

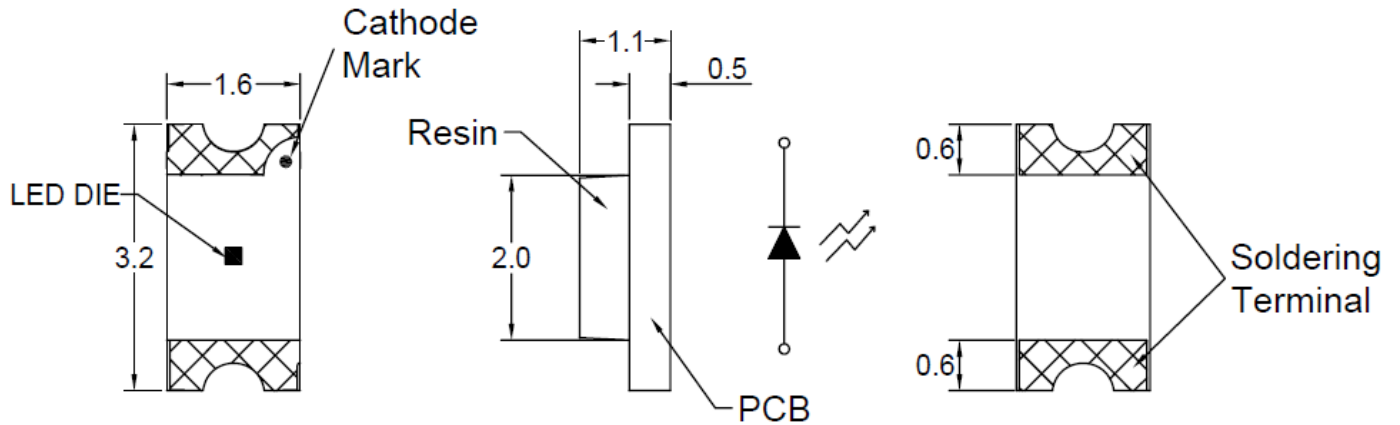


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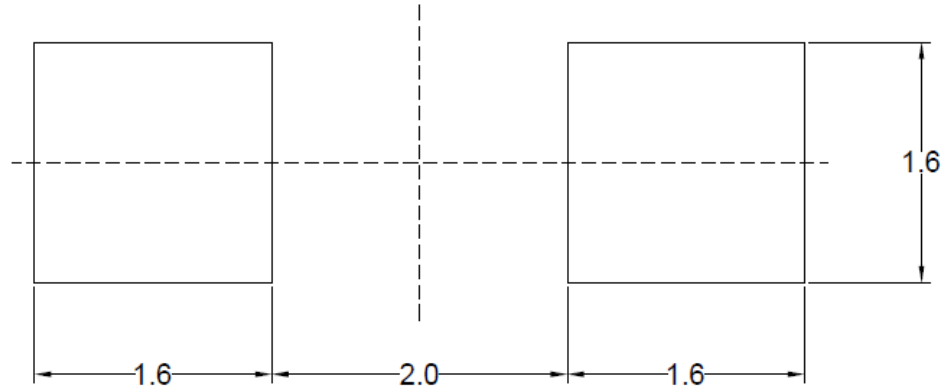
L152L-YC-TR

3.2 x 1.6 x 1.1mm YELLOW SMD LED

PACKAGE OUTLINES



RECOMMENDED SOLDER PATTERN



Notes:

1. All dimensions are in millimeters (mm).
2. Tolerances are ± 0.1 mm unless otherwise noted.

| Part Number | Material | Color | |
|-------------|-----------|---------|-------------|
| | | Emitted | Lens |
| L152L-YC-TR | GaAsP/GaP | Yellow | Water Clear |



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ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

| Parameter | Symbol | Value | Unit |
|------------------------------------|------------------|----------|------|
| Power Dissipation | P _D | 52 | mW |
| Peak Pulse Current Duty 1/10@10KHz | I _{FP} | 80 | mA |
| Forward Current Per Chip | I _F | 20 | mA |
| Reverse Current @ 5V | I _R | 10 | V |
| Electrostatic Discharge | ESD | 2000 | V |
| Operating Temperature | T _{OPR} | -40~+85 | °C |
| Storage Temperature | T _{STG} | -40~+100 | °C |

OPTICAL-ELECTRICAL CHARACTERISTICS

(Ta=25°C)

| Parameter | Symbol | Test Condition | Min | Typ | Max | Unit |
|--------------------------|-------------------|-----------------------|-----|------|-----|------|
| Luminous Intensity | I _V | I _F = 20mA | 5 | 12.5 | -- | mcd |
| Dominant Wavelength | λ _D | | -- | 588 | -- | nm |
| Spectral Line Half-Width | Δλ | | -- | 35 | -- | nm |
| Forward Voltage | V _F | | 1.7 | -- | 2.6 | V |
| Viewing Angle | 2θ _{1/2} | | -- | 140 | -- | deg |

Notes:

1. Forward voltage data did not include ±0.1V testing tolerance.
2. Luminous intensity data did not include ±15% testing tolerance.
3. Dominant Wavelength data did not include ±1nm testing tolerance.



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LUMINOUS INTENSITY CLASSIFICATION

| BIN CODE | I_v (lm) at 20mA | |
|----------|--------------------|------|
| | Min. | Max. |
| J | 5 | 8 |
| K | 8 | 12.5 |
| L | 12.5 | 20 |
| M | 20 | 32 |

DOMINANT WAVELENGTH CLASSIFICATION

| BIN CODE | λ_D (nm) at 20mA | |
|----------|--------------------------|------|
| | Min. | Max. |
| 14 | 583 | 585 |
| 15 | 585 | 587 |
| 16 | 587 | 589 |
| 17 | 589 | 592 |
| 18 | 592 | 595 |



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OPTICAL-ELECTRICAL CHARACTERISTICS CURVE

Fig.1 Forward current vs. Forward Voltage

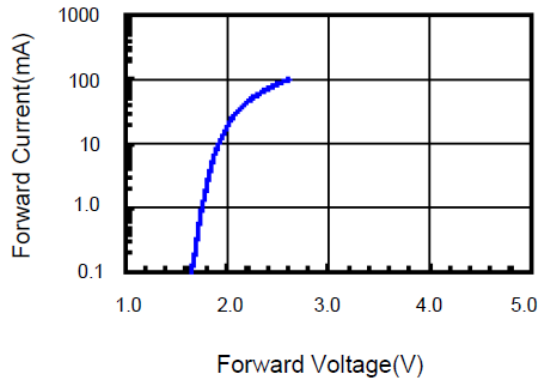


Fig.2 Relative Intensity vs. Forward Current

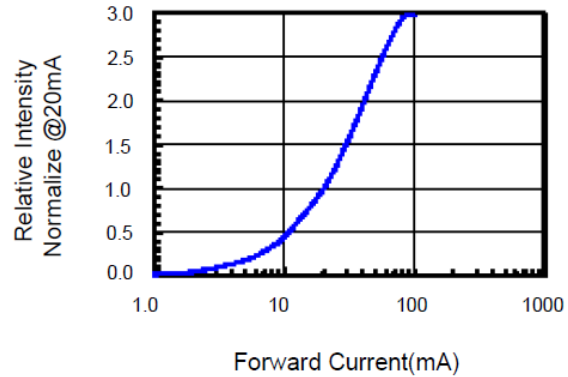


Fig.3 Forward Voltage vs. Temperature

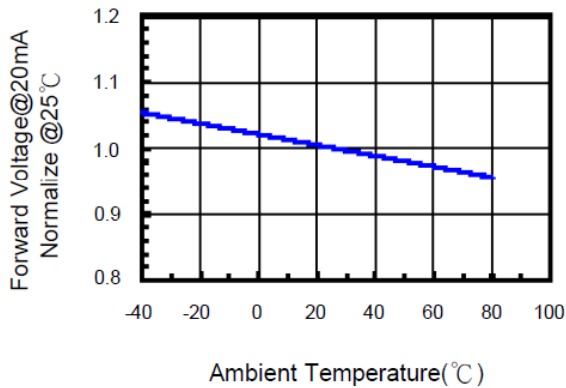


Fig.4 Relative Intensity vs. Temperature

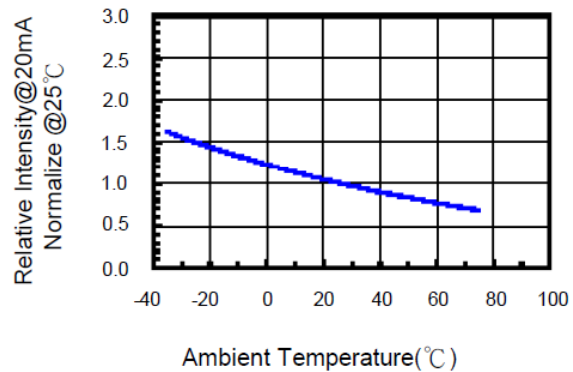


Fig.5 Relative Intensity vs. Wavelength

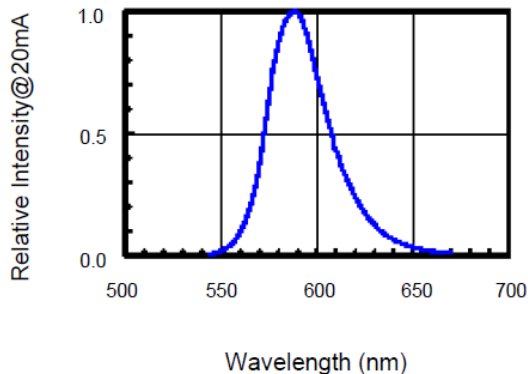
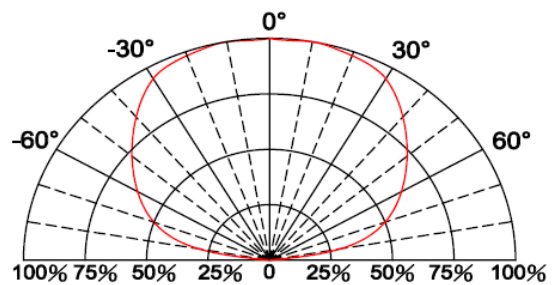


Fig.6 Directive Radiation



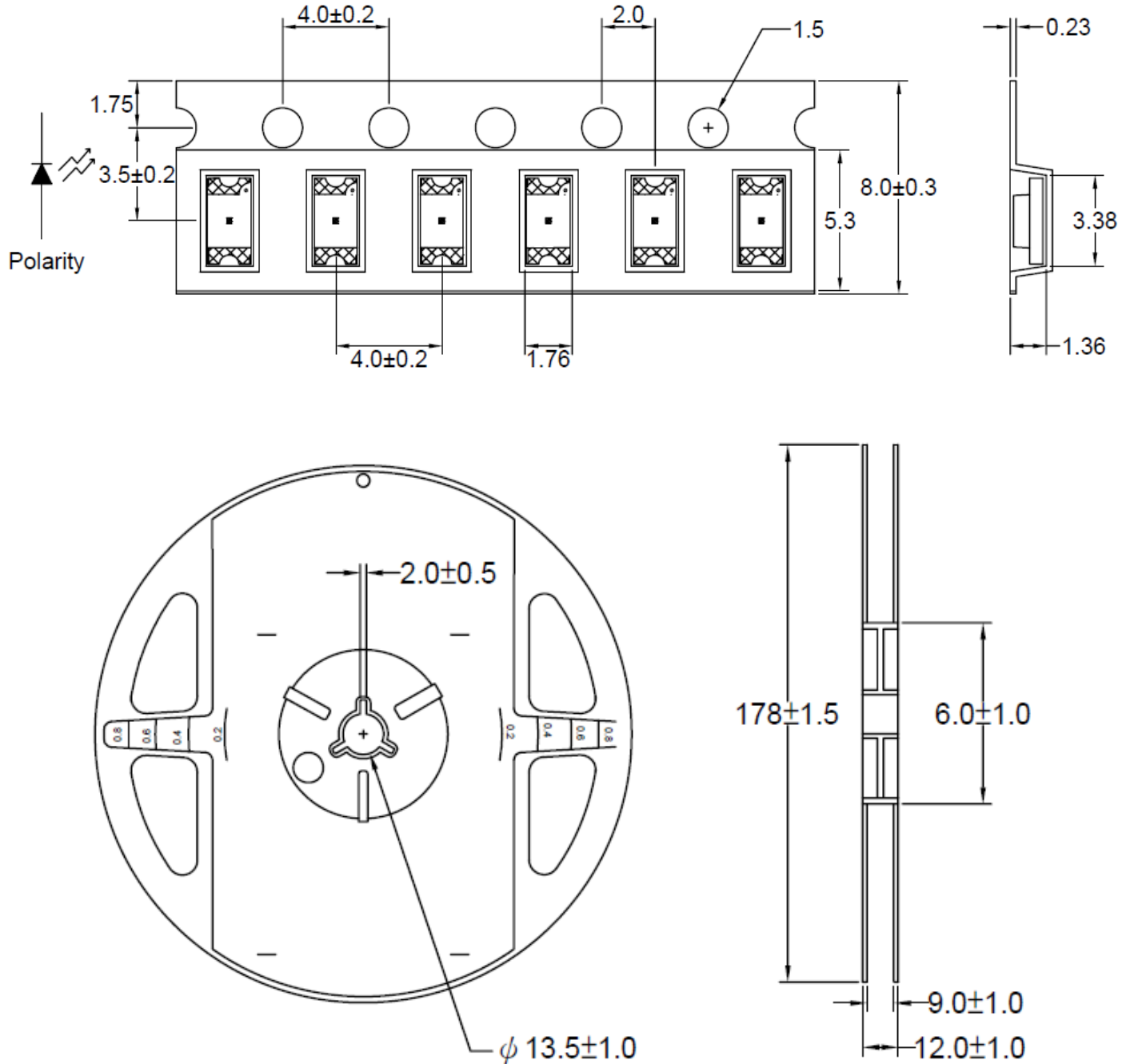


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L152L-YC-TR

3.2 x 1.6 x 1.1mm YELLOW SMD LED

PACKAGING DIMENSION



Notes:

1. Tolerance unless mentioned is ± 0.1 mm, Angle ± 0.5 , Unit=mm.
2. 3000pcs / 7" Reel; 8.0mm Tape



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PRECAUTION FOR USE:

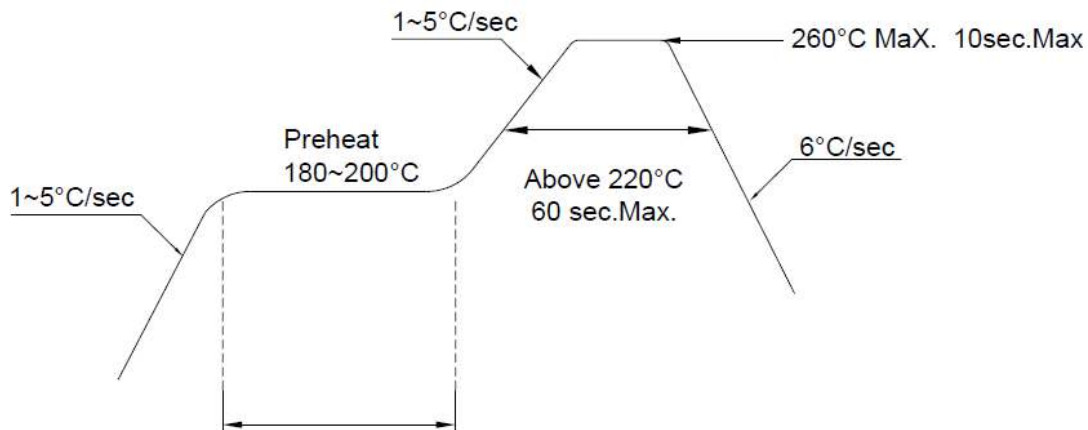
Storage time:

1. Don't open the moisture-resistant bag before LEDs are ready to use.
2. Before use: LEDs should be kept at 30°C or less and 90% RH or less.
3. After use: LEDs floor life is 1 year under 30°C or less and 60% RH or less. If unused LEDs remain, it should be stored in moisture-resistant package.
4. If the LEDs have exceeded the storage time or the moisture absorbent material (silica gel) has faded, the baking treatment of 60±5°C for 24 hrs should be performed.

Over Current-Protection

The LEDs are sensitive parts, slight voltage shift will cause big current change and will cause burn out. Customer must apply resistors for protection.

LED SOLDERING

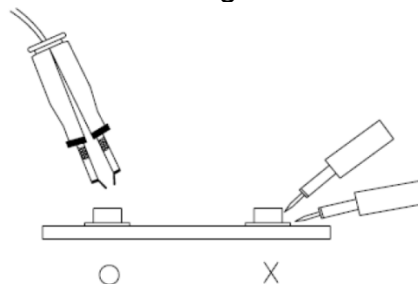


Notes:

1. Reflow soldering should not be done more than two times.
2. When soldering, do not put stress on the LEDs during heating.
3. After soldering, do not warp circuit board.

REPAIRING

In principle repair should not be done after the LEDs have been soldered. When repairing is unavoidable, it should be confirmed beforehand not to be damaged whether the characteristics of the LEDs by repairing and a double-head soldering iron should be used.





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RELIABILITY TEST:

| Classification | Test Item | Test Condition | Reference Standard |
|--------------------|---|--|---|
| Endurance Test | Operating Life Test | 1. Ta=Under Room Temperature As Per Data Sheet Maximum Rating. 2. If=20mA 3. t=1000 hrs (-24hrs, +72hrs) | MIL-STD-750D: 1026 MIL-STD-883D: 1005 JIS C 7021: B-1 |
| | High Temperature Storage Test | 1. Ta=105°C±5°C 2. t=1000 hrs (-24hrs, +72hrs) | MIL-STD-883D:1008 JIS C 7021: B-10 |
| | Low Temperature Storage Test | 1. Ta=-40°C±5°C 2. t=1000 hrs (-24hrs, +72hrs) | JIS C 7021: B-12 |
| | High Temperature High Humidity Storage Test | 1. Ta=65°C±5°C 2. RH=90%~95% 3. t=1000hrs ±2hrs | MIL-STD-202F:103B JIS C 7021: B-11 |
| Environmental Test | Thermal Shock Test | 1. Ta=105°C±5°C & -40°C±5°C (10min) (10min) 2. total 10 cycles | MIL-STD-202F: 107D MIL-STD-750D: 1051 MIL-STD-883D: 1011 |
| | Solderability Test | 1. T.Sol=235°C±5°C 2. Immersion time 2±0.5sec 3. Coverage ≥ 95% of the dipped surface | MIL-STD-202F: 208D MIL-STD-750D: 2026 MIL-STD-883D: 2003 IEC 68 Part 2-20 JIS C 7021: A-2 |
| | Temperature Cycling | 1. 105°C ~ 25°C ~ -55°C ~ 25°C 30mins 5mins 30mins 5mins 2. 10 Cycles | MIL-STD-202F: 107D MIL-STD-750D: 1051 MIL-STD-883D: 1010 JIS C 7021: A-4 |
| | IR Reflow | 1. T=260°C Max. 10sec.Max. 2. 6 Min | MIL-STD-750D:2031.2 J-STD-020 |