



Lead (Pb) Free Product – RoHS Compliant

## LED810-xxAU Infrared LED Lamp

This series of LED810-xxAU is an AlGaAs LED mounted on a lead frame and encapsulated in various types of epoxy lens, which offer different design settings.

On forward bias, it emits a high power radiation of typical 22mW with a peak wavelength at 810nm.

### • Specifications

- |                    |             |
|--------------------|-------------|
| 1) Chip material   | AlGaAs      |
| 2) Peak wavelength | 810nm       |
| 3) Package         | Epoxy resin |
| 4) Solder          | Lead free   |



### • Absolute Maximum Ratings

Item	Symbol	Maximum Rated Value	Unit	Ambient Temperature
Power Dissipation	P <sub>D</sub>	170	mW	T <sub>a</sub> =25°C
Forward Current	I <sub>F</sub>	100	mA	T <sub>a</sub> =25°C
Pulse Forward Current	I <sub>FP</sub>	500	mA	T <sub>a</sub> =25°C
Reverse Voltage	V <sub>R</sub>	5	V	T <sub>a</sub> =25°C
Operating Temperature	T <sub>OPR</sub>	-30 ~ +85	°C	
Storage Temperature	T <sub>STG</sub>	-40 ~ +100	°C	
Soldering Temperature	T <sub>SOL</sub>	265	°C	

### • Electro-Optical Characteristics [T<sub>a</sub>=25°C]

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =50mA		1.7	1.9	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V			10	uA
Total Radiated Power	P <sub>O</sub>	I <sub>F</sub> =50mA	17.0	22.0		mW
Peak Wavelength	λ <sub>P</sub>	I <sub>F</sub> =50mA		810		nm
Half Width	Δλ	I <sub>F</sub> =50mA		35		nm
Rise Time	t <sub>r</sub>	I <sub>F</sub> =50mA		50		ns
Fall Time	t <sub>f</sub>	I <sub>F</sub> =50mA		25		ns



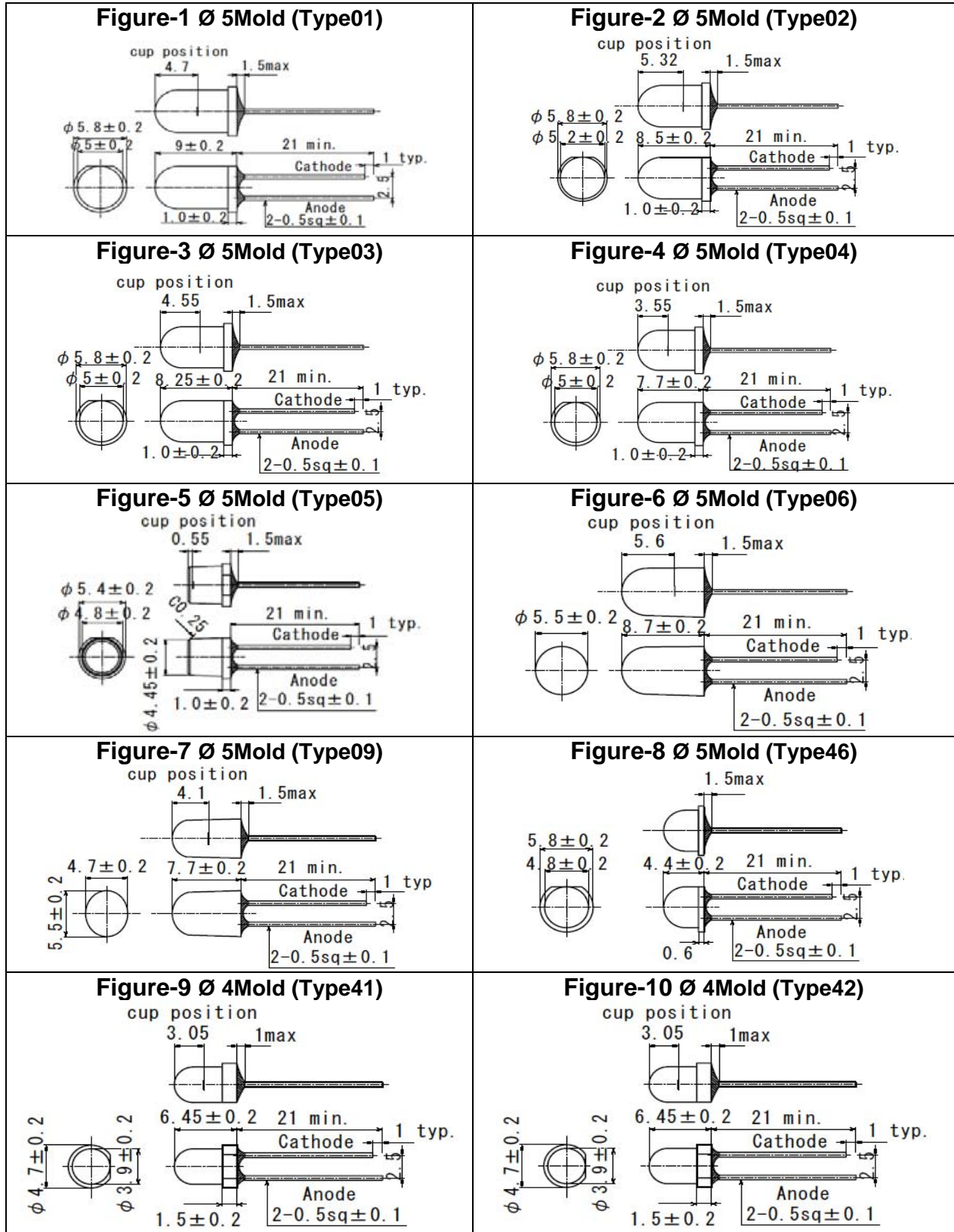
• **Characteristics of Radiant Intensity [Ta=25°C]**

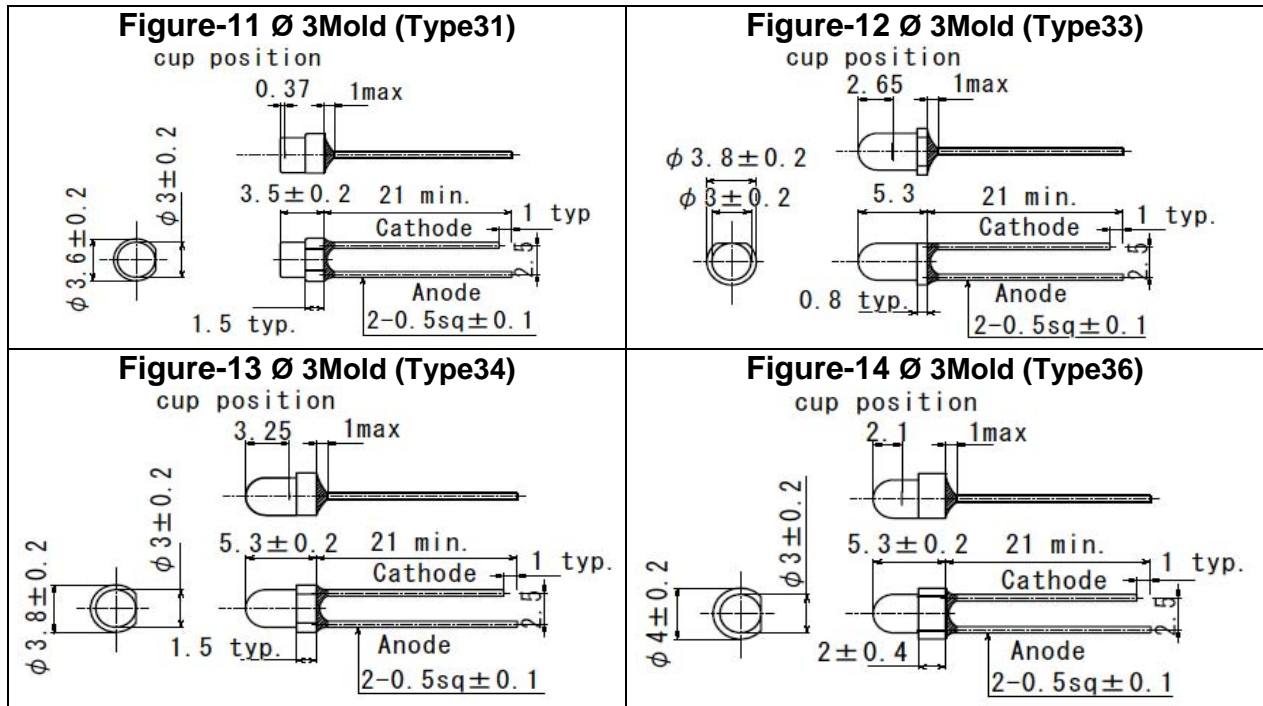
Type	Viewing Half Angle	Radiant Intensity IF= 50mA [mW/sr]			Outer Dimension	Dimension Figure
		Minimum	Typical	Maximum		
LED810-01AU	± 10°		100		Ø 5	1
LED810-02AU	± 7°		100		Ø 5	2
LED810-03AU	± 10°		100		Ø 5	3
LED810-04AU	± 20°		48		Ø 5	4
LED810-05AU	± 40°		10		Ø 5	5
LED810-06AU	± 7°		170		Ø 5	6
LED810-09AU	± 25° (Long)		80		Ø 5	7
	± 15° (Short)			Oval		
LED810-46AU					Ø 5	8
LED810-41AU	± 16°		60		Ø 4	9
LED810-42AU	± 23°		35		Ø 4	10
LED810-31AU					Ø 3	11
LED810-33AU	± 18°		40		Ø 3	12
LED810-34AU					Ø 3	13
LED810-36AU	± 33°		25		Ø 3	14

- ▶ Total Radiated Power is measured by Photodyne # 500.
- ▶ Brightness is measured by Tektronix J-16.



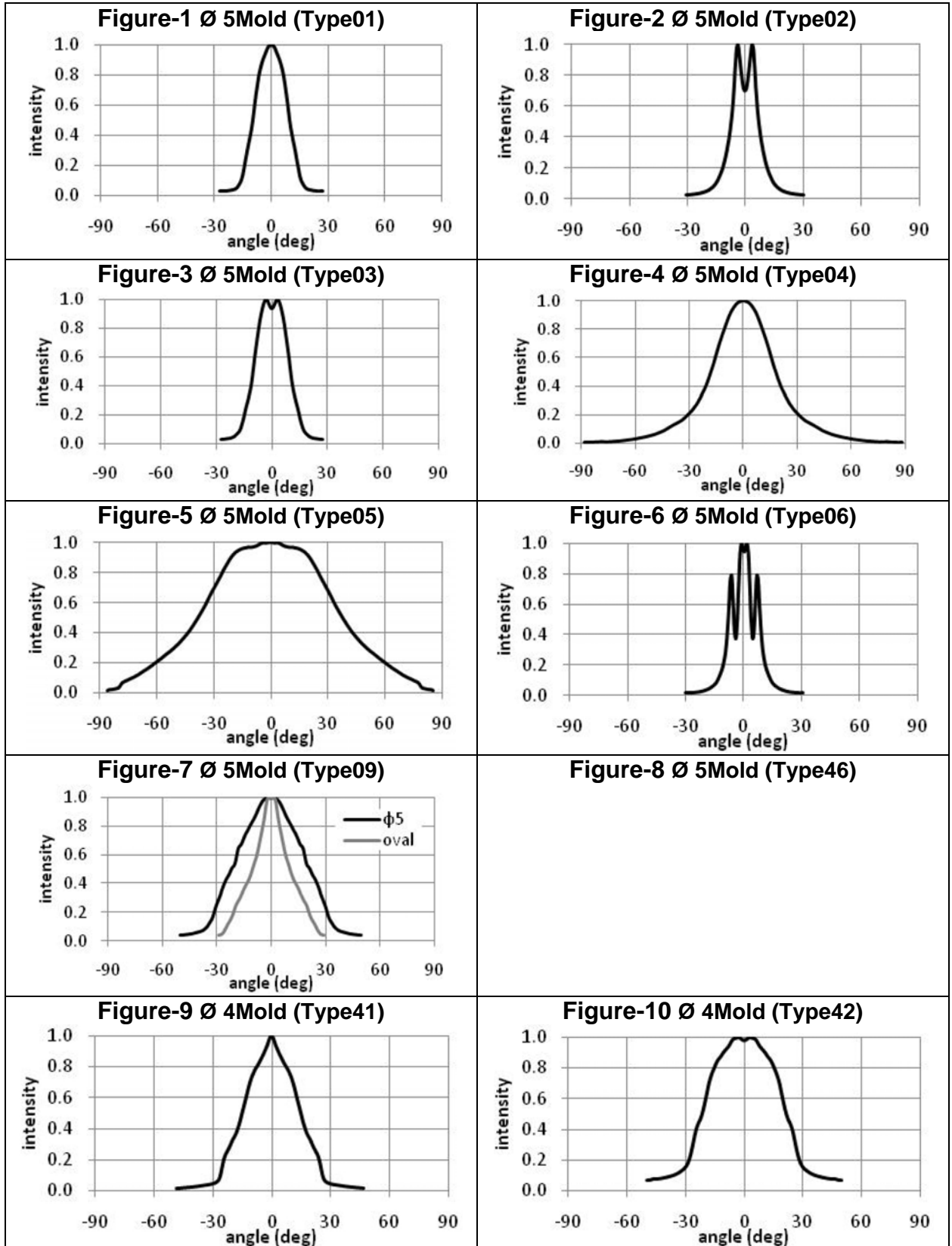
• **Outer Dimension of LED Lamp**



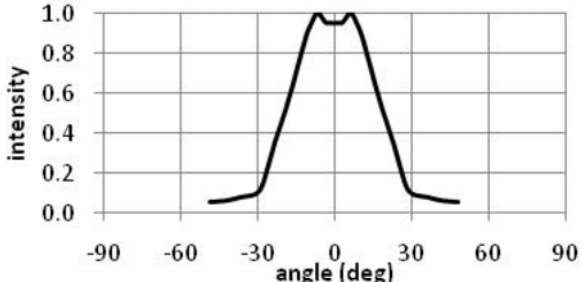
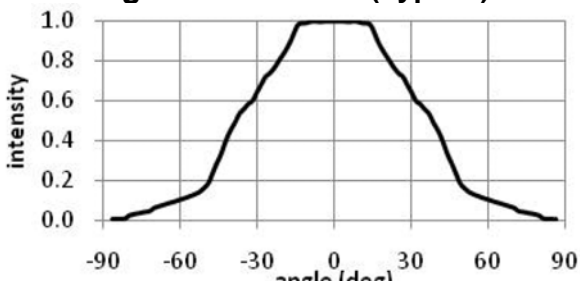




• The Viewing half angle





<p><b>Figure-11 Ø 3Mold (Type31)</b></p>	<p><b>Figure-12 Ø 3Mold (Type33)</b></p>  <table border="1"><caption>Data for Figure-12</caption><thead><tr><th>angle (deg)</th><th>intensity</th></tr></thead><tbody><tr><td>-90</td><td>0.0</td></tr><tr><td>-60</td><td>0.0</td></tr><tr><td>-30</td><td>0.1</td></tr><tr><td>0</td><td>1.0</td></tr><tr><td>30</td><td>0.1</td></tr><tr><td>60</td><td>0.0</td></tr><tr><td>90</td><td>0.0</td></tr></tbody></table>	angle (deg)	intensity	-90	0.0	-60	0.0	-30	0.1	0	1.0	30	0.1	60	0.0	90	0.0
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<p><b>Figure-13 Ø 3Mold (Type34)</b></p>	<p><b>Figure-14 Ø 3Mold (Type36)</b></p>  <table border="1"><caption>Data for Figure-14</caption><thead><tr><th>angle (deg)</th><th>intensity</th></tr></thead><tbody><tr><td>-90</td><td>0.0</td></tr><tr><td>-60</td><td>0.0</td></tr><tr><td>-30</td><td>0.5</td></tr><tr><td>0</td><td>1.0</td></tr><tr><td>30</td><td>0.5</td></tr><tr><td>60</td><td>0.0</td></tr><tr><td>90</td><td>0.0</td></tr></tbody></table>	angle (deg)	intensity	-90	0.0	-60	0.0	-30	0.5	0	1.0	30	0.5	60	0.0	90	0.0
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• **LED810 - serie**

