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**LED ARRAY**



Lead-Free Parts

**LA46B/EG-4-PF**

**DATA SHEET**

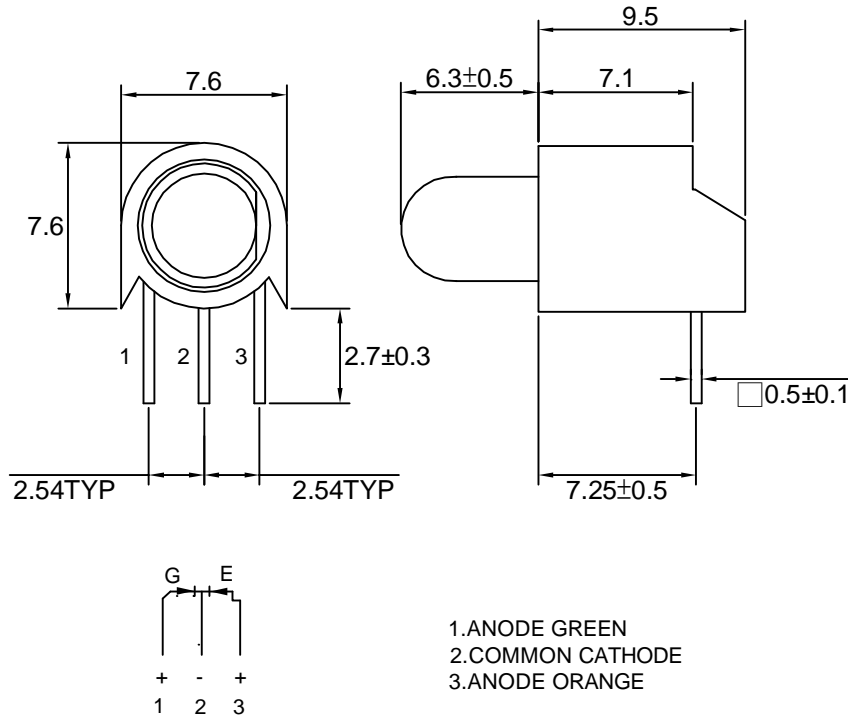
DOC. NO : QW0905-LA46B/EG-4-PF

REV. : A

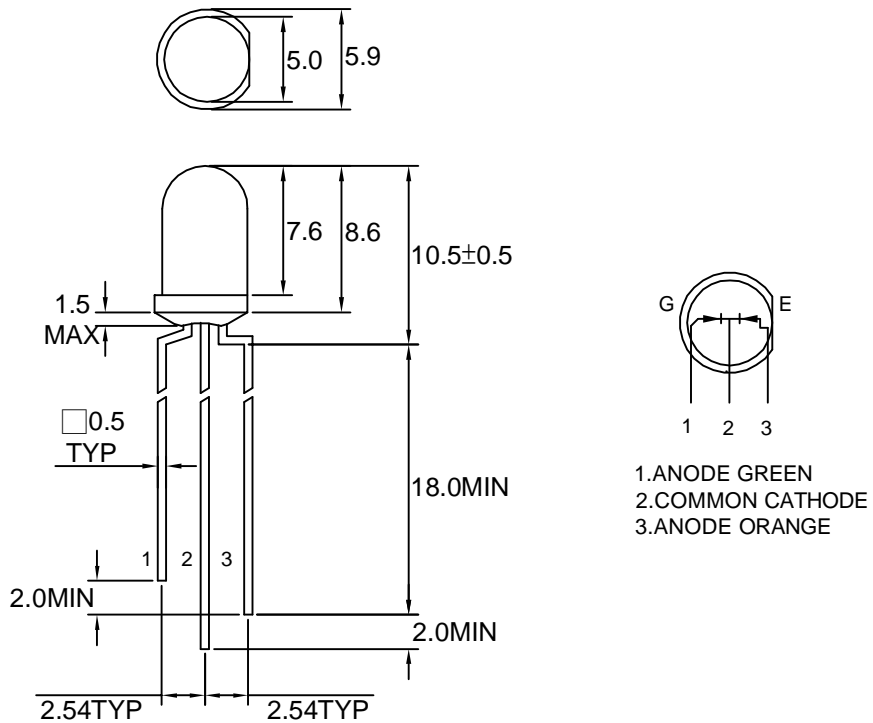
DATE : 22 - Nov.- 2005



### Package Dimensions



### LEG3392



Note : 1.All dimension are in millimeter tolerance is ±0.25mm unless otherwise noted.  
 2.Specifications are subject to change without notice.

**Absolute Maximum Ratings at Ta=25 °C**

| Parameter                               | Symbol | Ratings    |     | UNIT    |
|---|--------|------------|-----|---------|
|   |        | E          | G   |         |
| Forward Current                         | IF     | 30         | 30  | mA      |
| Peak Forward Current<br>Duty 1/10@10KHz | IFP    | 120        | 120 | mA      |
| Power Dissipation                       | PD     | 100        | 100 | mW      |
| Reverse Current @5V                     | Ir     | 10         | 10  | $\mu$ A |
| Operating Temperature                   | Topr   | -40 ~ +85  |     | °C      |
| Storage Temperature                     | Tstg   | -40 ~ +100 |     | °C      |

**Typical Electrical & Optical Characteristics (Ta=25 °C)**

| PART NO       | MATERIAL  | COLOR   |                | Peak wave length<br>$\lambda$ Pnm | Spectral halfwidth<br>$\Delta \lambda$ nm | Forward voltage @20mA(V) |      | Luminous intensity @10mA(mcd) |      | Viewing angle<br>$2\theta$ 1/2 (deg) |
|---------------|-----------|---------|----------------|-----------------------------------|---|--------------------------|------|-------------------------------|------|--------------------------------------|
|               |           | Emitted | Lens           |                                   |   | Min.                     | Max. | Min.                          | Typ. |                                      |
| LA46B/EG-4-PF | GaAsP/GaP | Orange  | White Diffused | 635                               | 45  | 1.7                      | 2.6  | 8.0                           | 12   | 70                                   |
|               | GaP       | Green   |                | 565                               | 30  | 1.7                      | 2.6  | 8.0                           | 12   | 70                                   |

Note : 1.The forward voltage data did not including  $\pm 0.1V$  testing tolerance.  
 2. The luminous intensity data did not including  $\pm 15\%$  testing tolerance.



### Typical Electro-Optical Characteristics Curve

E CHIP

Fig.1 Forward current vs. Forward Voltage

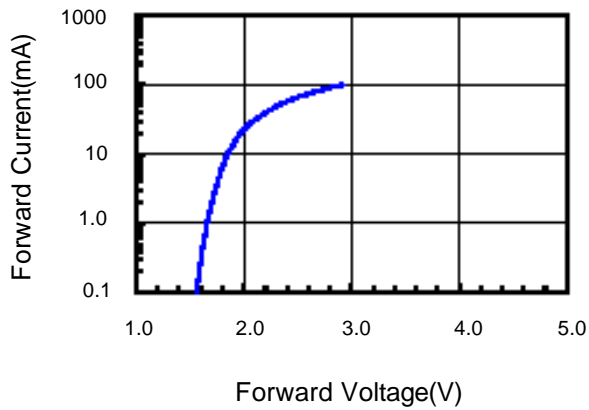


Fig.2 Relative Intensity vs. Forward Current

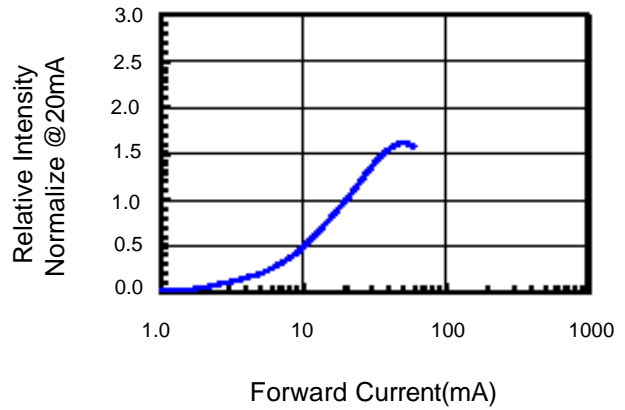


Fig.3 Forward Voltage vs. Temperature

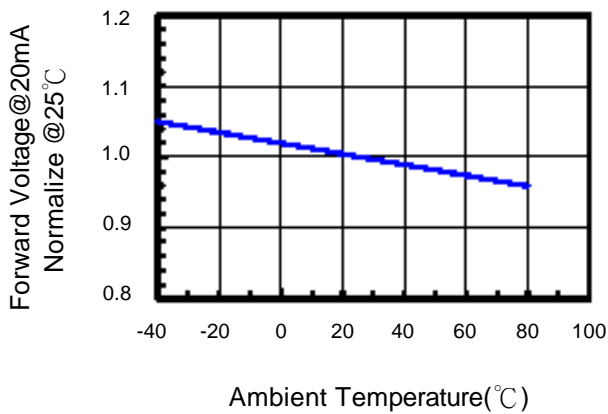


Fig.4 Relative Intensity vs. Temperature

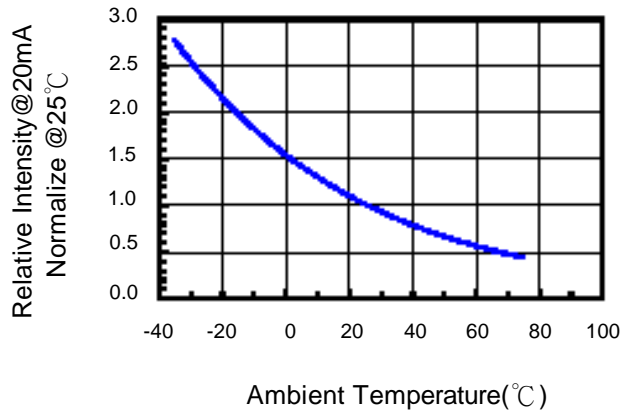
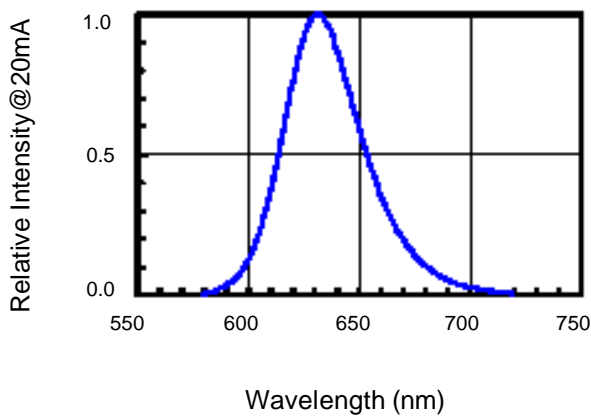


Fig.5 Relative Intensity vs. Wavelength





### Typical Electro-Optical Characteristics Curve

G CHIP

Fig.1 Forward current vs. Forward Voltage

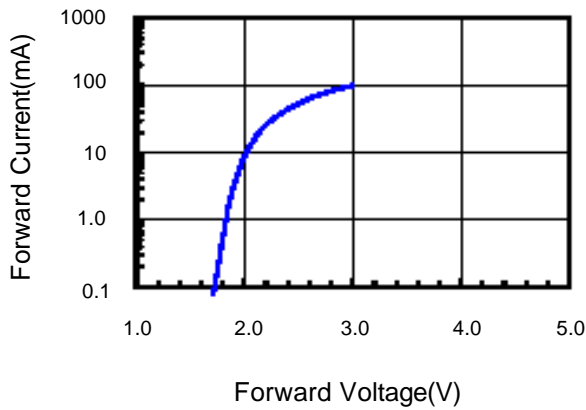


Fig.2 Relative Intensity vs. Forward Current

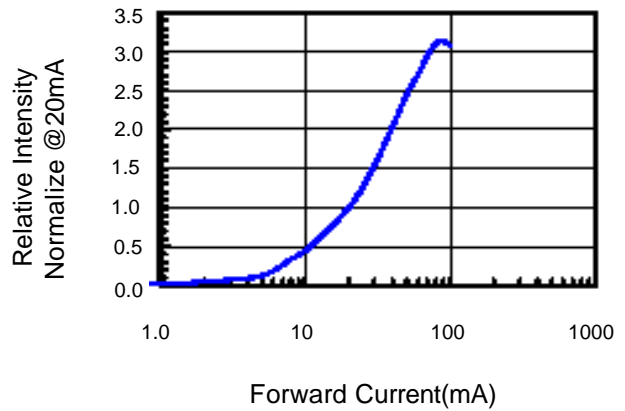


Fig.3 Forward Voltage vs. Temperature

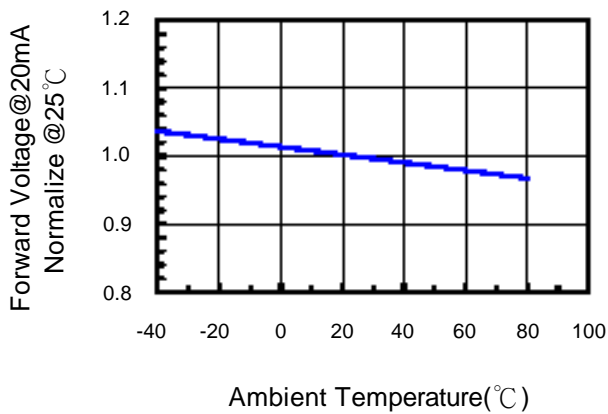


Fig.4 Relative Intensity vs. Temperature

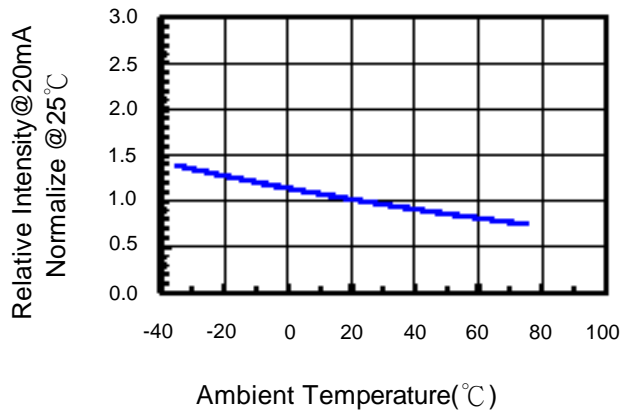
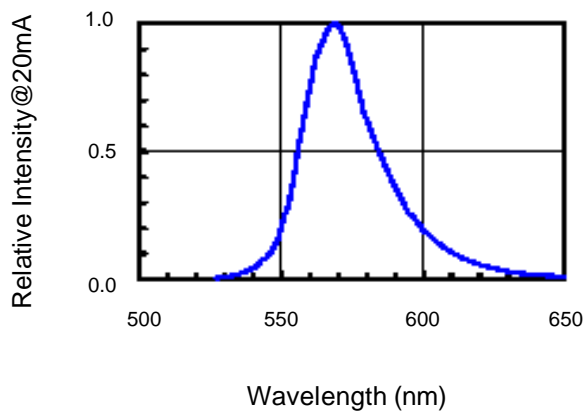


Fig.5 Relative Intensity vs. Wavelength





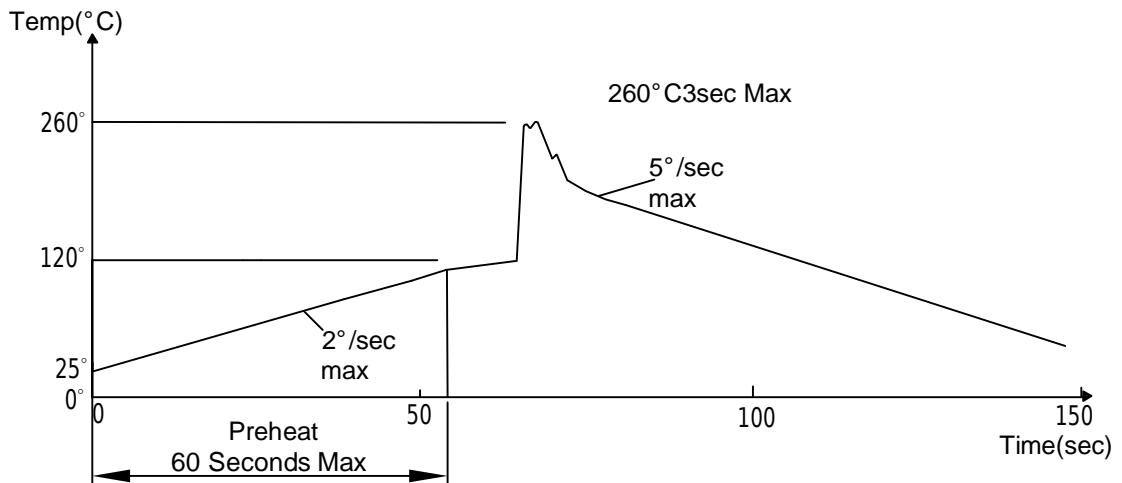
### Soldering Condition(Pb-Free)

#### 1.Iron:

Soldering Iron:30W Max  
Temperature 350° C Max  
Soldering Time:3 Seconds Max(One Time)  
Distance:2mm Min(From solder joint to case)

#### 2.Wave Soldering Profile

Dip Soldering  
Preheat: 120° C Max  
Preheat time: 60seconds Max  
Ramp-up  
2° C/sec(max)  
Ramp-Down:-5° C/sec(max)  
Solder Bath:260° C Max  
Dipping Time:3 seconds Max  
Distance:2mm Min(From solder joint to case)



**Reliability Test:**

| Test Item                           | Test Condition   | Description   | Reference Standard   |
|-------------------------------------|--|---|--|
| Operating Life Test                 | 1.Under Room Temperature<br>2.If=20mA<br>3.t=1000 hrs (-24hrs, +72hrs) | This test is conducted for the purpose of determining the resistance of a part in electrical and thermal stressed.  | MIL-STD-750: 1026<br>MIL-STD-883: 1005<br>JIS C 7021: B-1                      |
| High Temperature Storage Test       | 1.Ta=105 °C ±5°C<br>2.t=1000 hrs (-24hrs, +72hrs)                      | The purpose of this is the resistance of the device which is laid under condition of high temperature for hours.  | MIL-STD-883:1008<br>JIS C 7021: B-10   |
| Low Temperature Storage Test        | 1.Ta=-40 °C ±5°C<br>2.t=1000 hrs (-24hrs, +72hrs)                      | The purpose of this is the resistance of the device which is laid under condition of low temperature for hours.   | JIS C 7021: B-12   |
| High Temperature High Humidity Test | 1.Ta=65 °C ±5°C<br>2.RH=90%~95%<br>3.t=240hrs ±2hrs                    | The purpose of this test is the resistance of the device under tropical for hours.  | MIL-STD-202:103B<br>JIS C 7021: B-11   |
| Thermal Shock Test                  | 1.Ta=105 °C ±5°C & -40 °C ±5°C<br>(10min) (10min)<br>2.total 10 cycles | The purpose of this is the resistance of the device to sudden extreme changes in high and low temperature.  | MIL-STD-202: 107D<br>MIL-STD-750: 1051<br>MIL-STD-883: 1011                    |
| Solder Resistance Test              | 1.T.Sol=260 °C ±5°C<br>2.Dwell time= 10 ±1sec.                         | This test intended to determine the thermal characteristic resistance of the device to sudden exposures at extreme changes in temperature when soldering the lead wire. | MIL-STD-202: 210A<br>MIL-STD-750: 2031<br>JIS C 7021: A-1                      |
| Solderability Test                  | 1.T.Sol=230 °C ±5°C<br>2.Dwell time=5 ±1sec                            | This test intended to see soldering well performed or not.  | MIL-STD-202: 208D<br>MIL-STD-750: 2026<br>MIL-STD-883: 2003<br>JIS C 7021: A-2 |