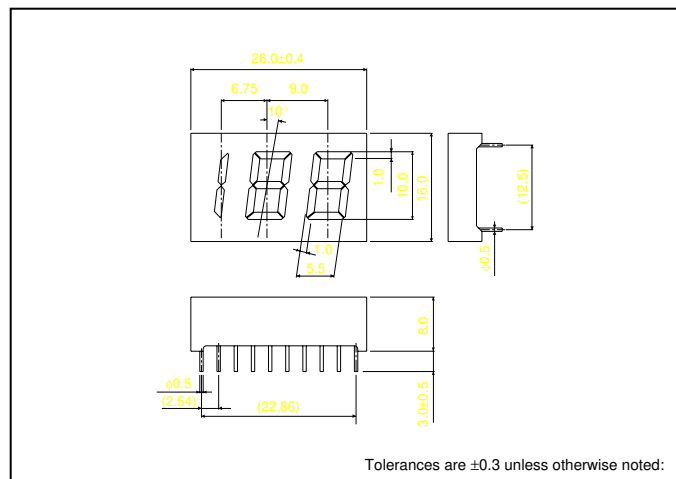
## LB-403F1 Series

The LB-403 F1 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 mm.

**●Features**

- 1) Height of character : 10mm.
- 2) Common anode configuration available for each color.
- 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.

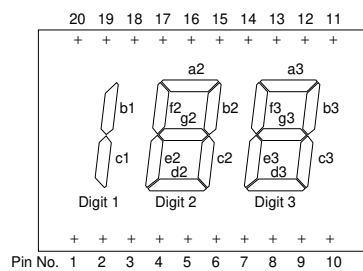
**●External dimensions (Units : mm)**



**●Selection guide**

Emitting color	Red	Green
	Common	
Anode	LB-403VF1	LB-403MF1

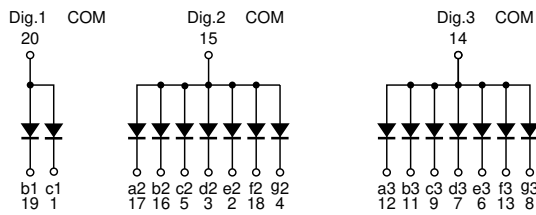
**●Pin assignments**



Pin No.	Function	Pin No.	Function
1	Segment "c1"	11	Segment "b3"
2	Segment "e2"	12	Segment "a3"
3	Segment "d2"	13	Segment "f3"
4	Segment "g2"	14	Digit 3 Common
5	Segment "c2"	15	Digit 2 Common
6	Segment "e3"	16	Segment "b2"
7	Segment "d3"	17	Segment "a2"
8	Segment "g3"	18	Segment "f2"
9	Segment "c3"	19	Segment "b1"
10	NC	20	Digit 1 Common

LED displays

● Internal circuit schematic (example of common anode)



● Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Red	Green	Unit
		LB-403VF1	LB-403MF1	
Power dissipation	$P_D$	640	640	mW
Power dissipation	$P_D / \text{seg}$	40	40	mW
Forward current	$I_F$	15	15	mA
Peak forward current	$I_{FP}$	60*	60*	mA
Reverse voltage	$V_R$	3	3	V
Operating temperature	$T_{opr}$	-25~+75		°C
Storage temperature	$T_{stg}$	-30~+85		°C

\* Pulse width 1ms duty 1 / 5

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

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

© Not designed for radiation resistance.

● Luminous intensity

Color	$\lambda_P$	Type	Min.	Typ.	Max.	Unit
Red	650	LB-403VF1	2.2	6.3	-	mcd
Green	563	LB-403MF1	5.6	16	-	mcd

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