Double Digits LED Numeric Display

LB-602 A / K2 Series

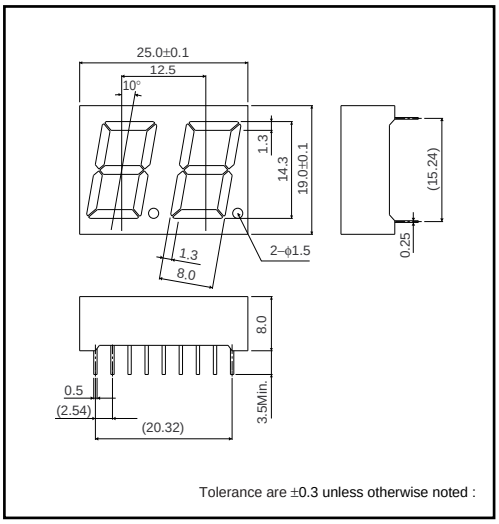
Data sheet

LB-602 A / K2 series is designed to use in the light. Materials of emission are GaAsP on GaP, AlGaInP GaP and GaN. This is the height of a letter 14.3mm, double digits LED Numeric Display that is packed by epoxy resin.

●Features

1) The height of a letter is 14.3mm..
2) Dimension is 25.0×19.0×8.0mm.
3) The package of surface color is black. Color of segment is colored in emitting color. (Blue color is only milky white)
4) Each color has anode common and cathode common respectively.

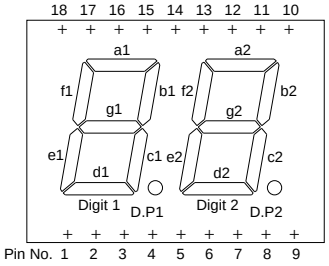
●Dimensions



●Selection guide

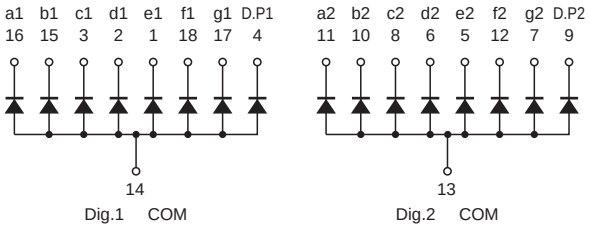
Emitting color / Common	Red	Red (High brightness)	Orange (High brightness)	Yellow (High brightness)	Green	Blue
Anode	LB-602VA2	LB-602AA2	LB-602EA2	LB-602XA2	LB-602MA2	LB-602BA2
Cathode	LB-602VK2	LB-602AK2	LB-602EK2	LB-602XK2	LB-602MK2	LB-602BK2

●Pin assignments

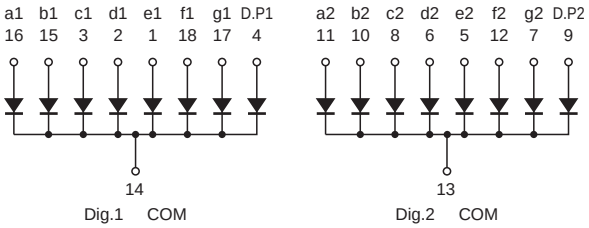


Pin No.	Function	Pin No.	Function
1	Segment "e1"	10	Segment "b2"
2	Segment "d1"	11	Segment "a2"
3	Segment "c1"	12	Segment "f2"
4	D.P1	13	Digit 2 Common
5	Segment "e2"	14	Digit 1 Common
6	Segment "d2"	15	Segment "b1"
7	Segment "g2"	16	Segment "a1"
8	Segment "c2"	17	Segment "g1"
9	D.P2	18	Segment "f1"

●Equivalent circuit (anode common)



(cathode common)



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●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Red	Red (High brightness)	Orange (High brightness)	Yellow (High brightness)	Green	Blue	Unit
		LB-602VA2 / VK2	LB-602AA2 / AK2	LB-602EA2 /EK2	LB-602XA2 / XK2	LB-602MA2 / MK2	LB-602BA2 / BK2	
Power dissipation	P_D	960	1040	1040	1040	960	672	mW
Power dissipation	P_D / seg	60	65	65	65	65	42	mW
Forward current	I_F	20	25	25	25	20	10	mA
Peak forward current	I_{FP}	60 ∗1	50 ∗2	50 ∗2	50 ∗2	60 ∗1	50 ∗2	mA
Reverse voltage	V_R	5	5	5	5	5	5	V
Operating temperature	Topr	−25 to +75						˚C
Storage temperature	Tstg	−30 to +85						˚C

∗1 Pulse width 1ms Duty 1 / 5
∗2 Pulse width 0.1ms Duty 1 / 10

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Conditions	Red		Red (High brightness)		Orange (High brightness)		Yellow (High brightness)		Green		Blue		Unit
			Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	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	3.6	4.2	V
Reverse current	I_R	V_R=3V	–	100	–	100	–	100	–	100	–	100	–	100	μA
Peak wavelength	λ_P	I_F=10mA	650	–	626 ∗	–	610 ∗	–	589 ∗	–	563	–	470	–	nm
Spectral line half width	$\Delta\lambda$	I_F=10mA	40	–	18 ∗	–	17 ∗	–	15 ∗	–	40	–	26	–	nm

◎The products are not radiations resistant.
∗ Shows the number on the condition of I_F=20mA.

●Luminous intensity

Color	λ_P (nm)	Type	Min.	Typ.	Unit
Red	650	LB-602VA2 LB-602VK2	5.6	16	mcd
Red (High brightness)	626	LB-602AA2 LB-602AK2	36	90	mcd
Orange (High brightness)	610	LB-602EA2 LB-602EK2	36	90	mcd
Yellow (High brightness)	589	LB-602XA2 LB-602XK2	36	90	mcd
Green	563	LB-602MA2 LB-602MK2	9	25	mcd
Blue	470	LB-602BA2 LB-602BK2	14	56	mcd

◎A condition of measurement is I_F=10mA.

●Electrical and optical characteristic curves

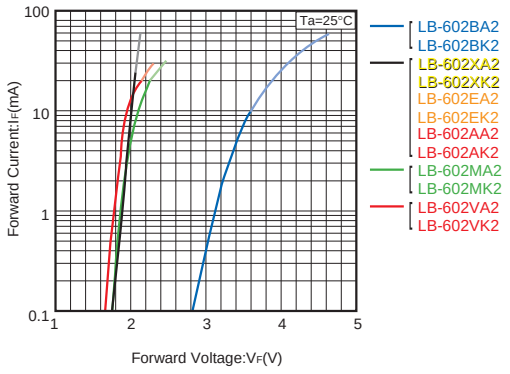

Fig.1 Forward Current - Forward Voltage

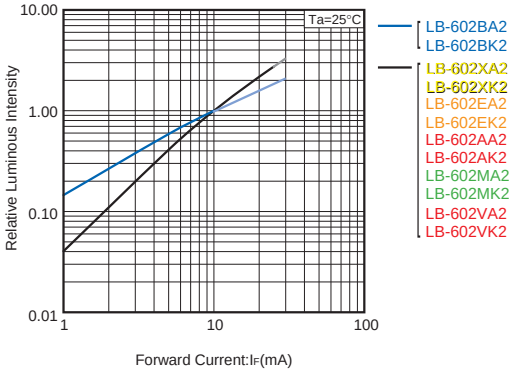

Fig.2 Relative Luminous Intensity - Forward Current

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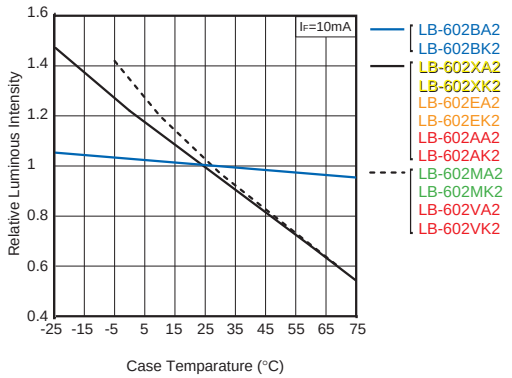

Fig.3 Relative Luminous Intensity - Case Temperature

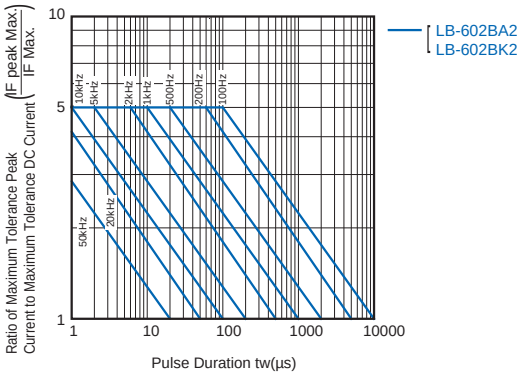

Fig.4 Ratio of Maximum Tolerable Peak Current - Pulse Duration (I)

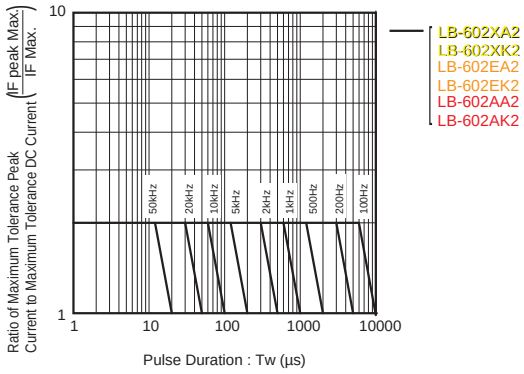

Fig.5 Ratio of Maximum Tolerable Peak Current - Pulse Duration (II)

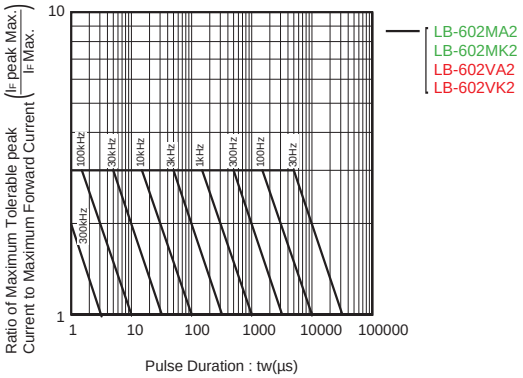

Fig.6 Ratio of Maximum Tolerable Peak Current - Pulse Duration (III)

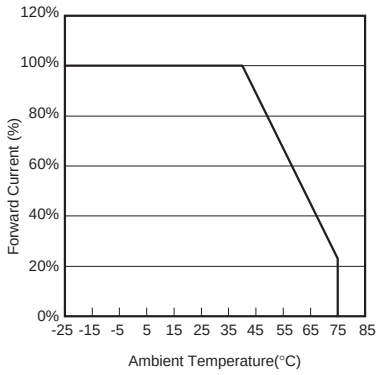

Fig.7 Derating

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