Single Digit LED Numeric Display

LA-401 D / N Series

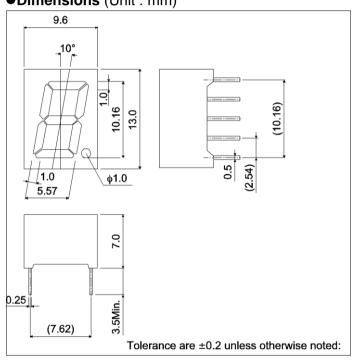
Datasheet

LA-401 D / N series is developed because of the demand for small single digit LED Numeric Display. Materials of emission are GaAsP on GaP, AlGalnP and GaP. This is the height of a letter 10.16mm, single digit LED Numeric Display that is packed by EPOXY resin.

Features

- 1) The height of a letter is 10.16mm.
- 2) Dimension is 9.6×13.0×7.0mm.
- 3) The package of surface color is black. Color of segment is colored in emitting color.
- 4) Each color has anode common and cathode common respectively.

● **Dimensions** (Unit: mm)



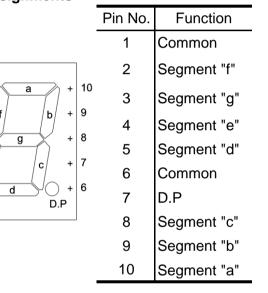
Pin assignments

Pin No.

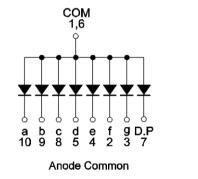
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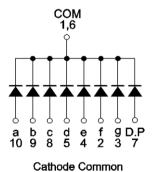
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●Internal circuit schematic





Selection guide

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Emitting color	Red	Red	Orange	Yellow	Green	
Common	Neu	(High brightness)	(High brightness)	(High brightness)		
Anode	LA-401VD	LA-401AD	LA-401ED	LA-401XD	LA-401MD	
Cathode	LA-401VN	LA-401AN	LA-401EN	LA-401XN	LA-401MN	

● Absolute maximum ratings (T_a = 25°C)

Parameter Sv	Symbol	Red	Red (High brightness)	Orange (High brightness)	Yellow (High brightness)	Green	Unit
	Cymbol	LA-401VD / VN	LA-401AD / AN	(0 0 /	(0 0 /	LA-401MD / MN	
Power dissipation	P_D	320	520	520	520	480	mW
Power dissipation	P _D / seg	40	65	65	65	60	mW
Forward current	I _F	15	25	25	25	20	mA
Peak forward current	I _{FP}	60 * ¹	50 * ²	50 * ²	50 * ²	60 * ¹	mA
Reverse voltage	V_R	5	5	5	5	5	V
Operating temperature	T_{opr}	−25 to +75					
Storage temperature	T _{stg}	−30 to +85					

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

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

Parameter	Symbol Cond	Conditions	Red		Red (High brightness)		Orange (High brightness)		Yellow (High brightness)		Green		Unit
			Тур.	Max.	Тур.	Max.	Тур.	Max.	Тур.	Max.	Тур.	Max.	
Forward voltage	V_{F}	I _F =10mA	2.0	2.8	2.05*	2.6*	2.05*	2.6*	2.05*	2.6*	2.1	2.8	V
Reverse current	I _R	V _R =3V	-	100	-	100	-	100	-	100	-	100	μΑ
Peak wavelength	λ_{p}	I _F =10mA	650	-	626*	-	610*	-	589*	-	563	-	nm
Spectral line halfwidth	Δλ	I _F =10mA	40	-	18*	-	17*	-	15*	-	40	-	nm

O Not designed for radiation resistance.

Luminous intensity

Parameter	λ_{p}	Type	Min.	Тур.	Max.	Unit
Red	650	LA-401VD	5.6	16	1	mcd
Reu	030	LA-401VN	5.0			
Red	626	LA-401AD	36	90		mcd
(High brightness)	020	LA-401AN	36	90	_	
Orange	610	LA-401ED	26	00	-	mcd
(High brightness)	610	LA-401EN	36	90		
Yellow	589	LA-401XD	36	90		mcd
(High brightness)	309	LA-401XN	30	90	-	
Green	563	LA-401MD	5.6	16		mcd
		LA-401MN	ა.ნ	10	-	

 \odot Condition $I_F=10mA$

^{*2} Pulse width 0.1ms, duty 1 / 10

^{*} Shows the number on the condition of $I_F=20$ mA.

•Electrical and optical characteristics curves

Fig.1 Forward Current vs. Forward Voltage

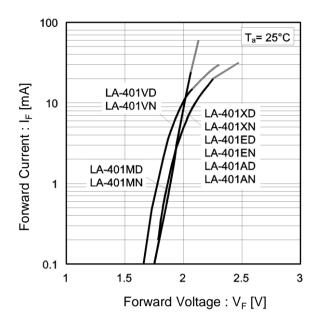


Fig.2 Relative Luminous Intensity vs. Forward Current

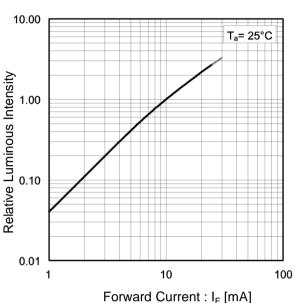


Fig.3 Relative Luminous Intensity vs. Case Temperature

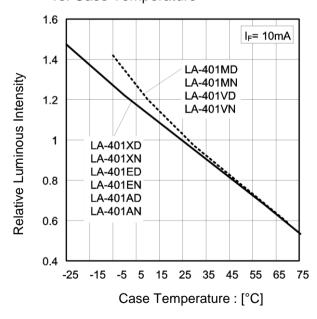
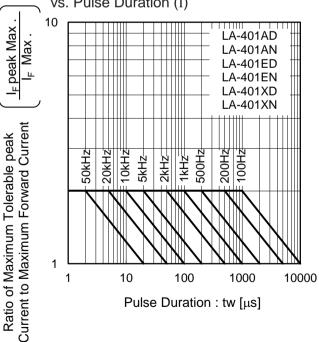


Fig.4 Ratio of Maximum Tolerable Peak Current vs. Pulse Duration (I)



•Electrical and optical characteristics curves

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

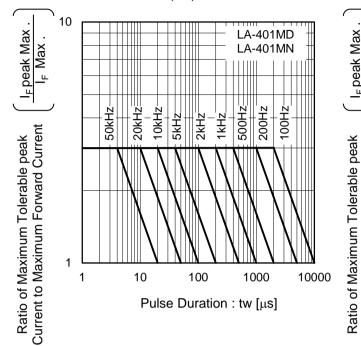


Fig.6 Ratio of Maximum Tolerable Peak Current vs. Pulse Duration (III)

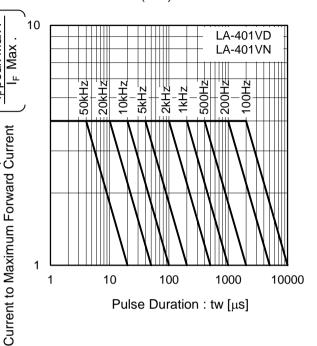
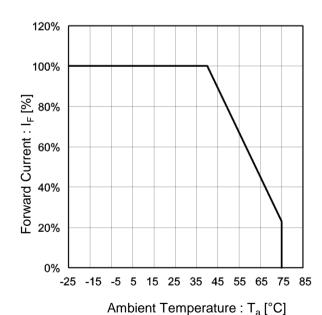


Fig.7 Derating



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