2011.04 - Rev.C



High efficiency, three-digit numeric displays

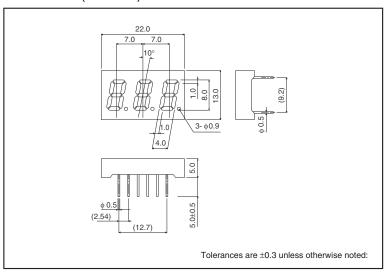
LB-303AK Series

The LB-303AK 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 8.0 mm.

Features

- 1) Height of character: 8.0 mm
- 2) High efficiency in a compact package.
- 3) Common anode and common cathode configurations are available for red and green.
- The package surface is painted black and the segments are colored the display color.

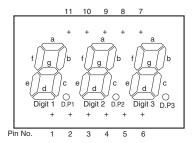
●Dimensions (Unit:mm)



Selection guide

Emitting color Common	Red	Green				
Anode	LB-303VA	LB-303MA				
Cathode	LB-303VK	LB-303MK				

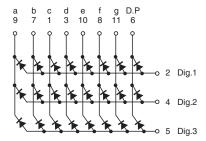
●Pin assignments



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

LB-303AK Series Data Sheet

●Internal circuit schematic (example of common anode)



●Absolute maximum ratings (Ta = 25°C)

37 100 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							
Parameter	Cumbal	Red Green					
Parameter	Symbol	LB-303VA / VK	LB-303MA / MK	Unit			
Power dissipation	PD	960	1440	mW			
Power dissipation	P _D / seg	40	60	mW			
Forward current	lF	15	20	mA			
Peak forward current	I FP	60*	60*	mA			
Reverse voltage	VR	3	3	V			
Operating temperature	Topr	-25 to +75		°C			
Storage temperature	Tstg	-30 to +85		°C			

^{*} Pulse width 1ms duty 1 / 5

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

Parameter	Symbol	Conditions	Red			Green			Unit
			Min.	Тур.	Max.	Min.	Тур.	Max.	Offic
Forward voltage	VF	I _F = 10mA	_	2.0	2.8	_	2.1	2.8	V
Reverse current	lR	$V_{\text{R}} = 3V$	_	_	100	_	_	100	μА
Peak wavelength	λР	I _F = 10mA	_	650	_	_	563	_	nm
Spectral line half width	Δλ	I _F = 10mA	_	40	_	_	40	_	nm

O Not designed for radiation resistance.

Luminous intensity

Color	λР	Туре	Min.	Тур.	Max.	Unit
Red 650	LB-303VA	1.4	4.0	-	mcd	
	LB-303VK					
Green 563	LB-303MA	2.2	6.3	_	mcd	
	LB-303MK					

Note : Measured at IF = 10mA

LB-303AK Series Data Sheet

•Electrical and optical characteristic curves

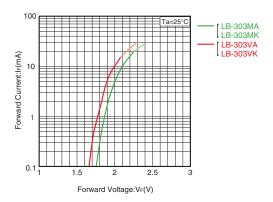


Fig.1 Forward Current - Forward Voltage

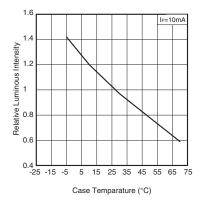


Fig.3 Relative Luminous Intensity - Case Temperature

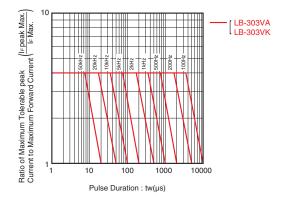


Fig.5 Ratio of Maximum Tolerable Peak Current - Pulse Duration (${
m II}$)

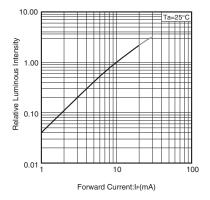


Fig.2 Relative Luminous Intensity - Forward Current

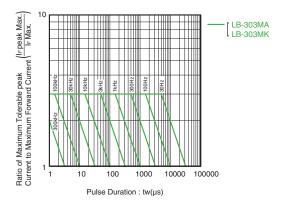


Fig.4 Ratio of Maximum Tolerable Peak Current - Pulse Duration (I)

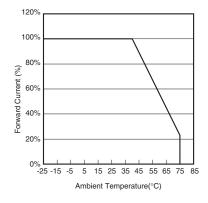


Fig.6 Derating

Notes

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