



SURFACE MOUNT LED

1.ELEMENT APPEARANCE

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DATE2020.10.26

| Model No. | Lighting Color | Resin Color |
|---------------------|----------------|----------------|
| RT-2727RGB-1-05-YCT | Red | Black Diffused |
| | Green | |
| | Blue | |

2.ABSOLUTE MAXIMUM RATINGS AT Ta=25°C

| Characteristic | Symbol | Rating | Unit | |
|---|------------------|------------|------|----|
| Forward direct current | IFM | R | 25 | mA |
| | | G | 25 | |
| | | B | 20 | |
| Reverse voltage | V _{RM} | 5 | V | |
| Operating temperature | T _{opr} | -40 to +85 | °C | |
| Storage temperature | T _{stg} | -40 to +85 | °C | |
| Power dissipation | Pd | R | 65 | mW |
| | | G | 85 | |
| | | B | 68 | |
| Peak forward current (1/10 Duty cycle, 0.1ms pulse width) | IFP | R | 50 | mA |
| | | G | 50 | |
| | | B | 50 | |
| Electrostatic Discharge | ESD | 2K | V | |

3.ELECTRO-OPTICAL CHARACTERISTICS AT Ta=25°C

| Characteristic | Symbol | Condition | Min. | Typ. | Max. | Unit |
|---------------------|----------------|--------------------|------|------|------|------|
| Luminous intensity | I _v | IF=20mA R | 600 | ~ | 1200 | mcd |
| | | IF=15mA G | 1300 | ~ | 2500 | |
| | | IF=10mA B | 200 | ~ | 420 | |
| Forward voltage | V _F | IF=20mA R | 1.7 | ~ | 2.6 | V |
| | | IF=15mA G | 2.4 | ~ | 3.4 | |
| | | IF=10mA B | 2.4 | ~ | 3.4 | |
| Reverse current | I _R | V _R =5V | | | 10 | μA |
| Dominant wavelength | λ _d | IF=20mA R | 615 | ~ | 630 | nm |
| | | IF=15mA G | 520 | ~ | 540 | |
| | | IF=10mA B | 460 | ~ | 480 | |
| Viewing angle(X,Y) | 2θ 1/2 | IF=20mA | | 110 | | deg. |

※Measurement Uncertainty of Luminous Intensity : ±15%

※Measurement Uncertainty of Forward Voltage : ±0.05V

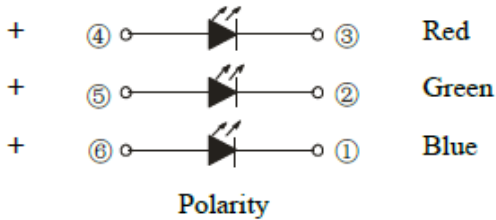
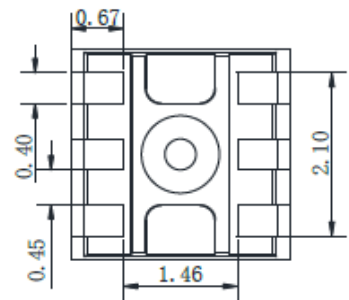
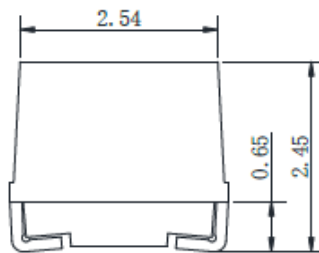
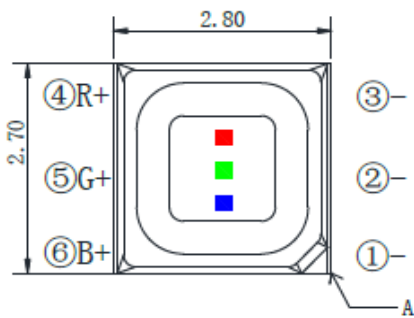
※Peak emission wavelength Measurement allowance is ±1.0nm



Model : RT-2727RGB-1-05-YCT

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4.DIMENSIONS UNIT : m/m TOLERANCE : ± 0.25m/m



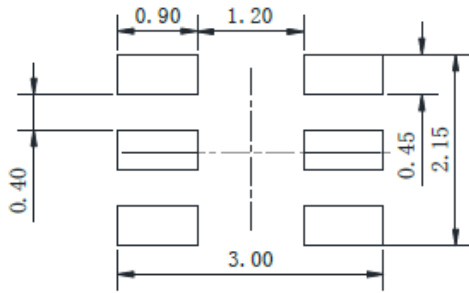
Note: A : Nick Mark

Tolerances: X.X ±0.1 mm

X.XX ±0.05mm

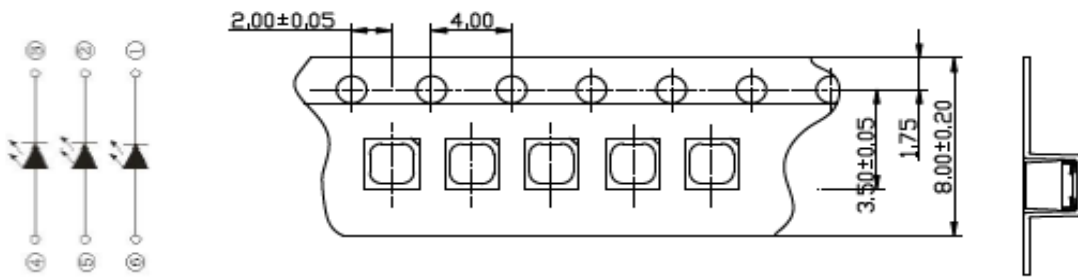


Recommended Soldering Pattern (Units:mm)

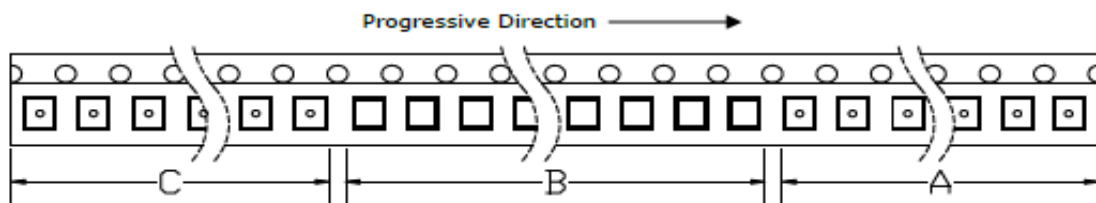


| Item | Description |
|-------------------------------|----------------------------|
| Package Materials | Heat-resistant Polymer |
| Encapsulating Resin Materials | Epoxy Resin(with diffuser) |
| Electrodes Materials | Ag-plated Copper Alloy |

Tape Specifications (Units:mm)

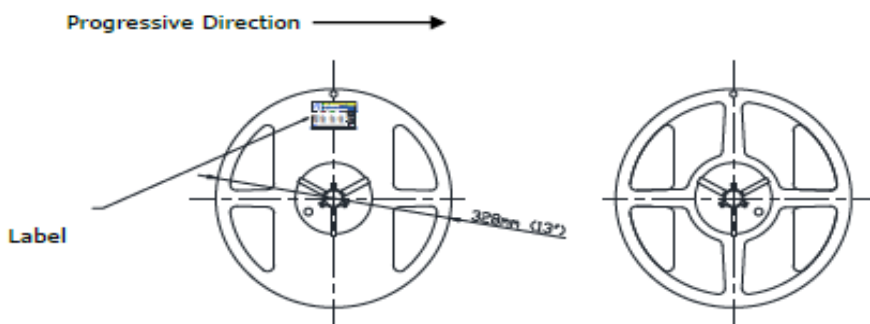


Trailer and Leader

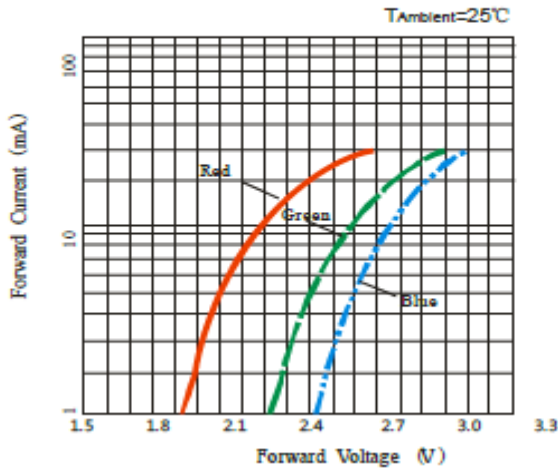


A: Leader, Empty, 500mm; B:7000 Lamps Loaded; C: Trailer, Empty, 100mm.

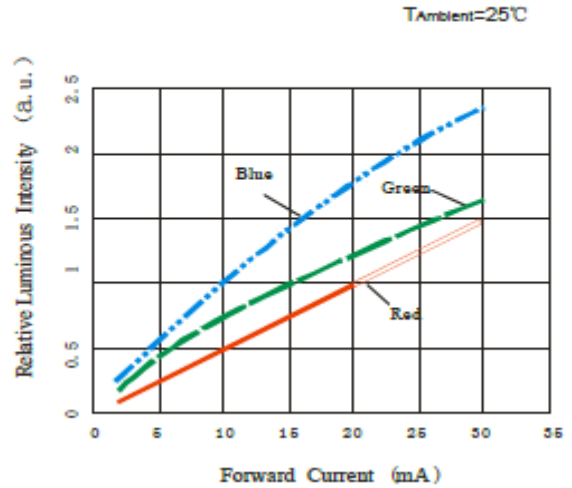
Reel



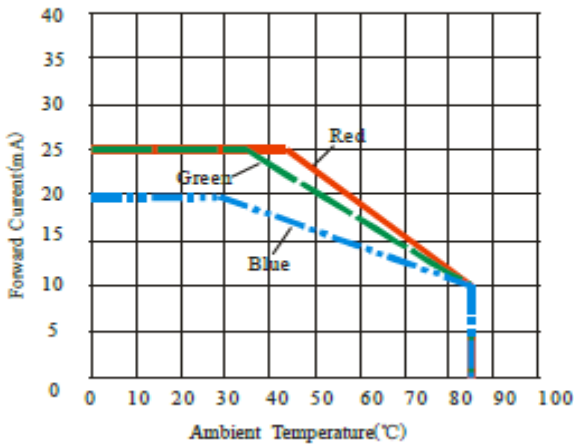
Volt-Ampere Characteristics



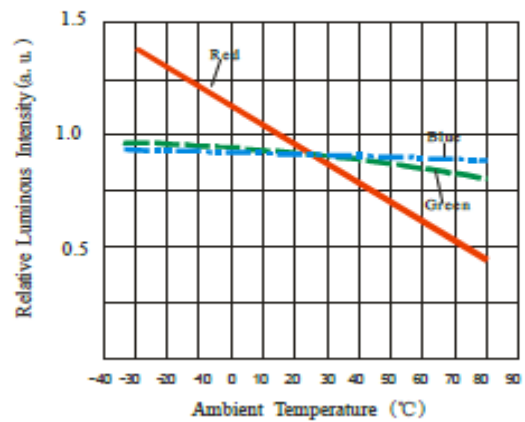
Relative Luminous Intensity VS Forward Current

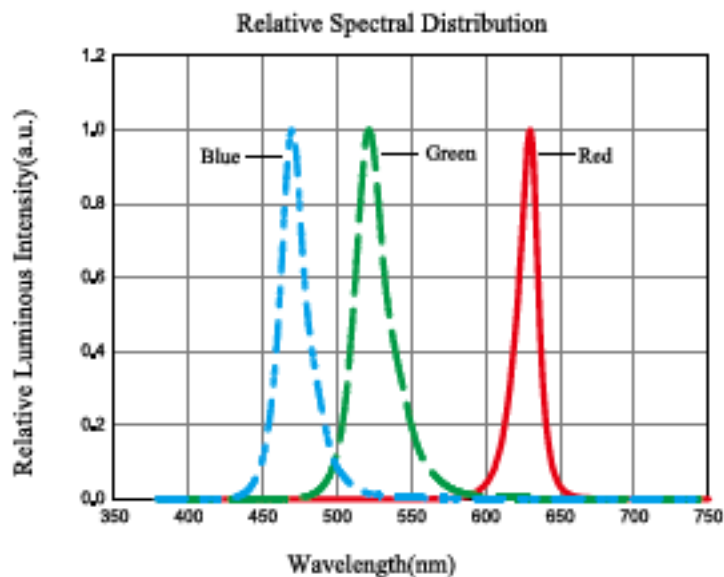
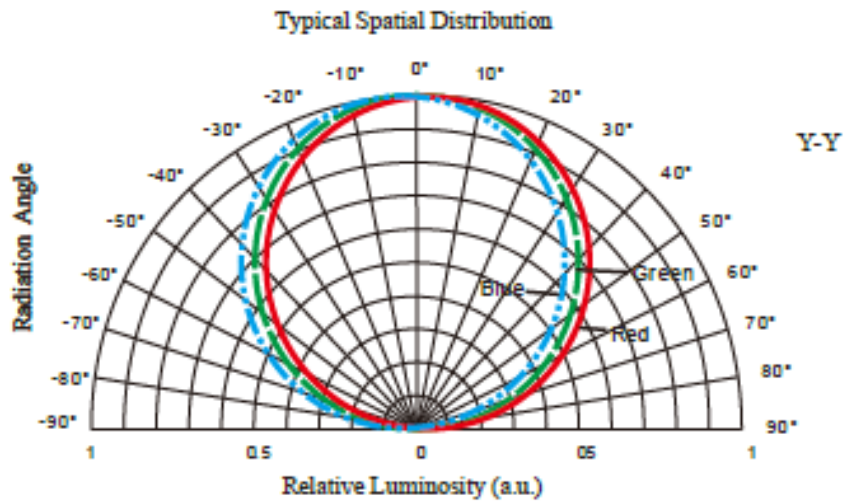
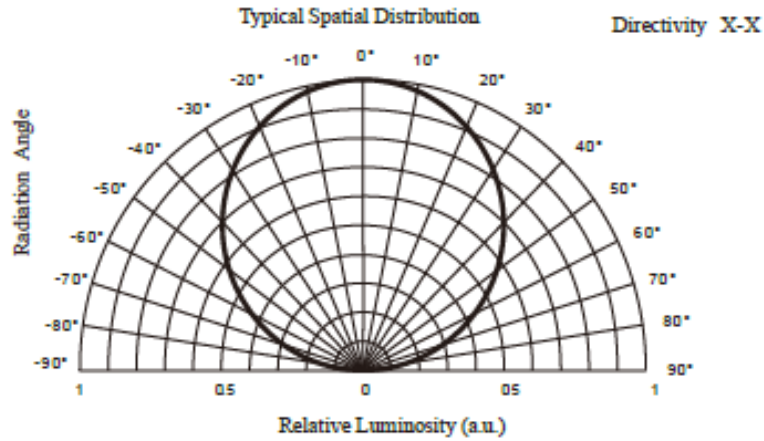


Forward Current Derating Curve



Luminous Intensity VS Ambient Temperature

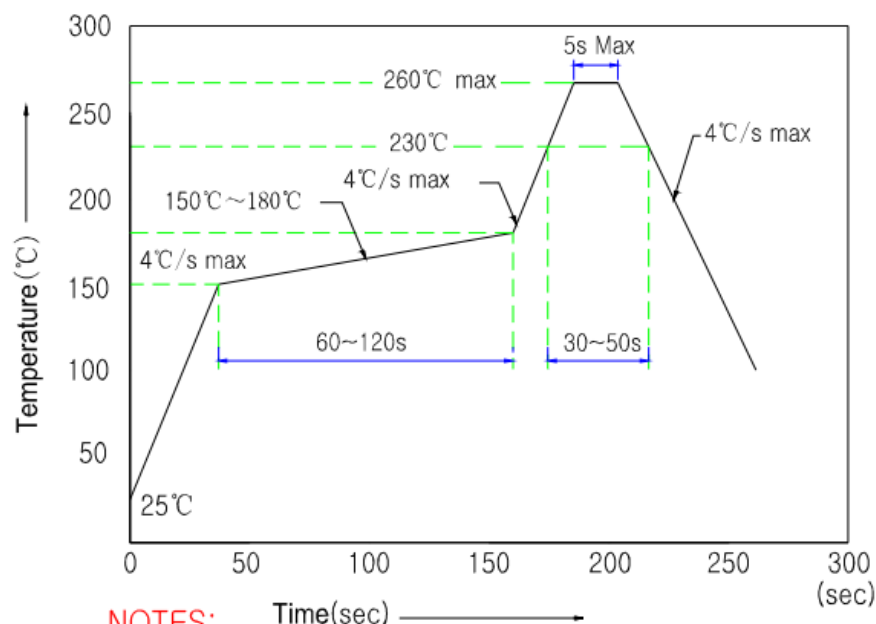




Reliability Test

| Classification | Test Item | Test Conditions | Duration | Units Tested | Number of Damaged |
|------------------|--------------------------|--|------------|--------------|-------------------|
| Life Test | Operating Life Test | Ta =25°C ± 5°C, RH=55 ± 20%RH, IF=30mA | 1000hrs | 22 | 0/22 |
| Environment Test | High Temperature Storage | Ta =100°C ± 10°C | 1000hrs | 22 | 0/22 |
| | Low Temperature Storage | Ta = - 40°C ⁺³ / _{.5} °C | 1000hrs | 22 | 0/22 |
| | Temp & Humidity Storage | Ta =85°C ⁺⁵ / _{.3} °C RH=85 ⁺⁵ / ₋₁₀ %RH | 1000hrs | 22 | 0/22 |
| | Thermal Shock Test | Ta= - 40°C ⁺⁵ / _{.3} °C ~ 100°C ⁺³ / _{.5} °C T=5min - 5min | 100 Cycles | 22 | 0/22 |
| | Temperature Cycling Test | Ta= - 40 ⁺³ / _{.5} °C ~25°C ~ 100 ⁺⁵ / _{.3} °C ~25°C T=30min-5min-30min- 5min | 10Cycles | 22 | 0/22 |

Reflow Soldering Profile For Lead-free SMT Process.



NOTES:

1. We recommend the reflow temperature 245°C (+/-5°C). The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.