# Single Digit Surface Mount LED Numeric Display

LF-3011 A / K Series

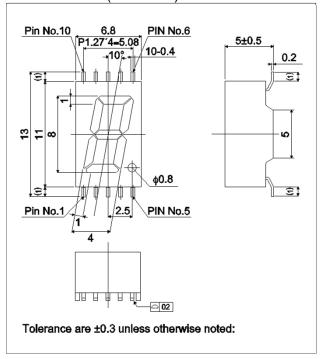
Datasheet

LF-3011A / K series of Single Digit Surface Mount LED Numeric Display which the height of a letter 8mm have ROHM original structure that realizes re-flow soldering.

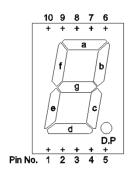
#### Features

- 1) Re-flow soldering \*
- 2) Pb-free available
- 3) Automatic mounting with taping pack
  - \* Number of re-flow process shall be recommend 1 time by our re-flow condition

## ● **Dimensions** (Unit: mm)



### Pin assignments

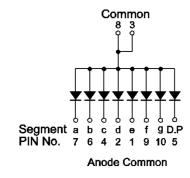


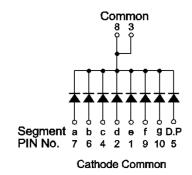
Pin No.	Function
1	Segment "e"
2	Segment "d"
3	Common
4	Segment "c"
5	D.P
6	Segment "b"
7	Segment "a"
8	Common
9	Segment "f"
10	Segment "g"

## Selection guide

Emitting color Common	Red	Green
Anode	LF-3011VA	LF-3011MA
Cathode	LF-3011VK	LF-3011MK

#### ●Internal circuit schematic





## ●Absolute maximum ratings (T<sub>a</sub> = 25°C)

Parameter	Symbol	Red	Green	Unit
		LF-3011VA / VK	LF-3011MA / MK	
Power dissipation	$P_{D}$	320	480	mW
Power dissipation	P <sub>D</sub> / seg	40	60	mW
Forward current	I <sub>F</sub>	15	20	mA
Peak forward current	I <sub>FP</sub>	60 *	60 *	mA
Reverse voltage	$V_R$	5	5	V
Operating temperature	$T_{opr}$	–25 t	°C	
Storage temperature	T <sub>stg</sub>	−30 t	°C	

<sup>\*</sup> Pulse width 1ms, duty 1 / 5

## ●Electrical and optical characteristics (T<sub>a</sub> = 25°C)

Parameter	Symbol	Conditions	Red		Green		Unit
	·		Тур.	Max.	Тур.	Max.	
Forward voltage	$V_{F}$	I <sub>F</sub> =10mA	2.0	2.8	2.1	2.8	V
Reverse current	I <sub>R</sub>	V <sub>R</sub> =3V	-	100	-	100	μΑ
Peak wavelength	$\lambda_{p}$	I <sub>F</sub> =10mA	650	-	563	-	nm
Spectral line halfwidth	Δλ	I <sub>F</sub> =10mA	40	-	40	-	nm

## Luminous intensity

Parameter	$\lambda_{p}$	Туре	Min.	Тур.	Max.	Unit
Red	650	LF-3011VA	3.6	10	-	mcd
	650	LF-3011VK	3.0			
Green	562	LF-3011MA	3.6	10	-	mcd
	563	LF-3011MK	3.0			

## ●Iv classification

Parameter	Type	Item	lv classification	Unit
Red	LF-3011VA LF-3011VK	" K "	3.6 to 7.1	mcd
		" L "	5.6 to 11	mcd
		" M "	9.0 to 18	mcd
		" N "	14 to 28	mcd
		"P"	22 to (45)	mcd
Green	LF-3011MA LF-3011MK	" K "	3.6 to 7.1	mcd
		" L "	5.6 to 11	mcd
		" M "	9.0 to 18	mcd
		" N "	14 to 28	mcd
		"P"	22 to (45)	mcd

 $<sup>\</sup>bigcirc$  Condition  $I_F=10mA$ 

## Electrical and optical characteristics curves

Fig.1 Forward Current vs. Forward Voltage

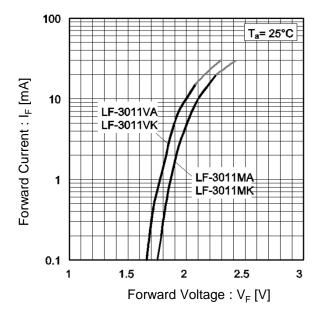


Fig.2 Relative Luminous Intensity vs. Forward Current

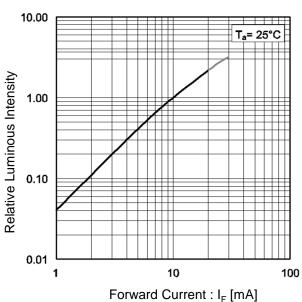


Fig.3 Relative Luminous Intensity vs. Case Temperature

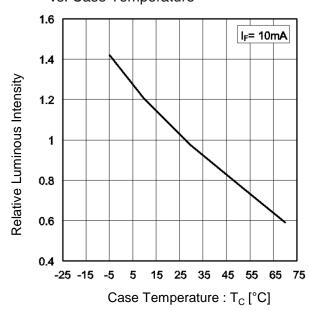
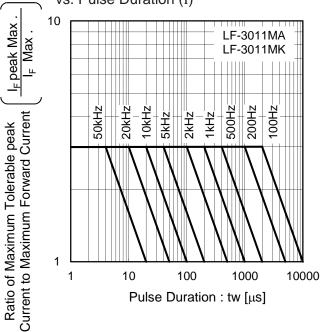


Fig.4 Ratio of Maximum Tolerable Peak Current vs. Pulse Duration (I)



## •Electrical and optical characteristics curves

Fig.5 Ratio of Maximum Tolerable Peak Current

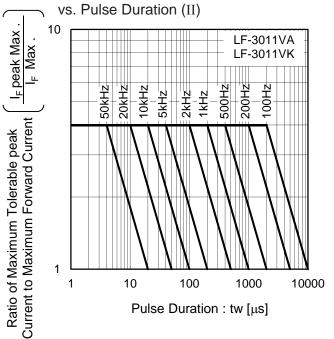
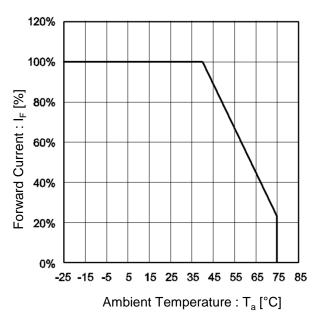


Fig.6 Derating



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