

Part No. **AL-31-40IRC-850**

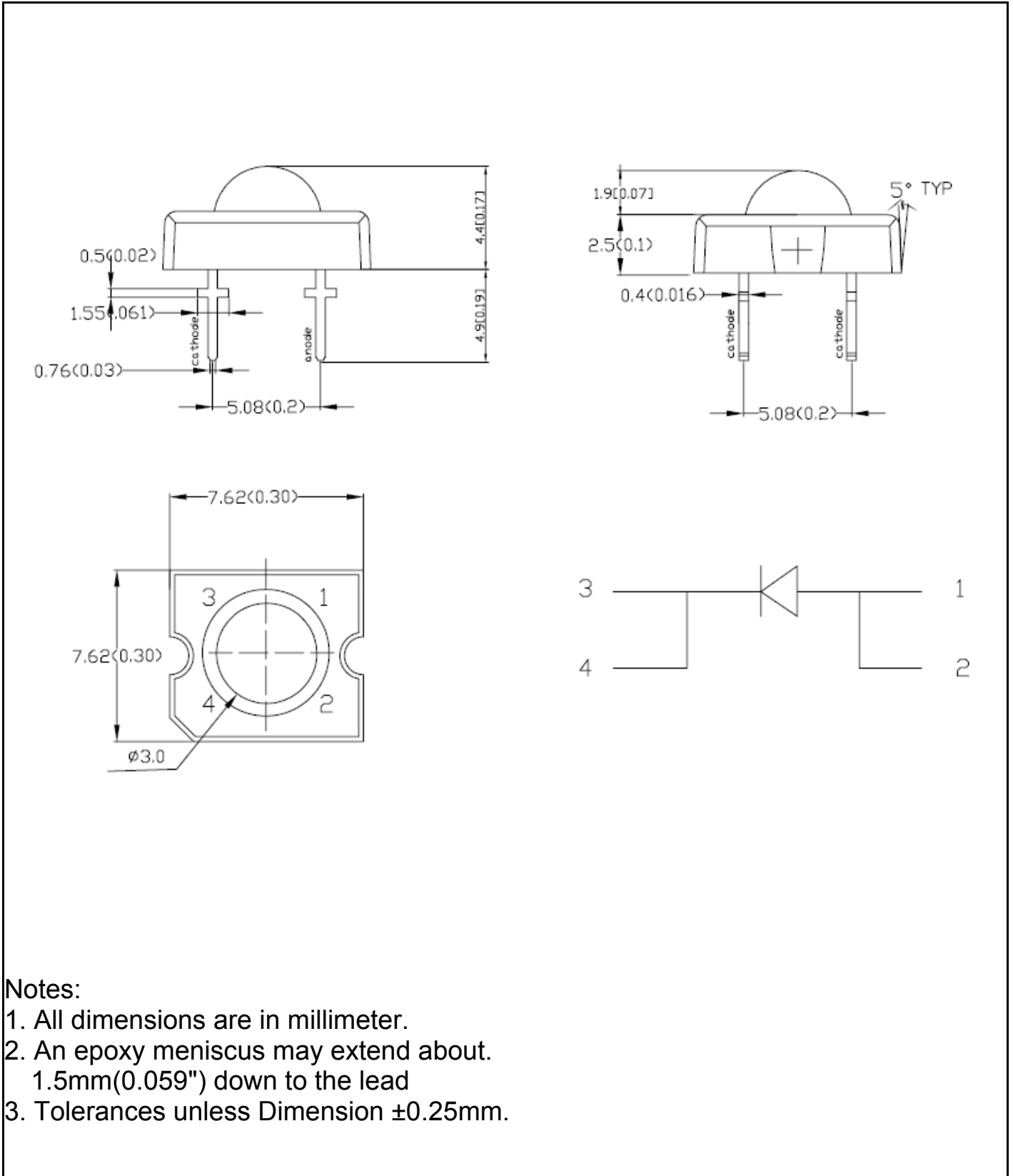
Diff No.

3 mm

High Power

Type : LED Lamps

■ Package Dimension:



Notes:

1. All dimensions are in millimeter.
2. An epoxy meniscus may extend about 1.5mm(0.059") down to the lead
3. Tolerances unless Dimension  $\pm 0.25$ mm.

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LED Parts P/N.	Chip		Lens Color
	Material	Emitted Color	
AL-31-40IRC-850	GaAlAs	Infrared	Water Clear

■ Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Rating	Unit
Continuous Forward Current	$I_F$	50	mA
Operating Temperature	$T_{opr}$	-55 to +100	°C
Storage Temperature	$T_{stg}$	-55 to +100	°C
Soldering Temperature	$T_{sol}$	260 ± 5	°C
Power Dissipation	$P_D$	120	mW
Peak Forward Current (Duty 1/10@1KHz)	$I_F$ (Peak)	1	A
Reverse Voltage	$V_R$	5	V

■ Electronic Optical Characteristics :

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Radiant Intensity	$P_O$	/	35	/	mW/sr	$I_F=50mA$
Viewing Angle	$2\theta_{1/2}$	/	40	/	deg	Note
Peak Wavelength	$\lambda_p$	/	850	/	nm	$I_F=50mA$
Spectrum Radiation Bandwidth	$\Delta\lambda$	/	50	/	nm	$I_F=50mA$
Forward Voltage	$V_F$	/	1.5	1.6	V	$I_F=50mA$
Reverse Current	$I_R$	/	/	10	μA	$V_R=5V$

Note :  $\theta_{1/2}$  is the off-axis angle at which the luminous is half the axial luminous intensity.

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**■ Reliability test items and conditions :**

The reliability of products shall be satisfied with items listed below.

Confidence level: 90%

LTPD: 10%

NO	ITEM	Test Conditions	Test hours/cycle	Sample Q'ty	Ac/Re
1	Solder Heat	Temp : 260°C±5°C	5 sec	80 pcs	0/1
2	Temperature Cycle	H : +85°C 30min λ 5min L : -40°C 30min	100 cycles	80 pcs	0/1
3	Thermal Shock	H : +100°C 5min λ 10sec L : -10°C 5min	100 cycles	80 pcs	0/1
4	High Temperature Storage	Ta=100°C	1000 hrs	80 pcs	0/1
5	Low Temperature Storage	Ta=-40°C	1000 hrs	80 pcs	0/1
6	DC Operating Life	Temp : 25°C I <sub>F</sub> =20mA	1000 hrs	80 pcs	0/1
7	High Temperature / High Humidity	85°C / 85%RH	1000 hrs	80 pcs	0/1

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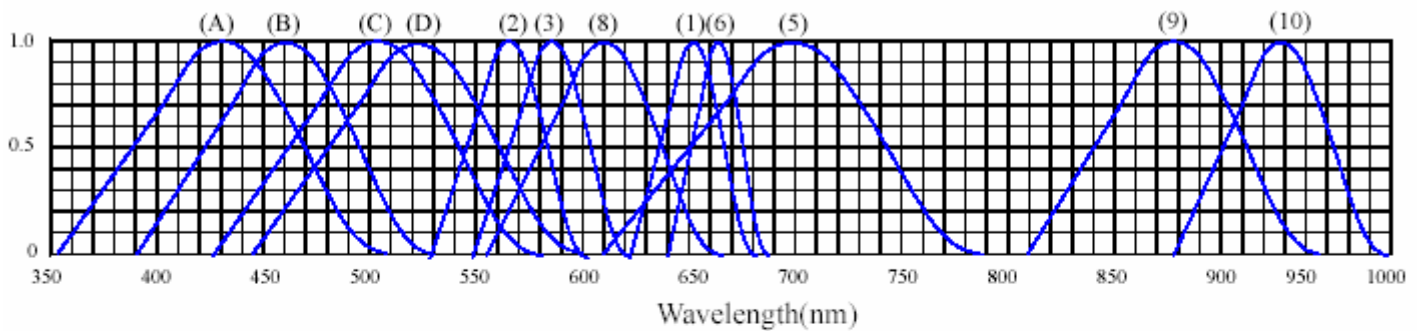
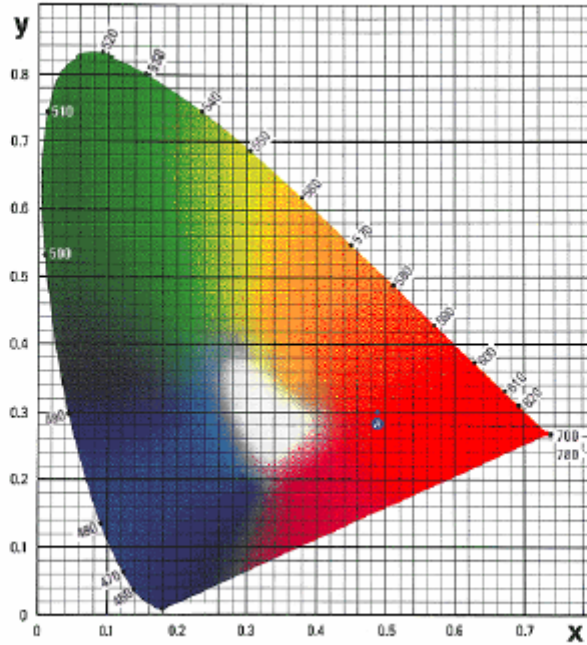
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◆ TYPICAL ELECTRICAL-OPTICAL CHARACTERISTICS CURVES



RELATIVE INTENSITY VS. WAVELENGTH( $\lambda_p$ )

- |   |                                  |
|---|----------------------------------|
| (1) GaAsP/GaAs 655nm/Red                | (9)- GaAlAs 880nm                |
| (2) GaP 568nm/ Yellow Green             | (10)-GaAs/GaAs&GaAlAs/GaAs 940nm |
| (3) GaAsP/GaP 585nm/Yellow              | (A)- GaN 430nm/Blue              |
| (4) GaAsP/GaP 635nm/Orange & Hi-Eff Red | (B)- InGaN 470nm/Blue            |
| (5) GaP 700nm/Bright Red                | (C)- InGaN 502nm/Ultra Green     |
| (6) GaAlAs/GaAs 660nm/Super Red         | (D)- InGaN 523nm/Ultra Green     |
| (8) GaAsP/GaP 610nm/Super Red           |                                  |

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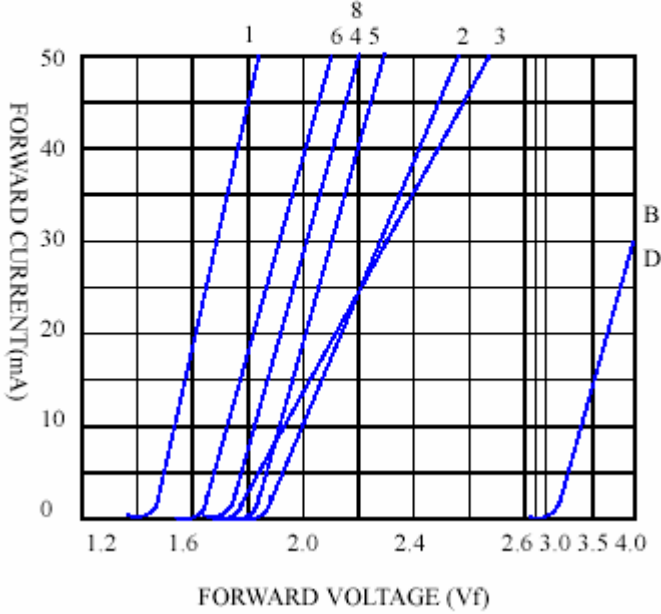
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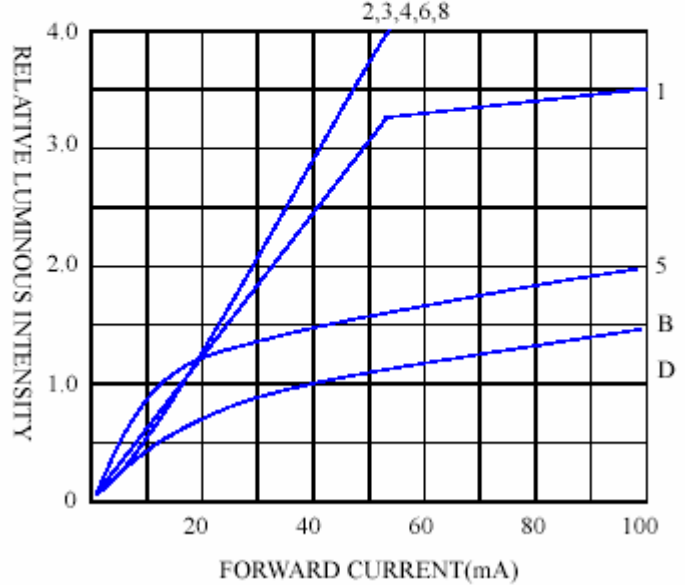
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◆ CHARACTERISTICS DIAGRAMS

FORWARD CURRENT VS. FORWARD VOLTAGE



RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



FORWARD CURRENT VS. AMBIENT TEMPERATURE

