



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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PRELIMINARY SPEC



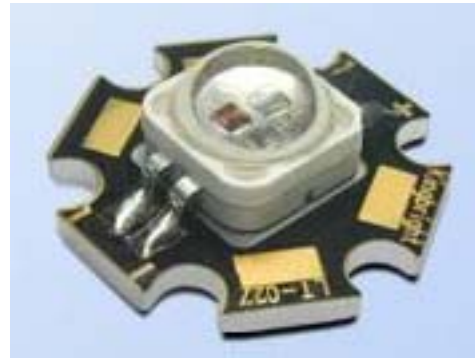
ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Part Number: AAD1-9090BRGC-01/3-S

Blue
Reddish-Orange
Green

Features

- Super high flux output and high luminance.
- Designed for high current operation.
- Low thermal resistance.
- Low voltage DC operated.
- Superior ESD protection.
- Not reflow compatible.
- The component is internally protected with silicone gel.
- RoHS compliant.



Application Note

Static electricity and surge damage the LEDs.

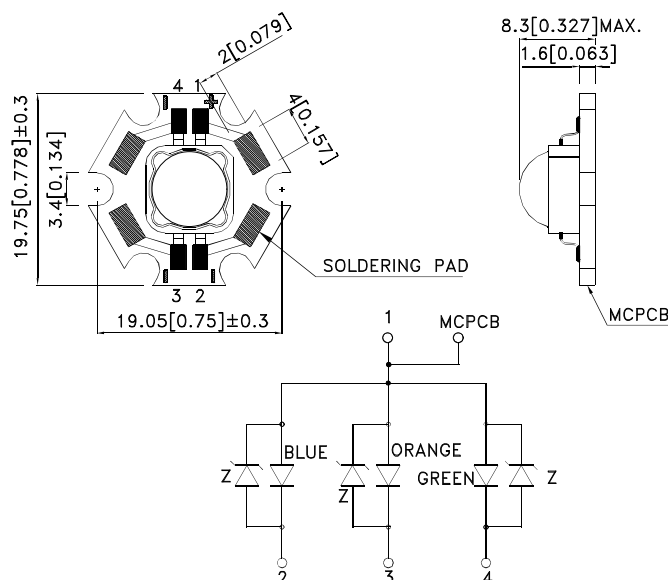
It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.

All devices, equipment and machinery must be electrically grounded.

Applications

- traffic signaling.
- backlighting (illuminated advertising , general lighting).
- interior and exterior automotive lighting.
- substitution of micro incandescent lamps.
- portable light source (e.g. bicycle flashlight).
- signal and symbol luminaire for orientation.
- marker lights (e.g. steps, exit ways, etc).
- decorative and entertainment lighting.
- indoor and outdoor commercial and residential architectural lighting.

Package Dimensions



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. Specifications are subject to change without notice.



Selection Guide

| Part No. | Dice | Lens Type | luminous Intensity [2] Iv(cd)@ 350mA | | Φv (lm) [2] @ 350mA | | Viewing Angle [1] |
|----------------------|-----------------------------|-------------|---|------|------------------------|------|----------------------|
| | | | Min. | Typ. | Min. | Typ. | 2θ1/2 |
| AAD1-9090BRGC-01/3-S | Blue (InGaAlN) | WATER CLEAR | 2.5 | 3.5 | 15 | 20 | 135° |
| | Reddish-Orange (InGaAlP) | | 6.7 | 8 | 25 | 30 | |
| | Green (AlInGaN) | | 10 | 16 | 32 | 50 | |

Notes:

1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
2. Luminous intensity / luminous Flux: +/-15%.

Absolute Maximum Ratings at TA=25°C

| Parameter | Symbol | Device | Value | Unit |
|---|------------|----------------|-------------|------|
| Power dissipation | Pt | Blue | 1.25 | W |
| | | Reddish-Orange | 1.05 | |
| | | Green | 1.33 | |
| Junction temperature | Tj | Blue | 110 | °C |
| | | Reddish-Orange | 110 | |
| | | Green | 110 | |
| Operating Temperature | Top | Blue | -40 To +100 | °C |
| | | Reddish-Orange | | |
| | | Green | | |
| Storage Temperature | Tstg | Blue | -40 To +100 | °C |
| | | Reddish-Orange | | |
| | | Green | | |
| DC Forward Current [1] | If | Blue | 350 | mA |
| | | Reddish-Orange | 350 | |
| | | Green | 350 | |
| Peak Forward Current [2] | IFM | Blue | 500 | mA |
| | | Reddish-Orange | 500 | |
| | | Green | 500 | |
| Thermal resistance [1] | Rth j-slug | Blue | 9 | °C/W |
| | | Reddish-Orange | 12 | |
| | | Green | 9 | |
| Electrostatic Discharge Threshold (HBM) | | Blue | 8000 | V |
| | | Reddish-Orange | | |
| | | Green | | |

Notes:

1. Results from mounting on MCPCB.
2. 1/10 Duty Cycle, 0.1ms Pulse Width.

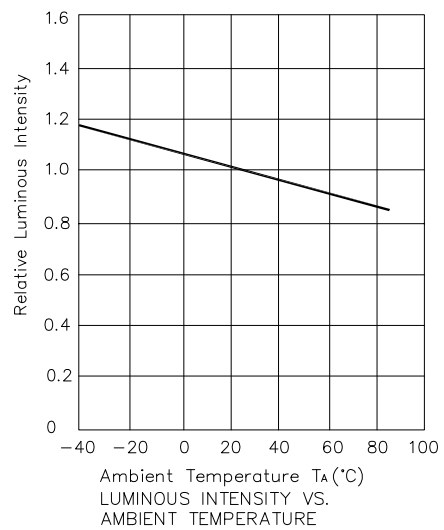
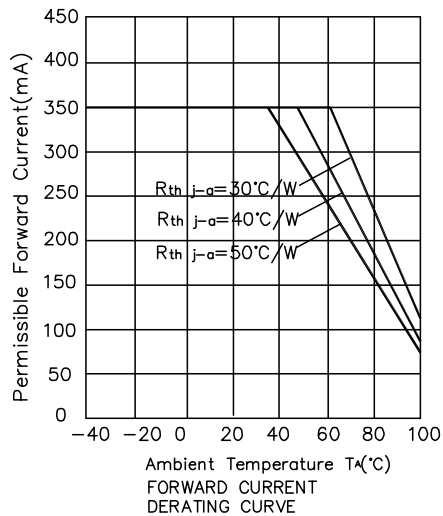
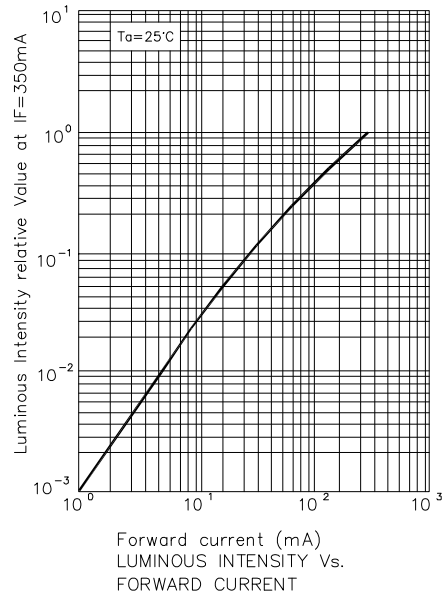
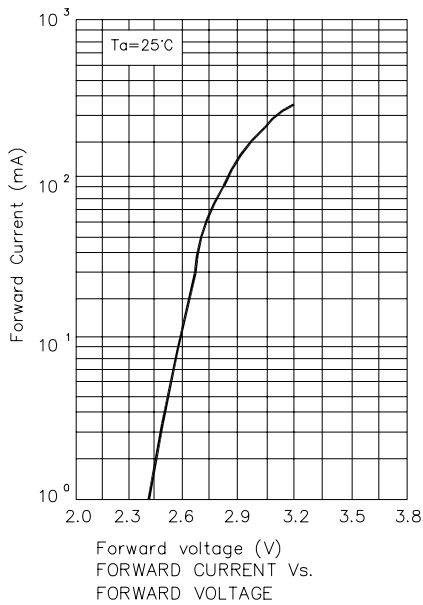
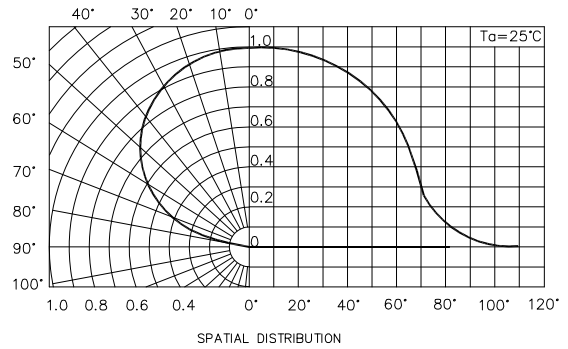
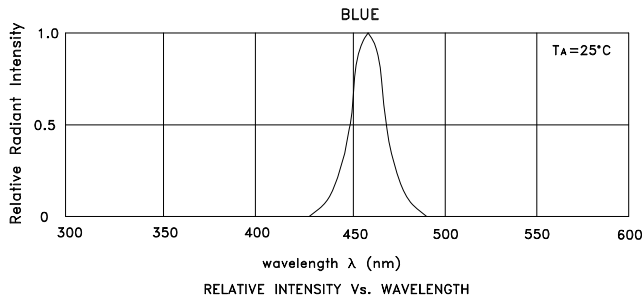
Electrical / Optical Characteristics at TA=25°C

| Parameter | Symbol | Device | Value | | | Unit |
|--|---------------------|----------------|-------|-------|------|-------|
| | | | Min. | Typ. | Max. | |
| Wavelength at peak emission IF=350mA | λ_{peak} | Blue | | 452 | | nm |
| | | Reddish-Orange | | 640 | | |
| | | Green | | 520 | | |
| Dominant Wavelength IF=350mA | λ_{dom} [1] | Blue | | 458 | | nm |
| | | Reddish-Orange | | 625 | | |
| | | Green | | 530 | | |
| Spectral bandwidth at 50% $\Phi_{REL MAX}$ IF=350mA | $\Delta\lambda$ | Blue | | 20 | | nm |
| | | Reddish-Orange | | 30 | | |
| | | Green | | 35 | | |
| Forward Voltage IF=350mA | VF [2] | Blue | 2.8 | 3.2 | 3.6 | V |
| | | Reddish-Orange | 2.0 | 2.5 | 3.0 | |
| | | Green | 2.7 | 3.3 | 3.8 | |
| Temperature coefficient of λ_{peak} IF=350mA, -10°C ≤ T ≤ 100°C | TC λ_{peak} | Blue | | 0.2 | | nm/°C |
| | | Reddish-Orange | | 0.12 | | |
| | | Green | | 0.16 | | |
| Temperature coefficient of λ_{dom} IF=350mA, -10°C ≤ T ≤ 100°C | TC λ_{dom} | Blue | | 0.1 | | nm/°C |
| | | Reddish-Orange | | 0.05 | | |
| | | Green | | 0.14 | | |
| Temperature coefficient of VF IF=350mA, -10°C ≤ T ≤ 100°C | TCV | Blue | | -3.2 | | mV/°C |
| | | Reddish-Orange | | -2.6 | | |
| | | Green | | -2.26 | | |

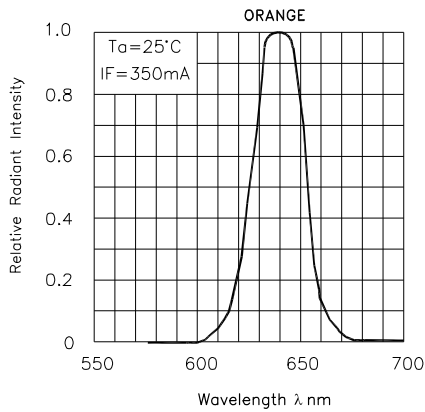
Notes:

1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

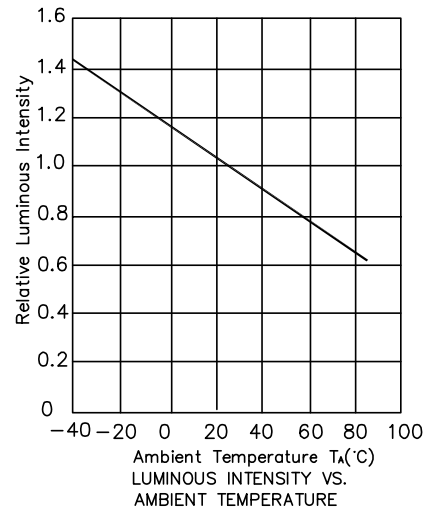
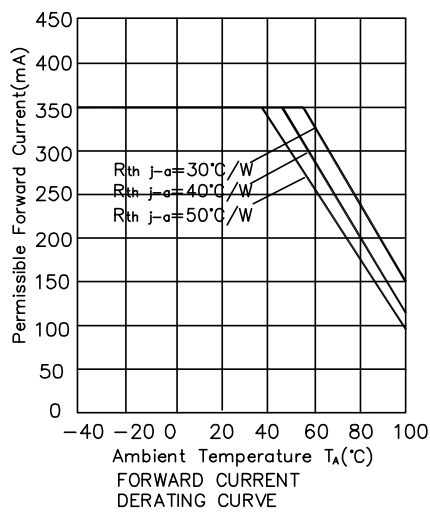
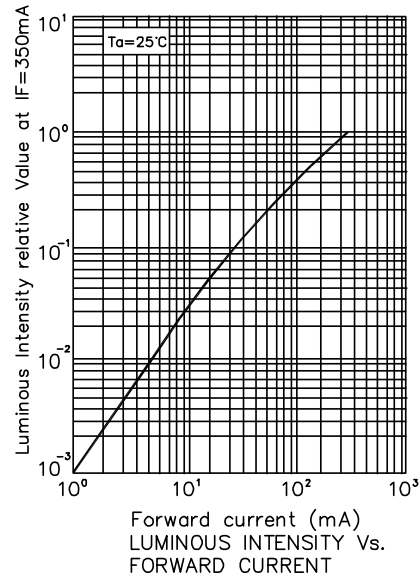
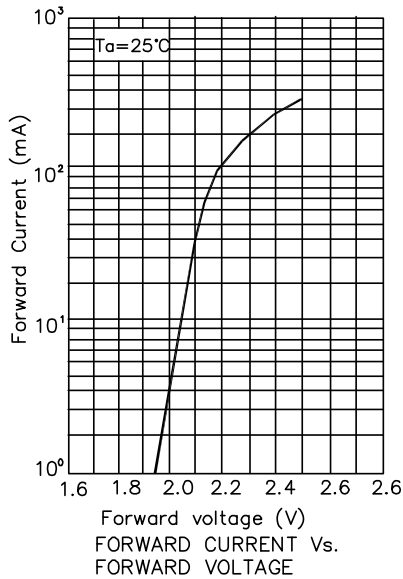
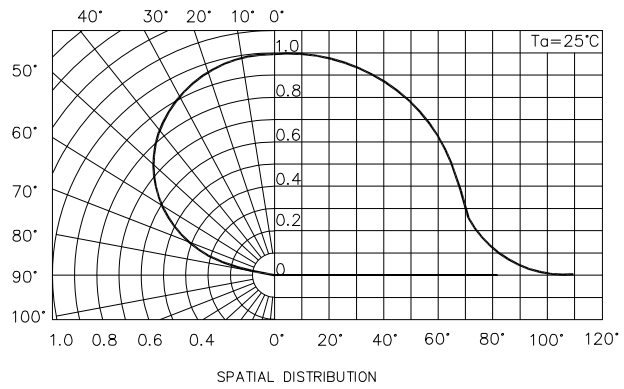
AAD1-9090BRGC-01/3-S Blue



Reddish-Orange

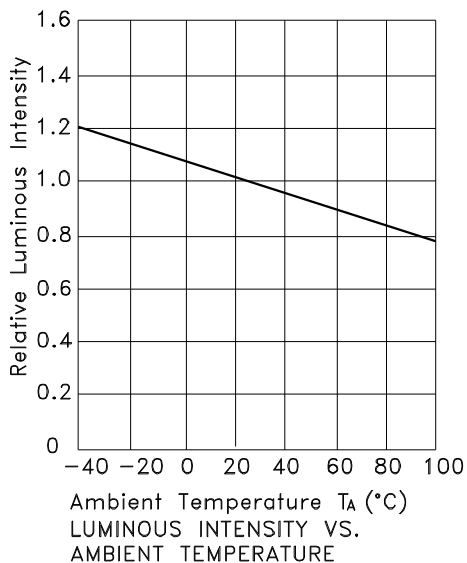
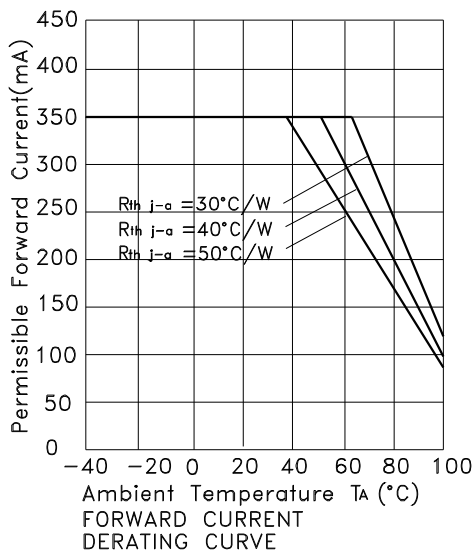
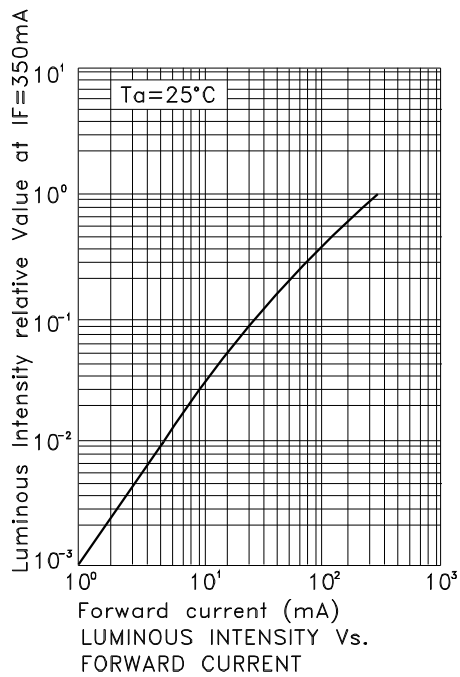
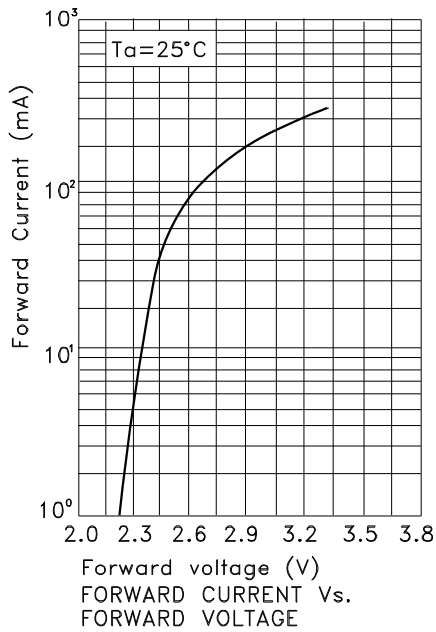
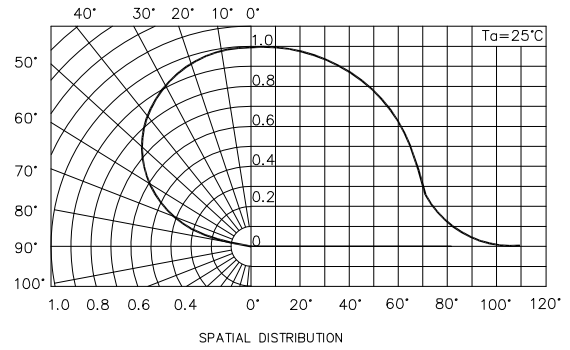
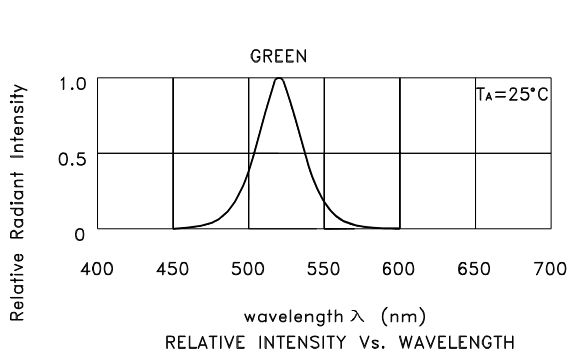


RELATIVE INTENSITY Vs. WAVELENGTH



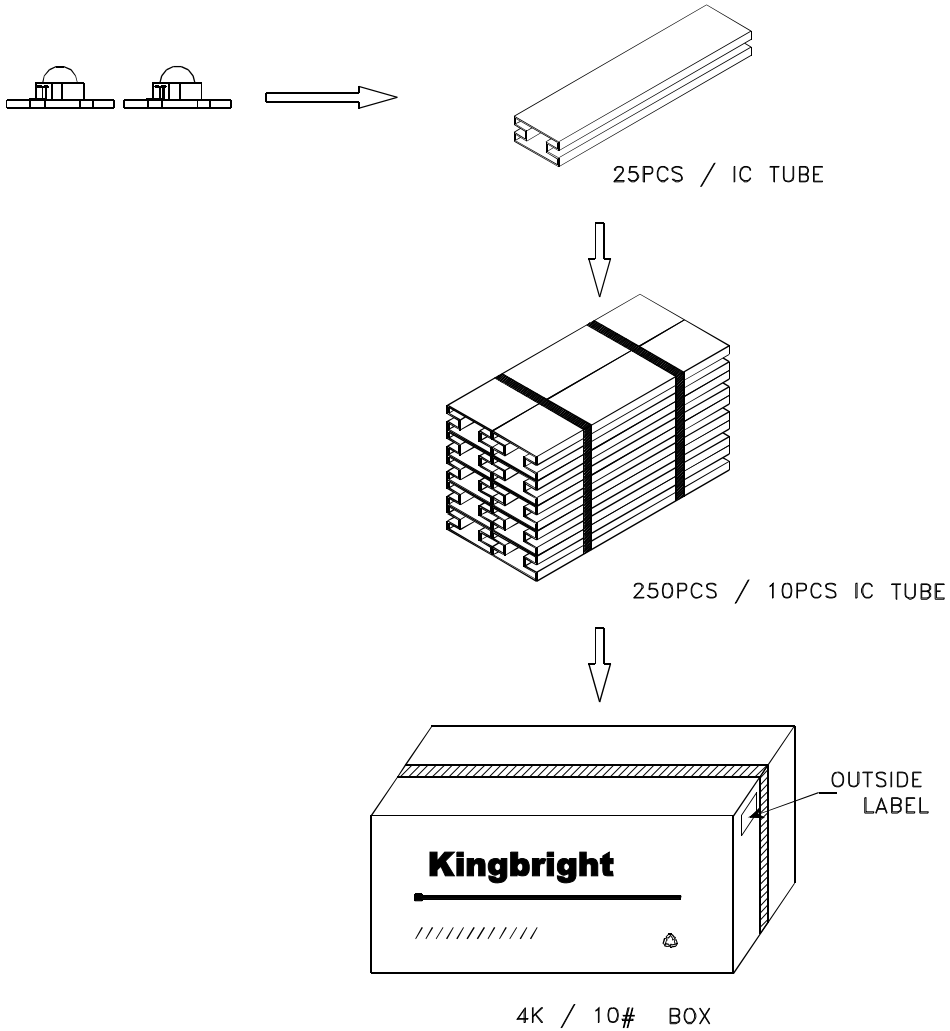
Kingbright

Green



PACKING & LABEL SPECIFICATIONS

AAD1-9090BRGC-01/3-S



| | |
|---|--|
| <h1>Kingbright</h1> | |
| P/NO: AAD1-9090XXX | |
| QTY: 250 pcs | Q.C. Q C XX XX XXXX PASSED |
| S/N: XXXX | |
| CODE: XX | |
| LOT NO: XXXXXXXXXXXXXXXXXXXXXXXXXXXX | |
| RoHS Compliant | |