

# High efficiency, single-digit numeric displays

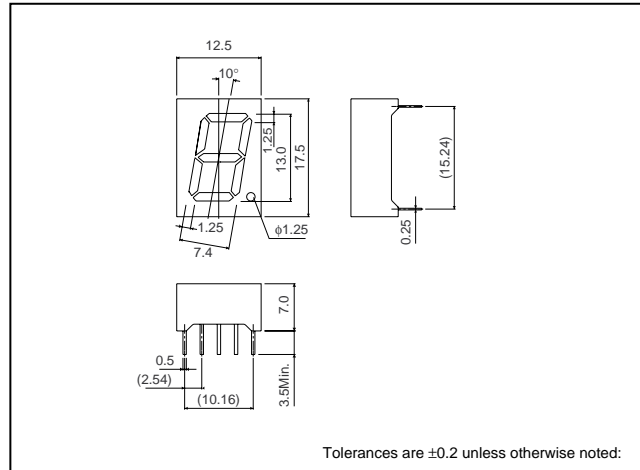
## LA-501DN Series

The LA-501DN series were designed to meet the need for 13mm single-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 single-digit displays with a character height of 13.0mm.

**●Features**

- 1) Height of character: 13.0mm
- 2) Common anode and common cathode configurations are 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.

**●Dimensions (Unit : mm)**

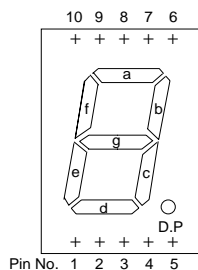


**●Selection guide**

Emitting color	Red	Orange	Green
Common			
Anode	LA-501VD	LA-501DD*	LA-501MD
Cathode	LA-501VN	LA-501DN*	LA-501MN

\* Order-based production.

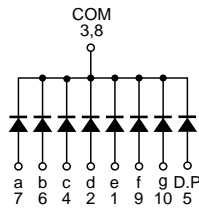
**●Pin assignments**



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	Orange	Green	Unit
		LA-501VD / VN	LA-501DD / DN	LA-501MD / MN	
Power dissipation	P <sub>D</sub>	480	480	480	mW
Power dissipation	P <sub>D</sub> / seg	60	60	60	mW
Forward current	I <sub>F</sub>	20	20	20	mA
Peak forward current	I <sub>FP</sub>	60*	60*	60*	mA
Reverse voltage	V <sub>R</sub>	5	5	5	V
Operating temperature	T <sub>opr</sub>	-25~+75			°C
Storage temperature	T <sub>stg</sub>	-30~+85			°C

\* Pulse width 1ms duty 1 / 5

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

Parameter	Symbol	Conditions	Red			Orange			Green			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
Forward voltage	V <sub>F</sub>	I <sub>F</sub> = 10mA	-	2.0	2.8	-	2.0	2.8	-	2.1	2.8	V
Reverse current	I <sub>R</sub>	V <sub>R</sub> = 5V	-	-	100	-	-	100	-	-	100	μA
Peak wavelength	λ <sub>P</sub>	I <sub>F</sub> = 10mA	-	650	-	-	610	-	-	563	-	nm
Spectral line half width	Δλ	I <sub>F</sub> = 10mA	-	40	-	-	40	-	-	40	-	nm

© Not designed for radiation resistance.

● Luminous intensity

Color	λ <sub>P</sub>	Type	Min.	Typ.	Max.	Unit
Red	650	LA-501VD	5.6	16	-	mcd
		LA-501VN				
Orange	610	LA-501DD	5.6	16	-	mcd
		LA-501DN				
Green	563	LA-501MD	5.6	16	-	mcd
		LA-501MN				

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

LED displays

●Electrical and optical characteristic curves

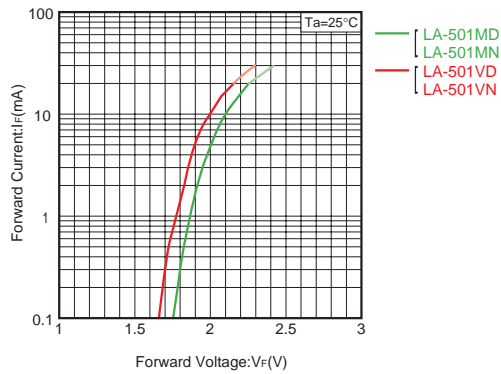


Fig.1 Forward Current - Forward Voltage

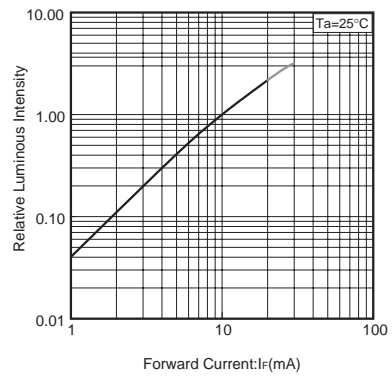


Fig.2 Relative Luminous Intensity - Forward Current

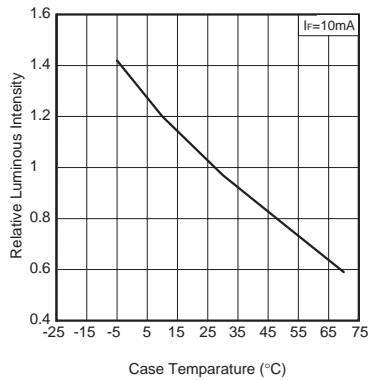


Fig.3 Relative Luminous Intensity - Case Temperature

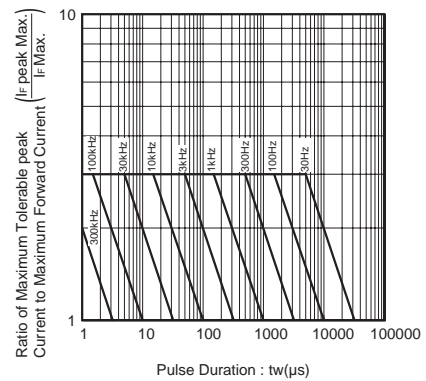


Fig.4 Ratio of Maximum Tolerable Peak Current - Pulse Duration

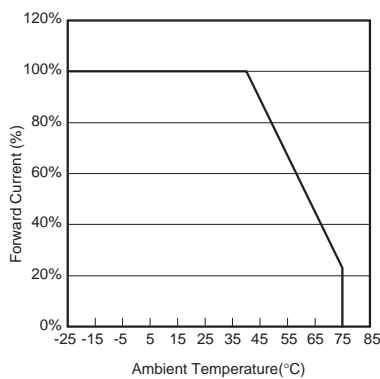


Fig.5 Derating

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