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TAPE AND BOX ROUND TYPE LED LAMPS

**LUR2043/TBS-X**

# DATA SHEET

DOC. NO : QW0905-LUR2043/TBS-X

REV. : A

DATE : 23 - Mar. - 2005



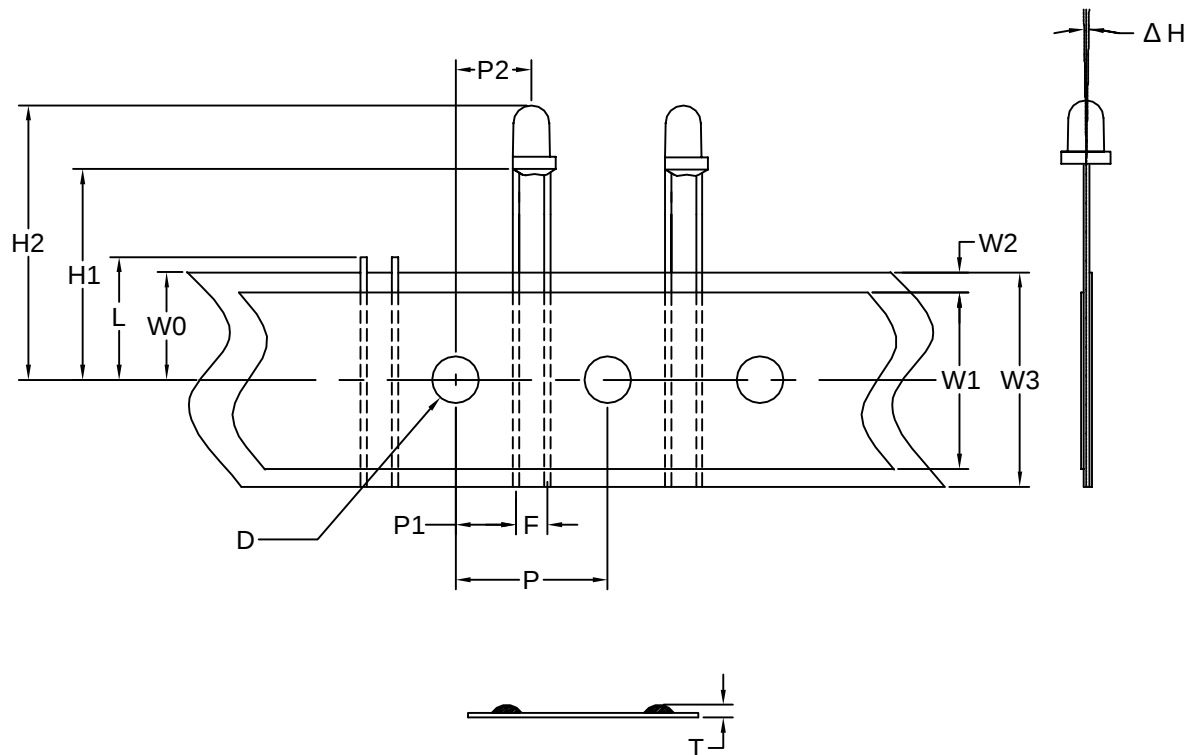
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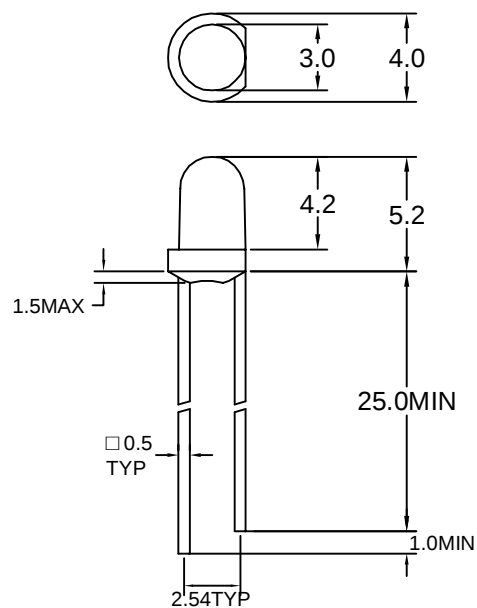
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## Package Dimensions



## LUR2043



Note : 1.All dimension are in millimeter tolerance is  $\pm 0.25\text{mm}$  unless otherwise noted.  
2.Specifications are subject to change without notice.



## Absolute Maximum Ratings at Ta=25

| Parameter                               | Symbol | Ratings                                  | UNIT |
|-----------------------------------------|--------|------------------------------------------|------|
|                                         |        | UR                                       |      |
| Forward Current                         | IF     | 40                                       | mA   |
| Peak Forward Current<br>Duty 1/10@10KHz | IFP    | 120                                      | mA   |
| Power Dissipation                       | PD     | 120                                      | mW   |
| Reverse Current @5V                     | Ir     | 10                                       | μ A  |
| Operating Temperature                   | Topr   | -40 ~ +85                                |      |
| Storage Temperature                     | Tstg   | -40 ~ +100                               |      |
| Soldering Temperature                   | Tsol   | Max 260 for 5 sec Max<br>(2mm from body) |      |

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

| PART NO       | MATERIAL | COLOR   |             | Peak wave<br>length<br>λ Pnm | Spectral<br>halfwidth<br>λ nm | Forward<br>voltage<br>@20mA(V) |      | Luminous<br>intensity<br>@20mA(mcd) |      | Viewing<br>angle<br>2 θ 1/2<br>(deg) |
|---------------|----------|---------|-------------|------------------------------|-------------------------------|--------------------------------|------|-------------------------------------|------|--------------------------------------|
|               |          | Emitted | Lens        |                              |                               | Min.                           | Max. | Min.                                | Typ. |                                      |
| LUR2043/TBS-X | GaAlAs   | Red     | Water Clear | 660                          | 20                            | 1.5                            | 2.4  | 550                                 | 900  | 30                                   |

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

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



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**Dimensions Symbol Information**

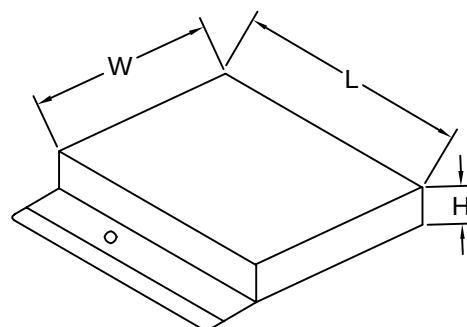
| SYMBOL ITEMS                          | OPTION CODE | SYMBOL | SPECIFICATIONS |       |         |      |
|---------------------------------------|-------------|--------|----------------|-------|---------|------|
|                                       |             |        | Minimum        |       | Maximum |      |
|                                       |             |        | mm             | inch  | mm      | inch |
| Tape Feed Hole Diameter               | -----       | D      | 3.8            | 0.15  | 4.2     | 0.17 |
| Component Lead Pitch                  | -----       | F      | 2.3            | 0.09  | 3.0     | 0.12 |
| Front-To-Rear Deflection              | -----       | H      | -----          | ----- | 2.0     | 0.08 |
| Feed Hole To Bottom Of Component      | TRS-1       | H1     | 17.5           | 0.69  | 18.5    | 0.73 |
|                                       | TRS-2       |        | 21.5           | 0.85  | 22.5    | 0.89 |
|                                       | TRS-3       |        | 25.5           | 1.0   | 26.5    | 1.04 |
|                                       | TRS-4       |        | 27.5           | 1.08  | 28.5    | 1.12 |
|                                       | TRS-5       |        | 22.5           | 0.89  | 23.5    | 0.93 |
|                                       | TRS-6       |        | 19.9           | 0.78  | 20.9    | 0.82 |
|                                       | TRS-7       |        | 24.0           | 0.94  | 25.0    | 0.98 |
|                                       | TRS-8       |        | 24.5           | 0.96  | 25.5    | 1.0  |
|                                       | TRS-9       |        | 19.0           | 0.75  | 20.0    | 0.79 |
|                                       | TRS-10      |        | 18.4           | 0.72  | 19.4    | 0.76 |
| Feed Hole To Overall Component Height | -----       | H2     | -----          | ----- | 36      | 1.42 |
| Lead Length After Component Height    | -----       | L      | W0             |       | 11.0    | 0.43 |
| Feed Hole Pitch                       | -----       | P      | 12.4           | 0.49  | 13.0    | 0.51 |
| Lead Location                         | -----       | P1     | 4.4            | 0.17  | 5.8     | 0.23 |
| Center Of Component Location          | -----       | P2     | 5.1            | 0.2   | 7.7     | 0.3  |
| Overall Taped Package Thickness       | -----       | T      | -----          | ----- | 1.42    | 0.06 |
| Feed Hole Location                    | -----       | W0     | 8.5            | 0.33  | 9.75    | 0.38 |
| Adhesive Tape Width                   | -----       | W1     | 14.5           | 0.57  | 15.5    | 0.61 |
| Adhesive Tape Position                | -----       | W2     | 0              | 0     | 4.0     | 0.16 |
| Tape Width                            | -----       | W3     | 17.5           | 0.69  | 19.0    | 0.75 |

REMARK:TBS=Tape And Box Straight Leads

**Dimensions Symbol Information**

**Package Dimensions**

| Description       | Symbol  | Specification |      |         |      |
|-------------------|---------|---------------|------|---------|------|
|                   |         | minimum       |      | maximum |      |
|                   |         | mm            | inch | mm      | inch |
| Overall Length    | L       | 330           | 13.0 | 340     | 13.4 |
| Overall Width     | W       | 265           | 10.4 | 275     | 10.8 |
| Overall Thickness | H       | 50            | 1.97 | 60      | 2.4  |
| Quantity/Box      | 2500PCS |               |      |         |      |





## Typical Electro-Optical Characteristics Curve

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Fig.1 Forward current vs. Forward Voltage

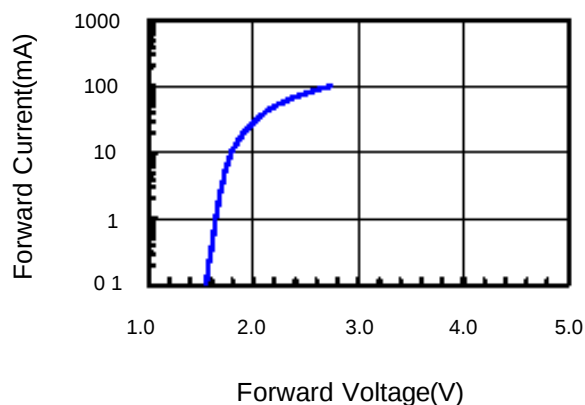


Fig.2 Relative Intensity vs. Forward Current

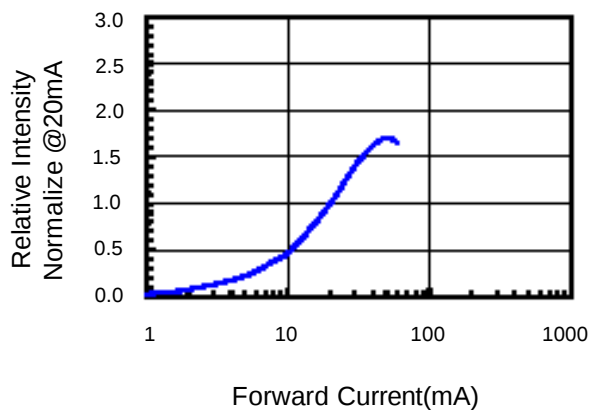


Fig.3 Forward Voltage vs. Temperature

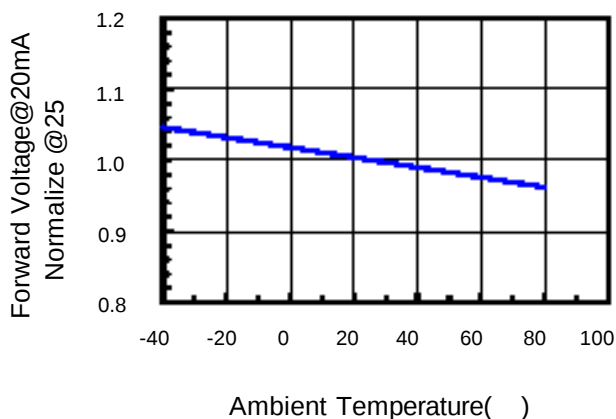


Fig.4 Relative Intensity vs. Temperature

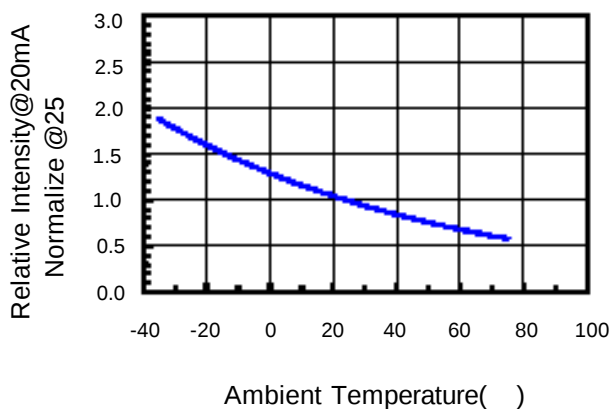


Fig.5 Relative Intensity vs. Wavelength

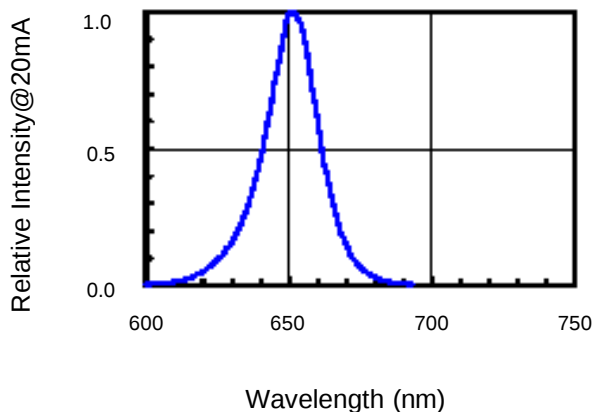
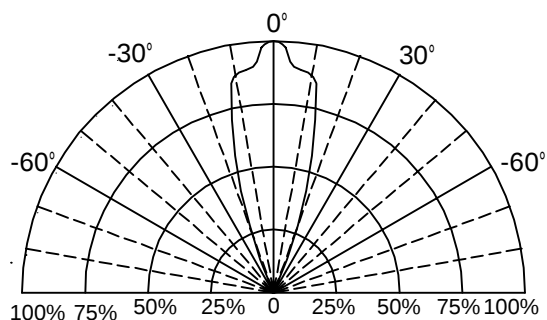


Fig.6 Directivity Radiation



**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 detemining the resisance of a part in electrical and themal stressed.                                                         | MIL-STD-750: 1026<br>MIL-STD-883: 1005<br>JIS C 7021: B-1                      |
| High Temperature Storage Test       | 1.Ta=105 ±5<br>2.t=1000 hrs (-24hrs, +72hrs)                           | The purpose of this is the resistance of the device which is laid under ondition of high temperature for hours.                                                         | MIL-STD-883:1008<br>JIS C 7021: B-10                                           |
| Low Temperature Storage Test        | 1.Ta=-40 ±5<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 ±5<br>2.RH=90 %-95 %<br>3.t=240hrs ±2hrs                       | The purpose of this test is the resistance of the device under tropical for hous.                                                                                       | MIL-STD-202:103B<br>JIS C 7021: B-11                                           |
| Thermal Shock Test                  | 1.Ta=105 ±5 & -40 ±5<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 ±5<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 ±5<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 |