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**LED ARRAY**



Lead-Free Parts

**LA140B/G-2-PF**

# **DATA SHEET**

DOC. NO : QW0905-LA140B/G-2-PF

REV. : A

DATE : 23 - Oct.- 2005



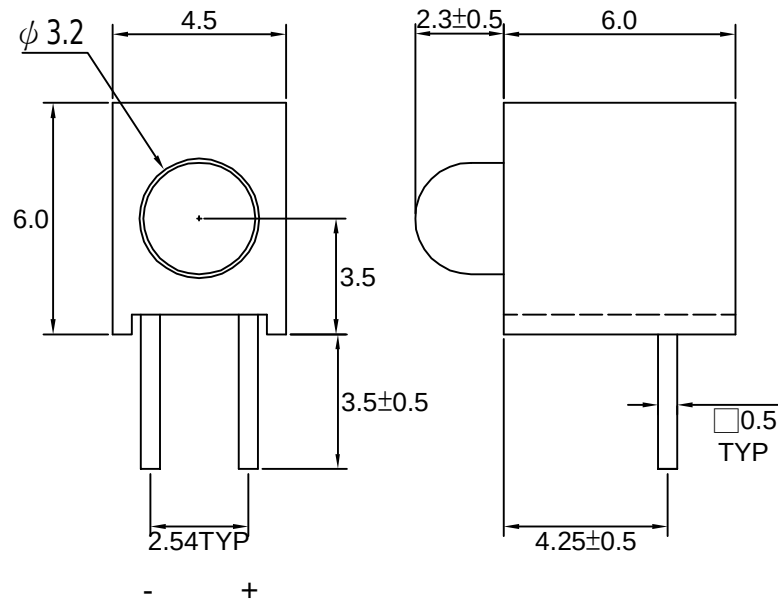
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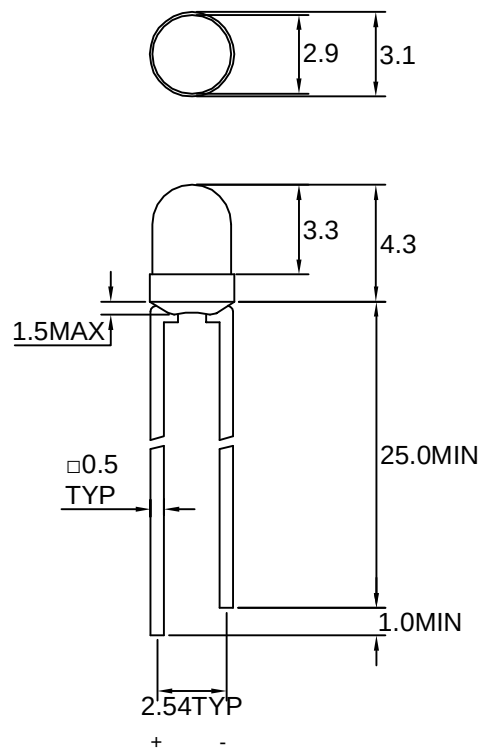
PART NO. LA140B/G-2-PF

Page 1/5

## Package Dimensions



## LG2640-1-PF



Note : 1.All dimension are in millimeter tolerance is  $\pm 0.25\text{mm}$  unless otherwise noted.  
2.Specifications are subject to change without not



## Absolute Maximum Ratings at Ta=25 °C

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

## Typical Electrical &amp; Optical Characteristics (Ta=25 °C)

| PART NO       | MATERIAL | COLOR   |                | Peak wave length<br>λ Pnm | Spectral halfwidth<br>Δ λ nm | Forward voltage<br>@20mA(V) |      | Luminous intensity<br>@10mA(mcd) |      | Viewing angle<br>2 θ 1/2 (deg) |
|---------------|----------|---------|----------------|---------------------------|------------------------------|-----------------------------|------|----------------------------------|------|--------------------------------|
|               |          | Emitted | Lens           |                           |                              | Min.                        | Max. | Min.                             | Typ. |                                |
| LA140B/G-2-PF | GaP      | Green   | Green Diffused | 565                       | 30                           | 1.7                         | 2.6  | 12                               | 20   | 50                             |

Note : 1.The forward voltage data did not including ±0.1V testing tolerance.

2. The luminous intensity data did not including ±15% testing tolerance.



## Typical Electro-Optical Characteristics Curve

### G CHIP

Fig.1 Forward current vs. Forward Voltage

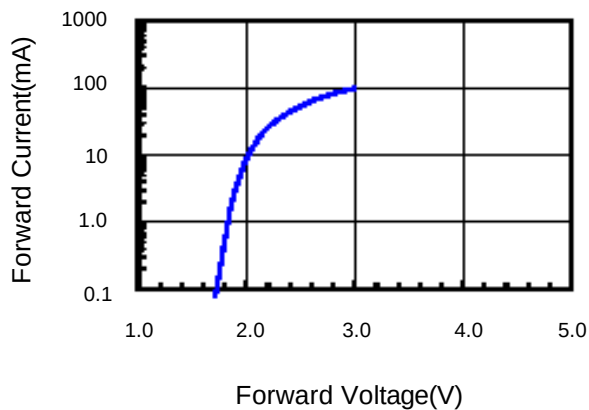


Fig.2 Relative Intensity vs. Forward Current

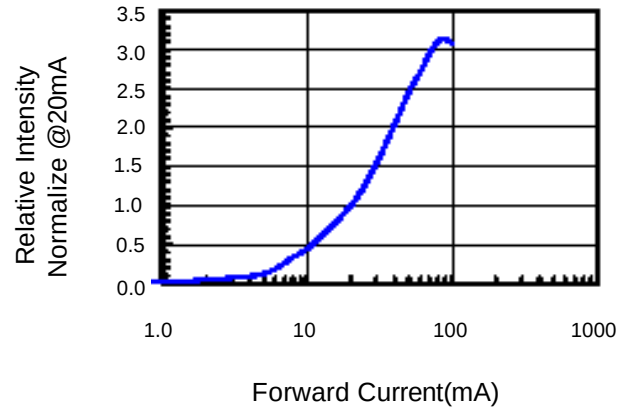


Fig.3 Forward Voltage vs. Temperature

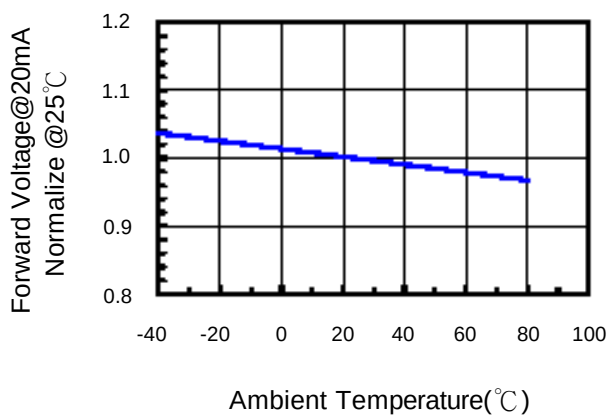


Fig.4 Relative Intensity vs. Temperature

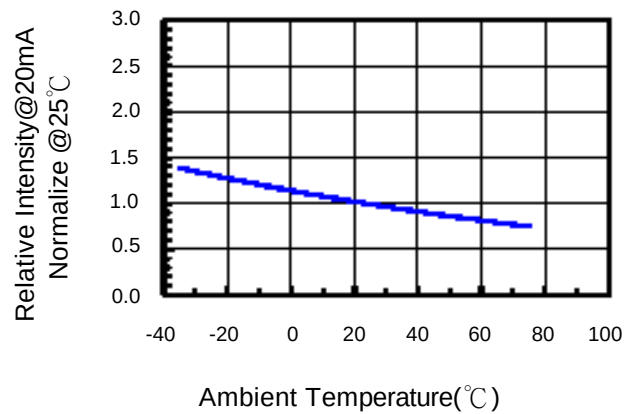
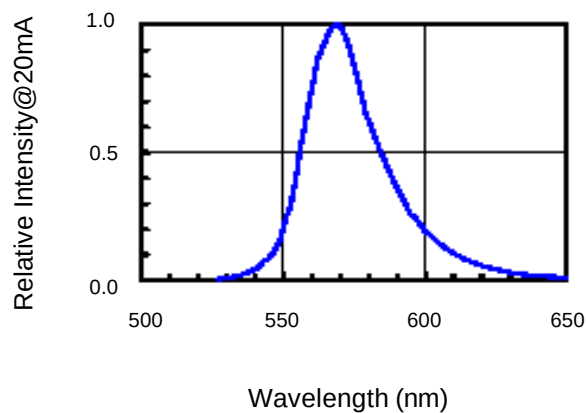


Fig.5 Relative Intensity vs. Wavelength





## 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

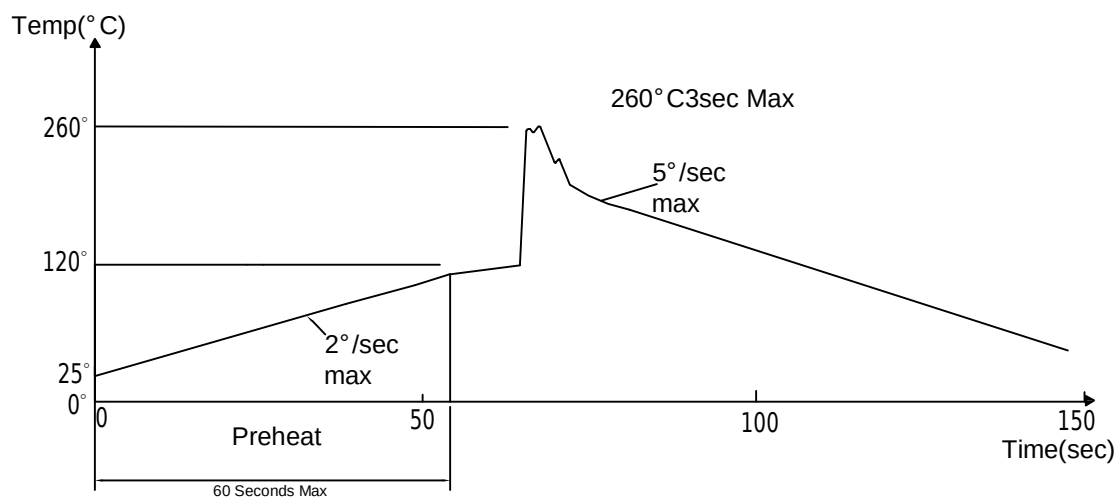
2° C/sec(max)

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 (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 |