

# High efficiency, single-digit numeric displays

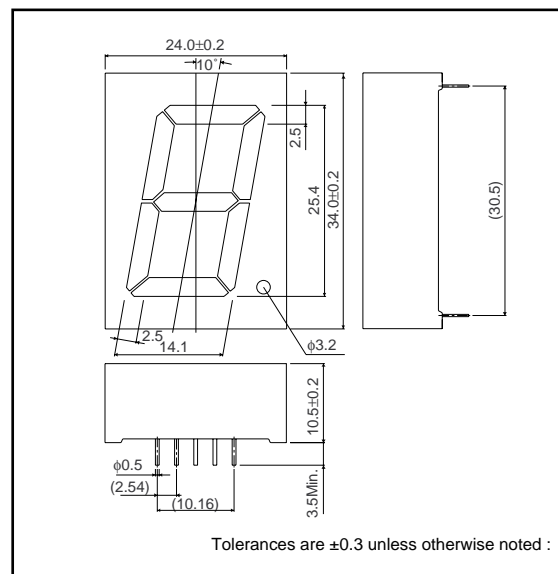
## LA-101AK Series

The LA-101AK series are LED numerical displays designed to allow use even in bright locations. The height of the character is 25.4 mm, and two colors are available: red and green. These displays are designed for use in large numerical displays.

**●Features**

- 1) Height of character: 25.4 mm
- 2) Dimensions: 24 x 34 x 10.5 mm
- 3) A common anode configuration and a common cathode configuration are available for each color.
- 4) The package surface is painted black and the segments are colored the display color.
- 5) High luminance, clear display.

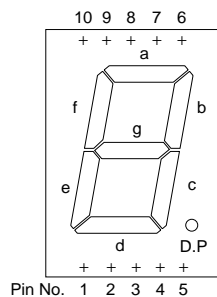
**●Dimensions (Unit : mm)**



**●Selection guide**

Emitting color	Red	Green
	Common	
Anode	LA-101VA	LA-101MA
Cathode	LA-101VK	LA-101MK

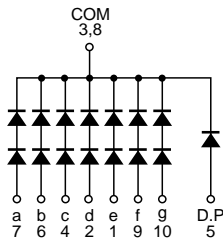
**●Pin assignments**



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

LED displays

●Internal circuit schematic (example of common cathode)



●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Red	Green	Unit
		LA-101VA / VK	LA-101MA / MK	
Power dissipation	P <sub>D</sub>	640	640	mW
Power dissipation	P <sub>D</sub> / seg	85 (45)	85 (45)	mW
Forward current	I <sub>F</sub>	15	20	mA
Peak forward current	I <sub>FP</sub>	60*	60*	mA
Reverse voltage	V <sub>R</sub>	3	3	V
Operating temperature	T <sub>opr</sub>	-25 to +75		°C
Storage temperature	T <sub>stg</sub>	-30 to +85		°C

\* Pulse width 1ms duty 1 / 5  
( ) is D.P value

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

Parameter	Symbol	Conditions	Elements	Red			Green			Unit
				Min.	Typ.	Max.	Min.	Typ.	Max.	
Forward voltage	V <sub>F</sub>	I <sub>F</sub> =10mA	2	-	4.0 <sup>*1</sup>	5.6 <sup>*1</sup>	-	4.2 <sup>*1</sup>	5.6 <sup>*1</sup>	V
			1	-	2.0 <sup>*2</sup>	2.8 <sup>*2</sup>	-	2.1 <sup>*2</sup>	2.8 <sup>*2</sup>	
Reverse current	I <sub>R</sub>	V <sub>R</sub> =3V	-	-	-	100	-	-	100	μA
Peak wavelength	λ <sub>P</sub>	I <sub>F</sub> =10mA	-	-	650	-	-	563	-	nm
Spectral line half width	Δλ	I <sub>F</sub> =10mA	-	-	40	-	-	40	-	nm

© Not designed for radiation resistance.  
The forward voltage and reverse current values are the guaranteed values per element.

●Luminous intensity

Color	λ <sub>P</sub>	Type	Min.	Typ.	Max.	Unit
Red	650	LA-101VA	3.6	10	-	mcd
		LA-101VK				
Green	563	LA-101MA	5.6	16	-	mcd
		LA-101MK				

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

LED displays

●Electrical and optical characteristic curves

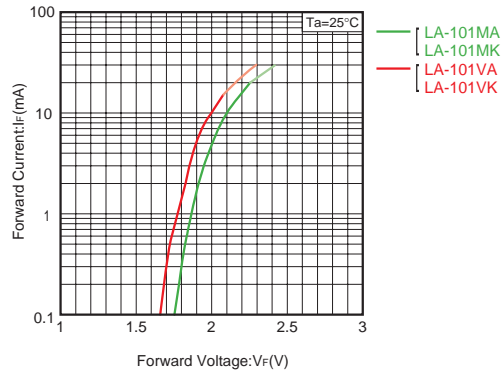


Fig.1 Forward Current - Forward Voltage

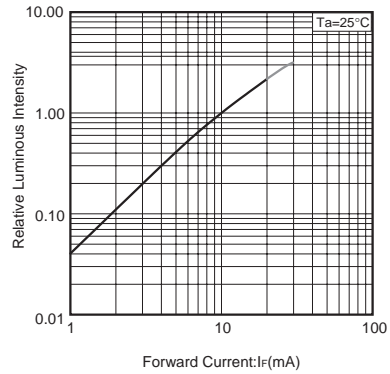


Fig.2 Relative Luminous Intensity - Forward Current

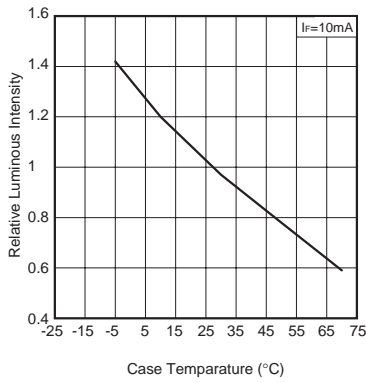


Fig.3 Relative Luminous Intensity - Case Temperature

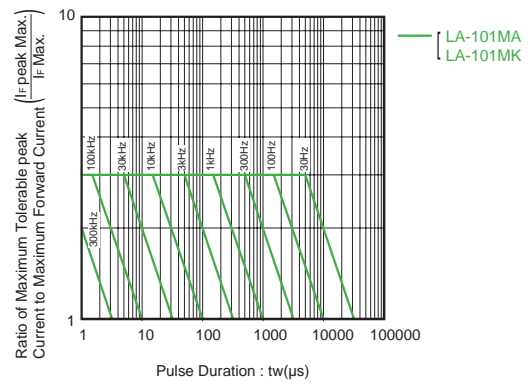


Fig.4 Ratio of Maximum Tolerable Peak Current - Pulse Duration ( I )

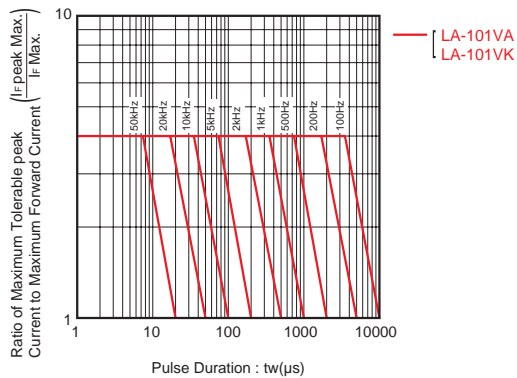


Fig.5 Ratio of Maximum Tolerable Peak Current - Pulse Duration ( II )

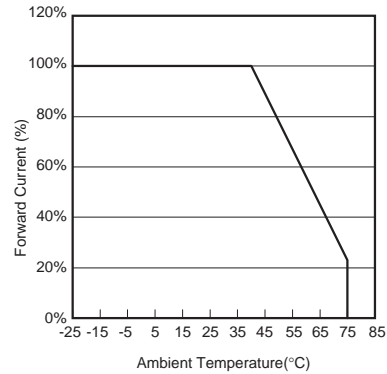


Fig.6 Derating

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