

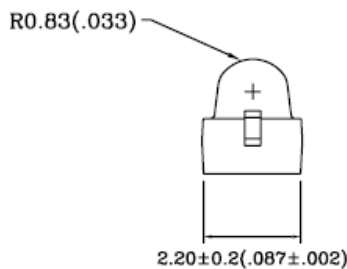
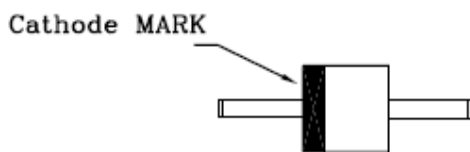
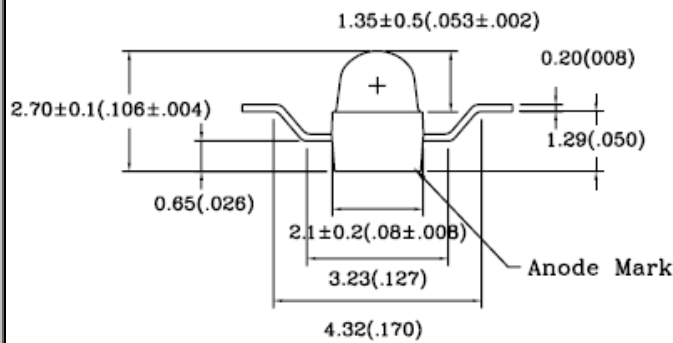
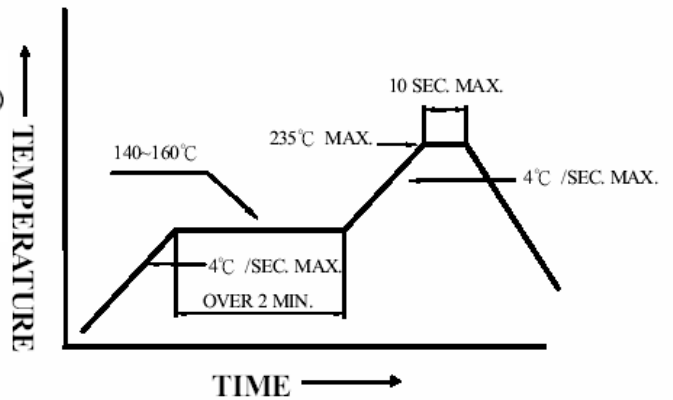
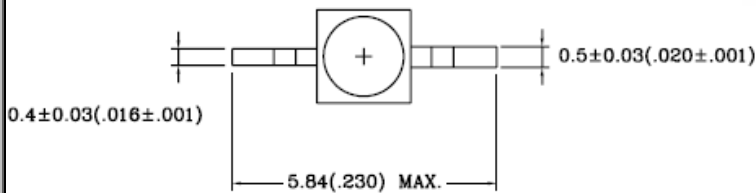
## AXIAL LED LAMPS

### Super Red Axial With "Z-Bent" Lead

Part Number: AL-XD0361-F9

### Package outlines & Re-flow Profile

#### ■Reflow Temp/Time



#### ■Soldering iron

Basic spec is  $\leq 5$ sec when  $260^{\circ}\text{C}$ . If temperature is higher, time should be shorter ( $+10^{\circ}\text{C} \rightarrow -1$ sec). Power dissipation of iron should be smaller than 15W, and temperatures should be controllable. Surface temperature of the device should be under  $230^{\circ}\text{C}$ .

ITEM	MATERIALS
Resin (mold)	Epoxy
Lens color	Water Clear
Printed circuit board	BT
Dice	GaAlAs/GaAs
Emitted color	Super Red

#### NOTES:

- All dimensions are in millimeters (inches);
- Tolerances are  $\pm 0.1\text{mm}$  (0.004inch) unless otherwise noted.

**AXIAL LED LAMPS****Part Number: AL-XD0361-F9****ELECTRO-OPTICAL CHARACTERISTICS****(T<sub>A</sub>=25°C)**

Parameter	Test Condition	Symbol	Value	Unit
Viewing angle at 50% I <sub>v</sub>	I <sub>F</sub> =10mA	2 θ 1/2	35	Deg
Forward voltage (Typ.)	I <sub>F</sub> =20mA	V <sub>F</sub>	1.80	V
(Max.)			2.60	
Luminous intensity (Min.)	I <sub>F</sub> =20mA	I <sub>v</sub>	28.0	mcd
(Typ.)			75.0	
Wavelength	I <sub>F</sub> =20mA	λ <sub>p</sub>	660	nm
		λ <sub>d</sub>	643±5	
Spectral Line Half-Width	I <sub>F</sub> =20mA	△λ	30	nm
Peak pulsing current (1/10 duty f=1kHz)		I <sub>FP</sub>	100	mA

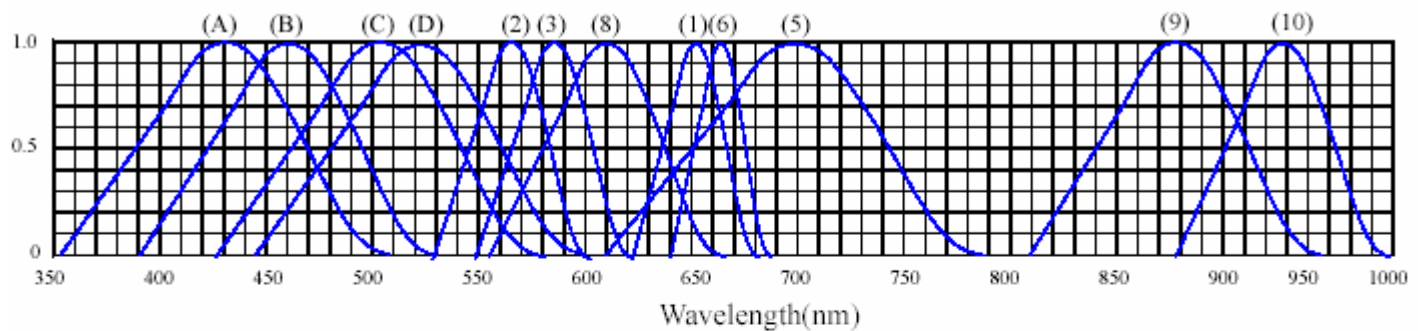
**Absolute maximum ratings****(T<sub>A</sub>=25°C)**

Parameter	Symbol	Value	Unit
Forward current	I <sub>F</sub>	30	mA
Reverse voltage	V <sub>R</sub>	5	V
Reverse current	I <sub>R</sub>	100	μA
Power Dissipation	P <sub>D</sub>	120	mW
Operating temperature range	Top	-25 ~+80	°C
Storage temperature range	Tstg	-30 ~+85	°C
Lead soldering temperature	260°C For 5 Seconds		

**AXIAL LED LAMPS****Part Number: AL-XD0361-F9****Test items and results of reliability**

Classification	Test Item	Reference Standard	Test Conditions	Result
Endurance Test	Operation Life	MIL-STD-750:1026 MIL-STD-883:1005 JIS C 7021 :B-1	Connect with a power If=20mA Ta=Under room temperature Test time=1,000hrs	0/20
	High Temperature High Humidity Storage	MIL-STD-202:103B JIS C 7021 :B-11	Ta=+65°C±5°C RH=90%-95% Test time=240hrs	0/20
	High Temperature Storage	MIL-STD-883:1008 JIS C 7021 :B-10	High Ta=+85°C±5°C Test time=1,000hrs	0/20
	Low Temperature Storage	JIS-C-7021 :B-12	Low Ta=-35°C±5°C Test time=1,000hrs	0/20
Environmental Test	Temperature Cycling	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1010 JIS C 7021 :A-4	-35°C ~ +25°C ~ +85°C ~ +25°C 60min 20min 60min 20min Test Time=5cycle	0/20
	Thermal Shock	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1011	-35°C±5°C ~+85°C±5°C 20min 20min Test Time=10cycle	0/20
	Solder Resistance	MIL-STD-202:201A MIL-STD-750:2031 JIS C 7021 :A-1	Preheating : 140°C -160°C ,within 2 minutes. Operation heating : 235°C(Max.), within 10seconds. (Max.)	0/20

\* Refer to reliability test standard specification for in this line.

**AXIAL LED LAMPS****Part Number: AL-XD0361-F9****Typical Optical-Electrical Characteristic Curves**◆ **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           |                                  |

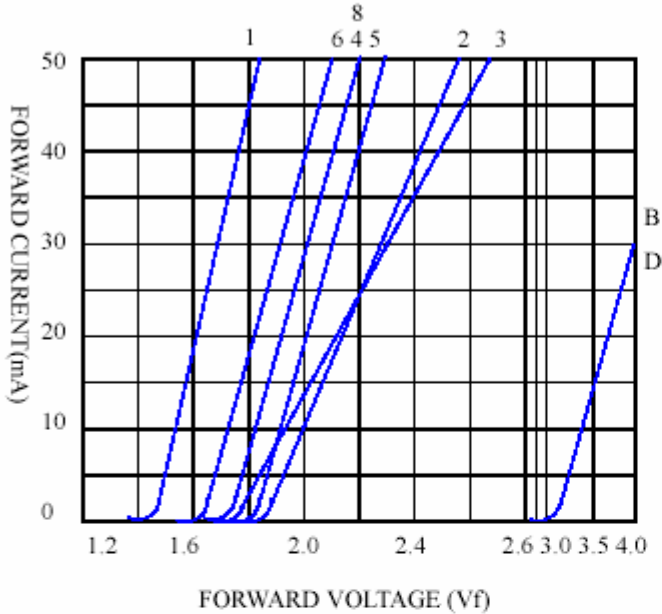
**AXIAL LED LAMPS**

**Part Number: AL-XD0361-F9**

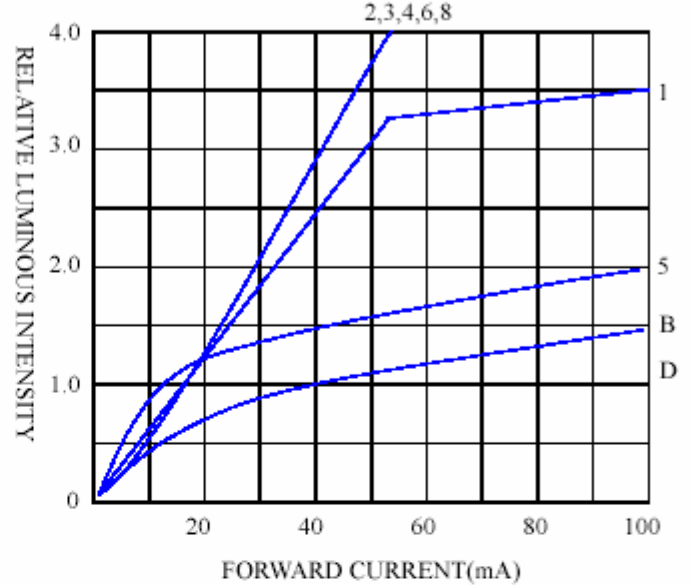
**Typical Optical-Electrical Characteristic Curves**

◆ **CHARACTERISTICS DIAGRAMS**

FORWARD CURRENT VS. FORWARD VOLTAGE



RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



FORWARD CURRENT VS. AMBIENT TEMPERATURE

