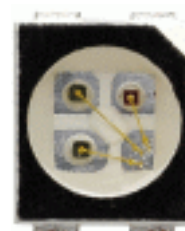


Multi DomiLED™

Synonymous with function and performance, the Multi DomiLED™ series is perfectly suited for a variety of cross-industrial applications due to its small package outline, durability and superior brightness.



Features:

- > High brightness tri-color surface mount LED.
- > Capable for all video-standards.
- > The RGB-LED chips can be controlled separately.
- > 120° viewing angle.
- > Small package outline (LxWxH) of 3.2 x 2.8 x 1.8mm.
- > Qualified according to JEDEC moisture sensitivity Level 2.
- > Compatible to both IR reflow soldering and TTW soldering.
- > Environmental friendly; RoHS compliance.



Applications:

- > Automotive: interior applications, eg: switches, telematics, climate control system, dashboard, etc.
- > Consumer Appliances: LCD illumination as in PDAs, LCD TV.
- > Communication: indicator and backlight in mobilephone.
- > Display: full color display video notice board.
- > Industry: white goods (eg: Oven, microwave, etc.).



| Part Ordering Number | Color, λ_{dom} (nm) | | | Viewing Angle° | Luminous Intensity @ IF = 20mA IV (mcd) | | |
|-----------------------------|-----------------------------|------------|---------|----------------|---|----------------------|---------------------|
| | Chip #1 | Chip #2 | Chip #3 | | Chip #1 | Chip #2 | Chip #3 |
| DMRTB-CJB-RS+ST+PQ-1 | Red | True Green | Blue | 120 | 100.0 - 200.0 | 140.0 - 285.0 | 35.5 - 100.0 |
| • DMRTB-CJB-R3S3N3 | 625nm | 525nm | 470nm | | 100.0 - 140.0 | 140.0 - 200.0 | 35.5 - 50.5 |
| • DMRTB-CJB-R3S3P3 | | | | | 100.0 - 140.0 | 140.0 - 200.0 | 50.5 - 71.5 |
| • DMRTB-CJB-R3S3Q3 | | | | | 100.0 - 140.0 | 140.0 - 200.0 | 71.5 - 100.0 |
| • DMRTB-CJB-R3T3N3 | | | | | 100.0 - 140.0 | 200.0 - 285.0 | 35.5 - 50.5 |
| • DMRTB-CJB-R3T3P3 | | | | | 100.0 - 140.0 | 200.0 - 285.0 | 50.5 - 71.5 |
| • DMRTB-CJB-R3T3Q3 | | | | | 100.0 - 140.0 | 200.0 - 285.0 | 71.5 - 100.0 |
| • DMRTB-CJB-S3S3N3 | | | | | 140.0 - 200.0 | 140.0 - 200.0 | 35.5 - 50.5 |
| • DMRTB-CJB-S3S3P3 | | | | | 140.0 - 200.0 | 140.0 - 200.0 | 50.5 - 71.5 |
| • DMRTB-CJB-S3S3Q3 | | | | | 140.0 - 200.0 | 140.0 - 200.0 | 71.5 - 100.0 |
| • DMRTB-CJB-S3T3N3 | | | | | 140.0 - 200.0 | 200.0 - 285.0 | 35.5 - 50.5 |
| • DMRTB-CJB-S3T3P3 | | | | | 140.0 - 200.0 | 200.0 - 285.0 | 50.5 - 71.5 |
| • DMRTB-CJB-S3T3Q3 | | | | | 140.0 - 200.0 | 200.0 - 285.0 | 71.5 - 100.0 |

NOTE

1. Reel comes in a quantity of 1025 and 2050 units per reel.
2. Luminous intensity is measured with an accuracy of $\pm 11\%$.
3. All electrical and optical data are measured at room temperature; $T_a = 25^\circ\text{C}$.

Half Group For Luminous Intensity

Only one IV group is allowed for each chip within reel.

| Groupings | Min. (mcd) | Max. (mcd) |
|-----------|------------|------------|
| N3 | 35.5 | 50.5 |
| P3 | 50.5 | 71.5 |
| Q3 | 71.5 | 100.0 |
| R3 | 100.0 | 140.0 |
| S3 | 140.0 | 200.0 |
| T3 | 200.0 | 285.0 |

Wavelength Grouping

If wavelength binning is required, only one wavelength group is allowed for each chip within a reel.

| Color | Group | Wavelength distribution (nm) |
|------------|-------|------------------------------|
| Red | Full | 620 - 630 |
| True Green | Full | 521 - 536 |
| | A | 521 - 526 |
| | B | 526 - 531 |
| | C | 531 - 536 |
| Blue | Full | 465 - 475 |
| | A | 465 - 470 |
| | B | 470 - 475 |

Dominant wavelength is measured with an accuracy of ± 1 nm.

Electrical Characteristics at Ta=25°C

| | Vf @ If = 20mA | | Temperature Coefficient of Vf (If=20mA; -10°C<T<100°C) |
|------------|----------------|----------|---|
| | Typ. (V) | Max. (V) | |
| Red | 1.80 | 2.45 | -2.00 |
| True Green | 3.70 | 4.25 | -3.60 |
| Blue | 3.60 | 4.25 | -3.10 |

Forward voltage, Vf is measured with an accuracy of ± 0.1 V.

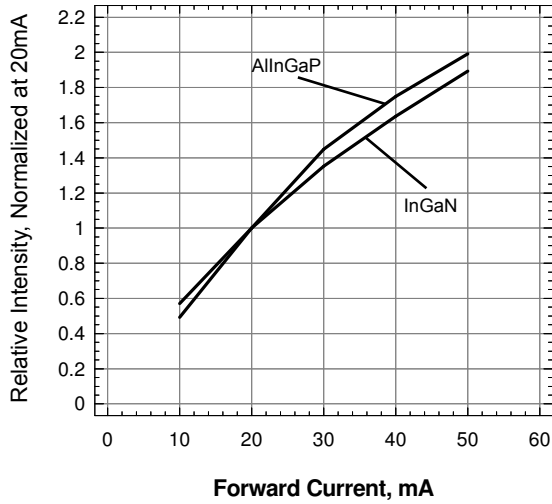
Optical Characteristics at Ta=25°C

| | Temperature Coefficient (If=20mA; -10°C<T<100°C) | |
|------------|--|------------------------|
| | λ_{peak} (nm/K) | λ_{dom} (nm/K) |
| Red | 0.15 | 0.05 |
| True Green | 0.04 | 0.03 |
| Blue | 0.04 | 0.02 |

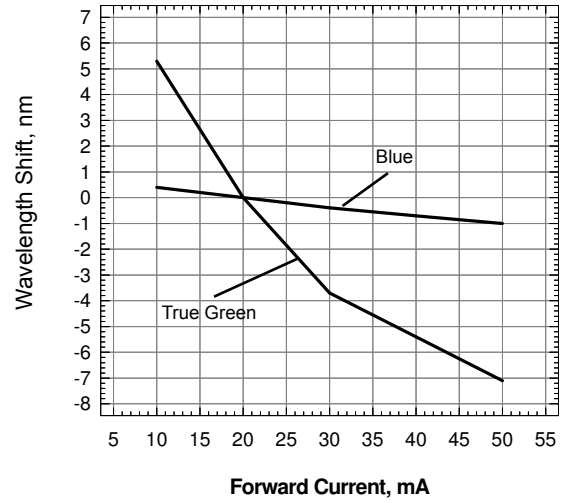
Absolute Maximum Ratings

| | Maximum Value | Unit |
|--|--|------|
| DC forward current | Red=30; True Green, Blue=20 | mA |
| Peak pulse current; (tp ≤ 10µs, Duty cycle = 0.005) | Red=1000; True Green, Blue=200 | mA |
| Reverse voltage | Red=12; True Green, Blue=5 | V |
| Power consumption | Red=75; True Green, Blue=85 | V |
| Thermal resistance junstion/ambient, Rth JA 1 chip on 3 chips on | Red=480; True Green, Blue=530 Red=770; True Green, Blue=820 | K/W |
| Thermal resistance junstion/ambient, Rth JA 1 chip on 3 chips on | Red=260; True Green, Blue=290 Red=420; True Green, Blue=470 | K/W |
| LED junction temperature | 125 | °C |
| Operating temperature | -40 ... +100 | °C |
| Storage temperature | -40 ... +100 | °C |

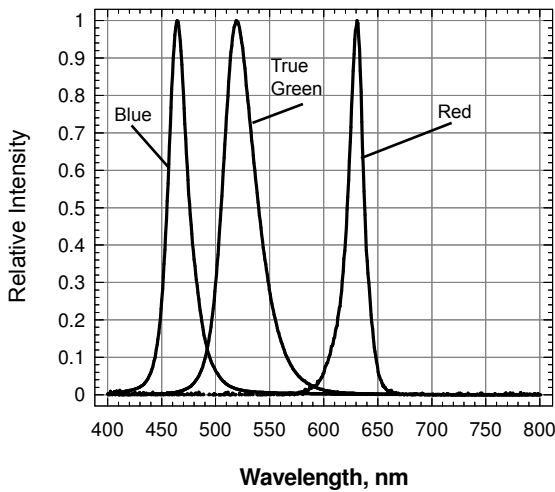
Luminous Intensity Vs Forward Current



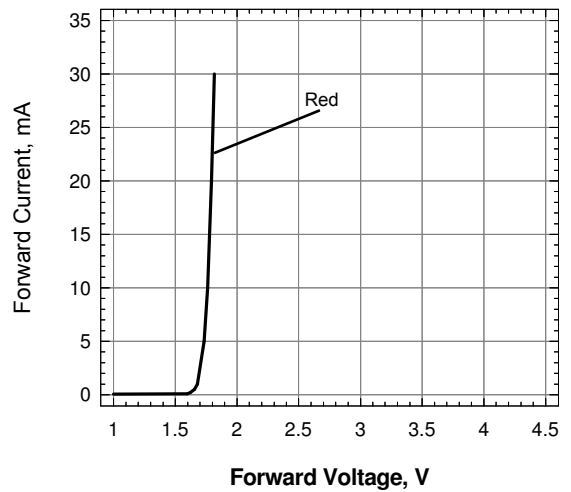
Wavelength Shift Vs Forward Current



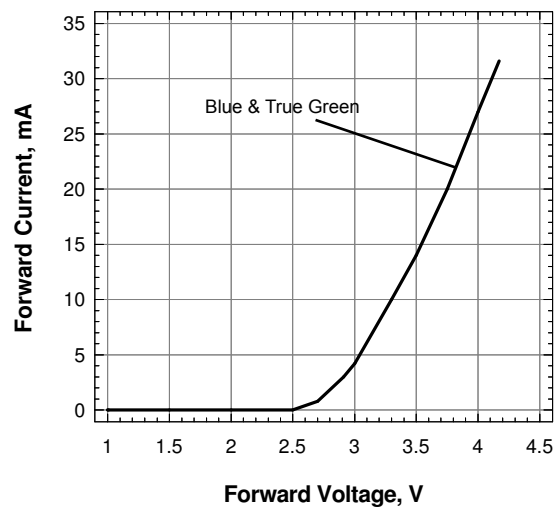
Relative Intensity Vs Wavelength



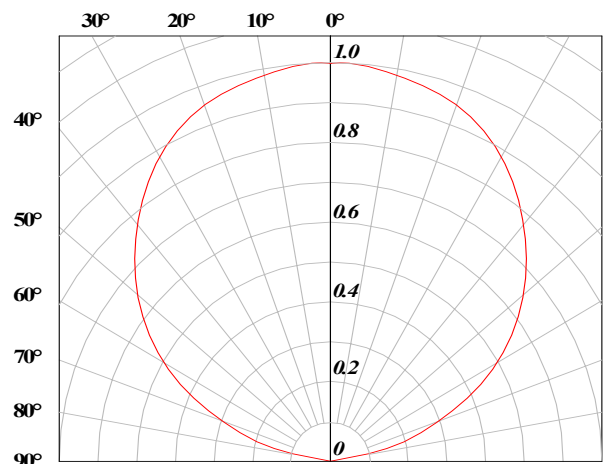
Forward Current Vs Forward Voltage



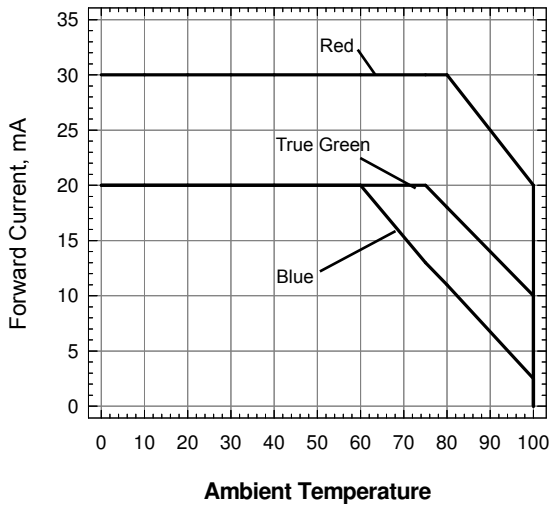
Forward Current Vs Forward Voltage



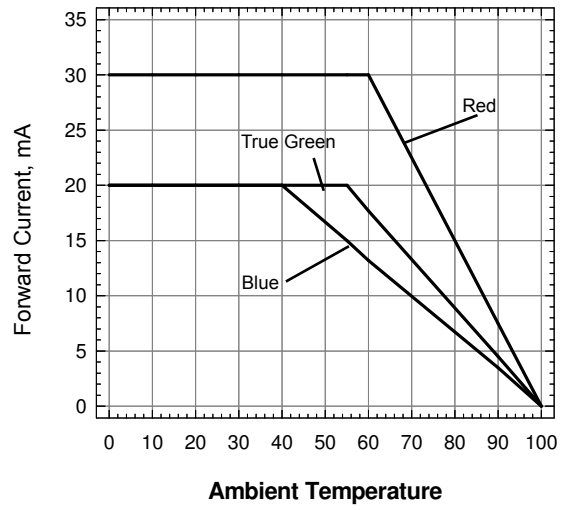
Radiation Pattern



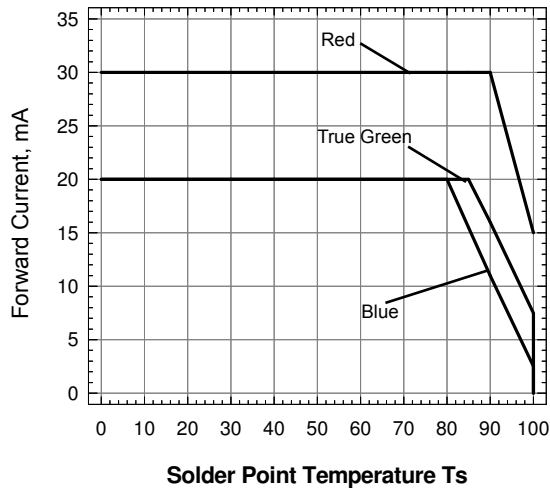
Maximum Forward Current Vs Temperature (1 chip on)



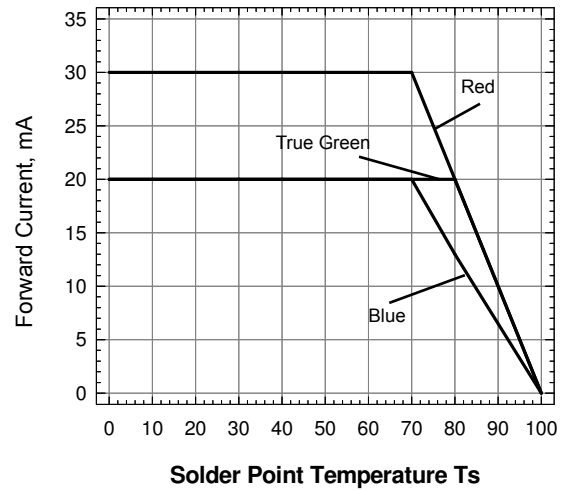
Maximum Forward Current Vs Temperature (3 chips on)



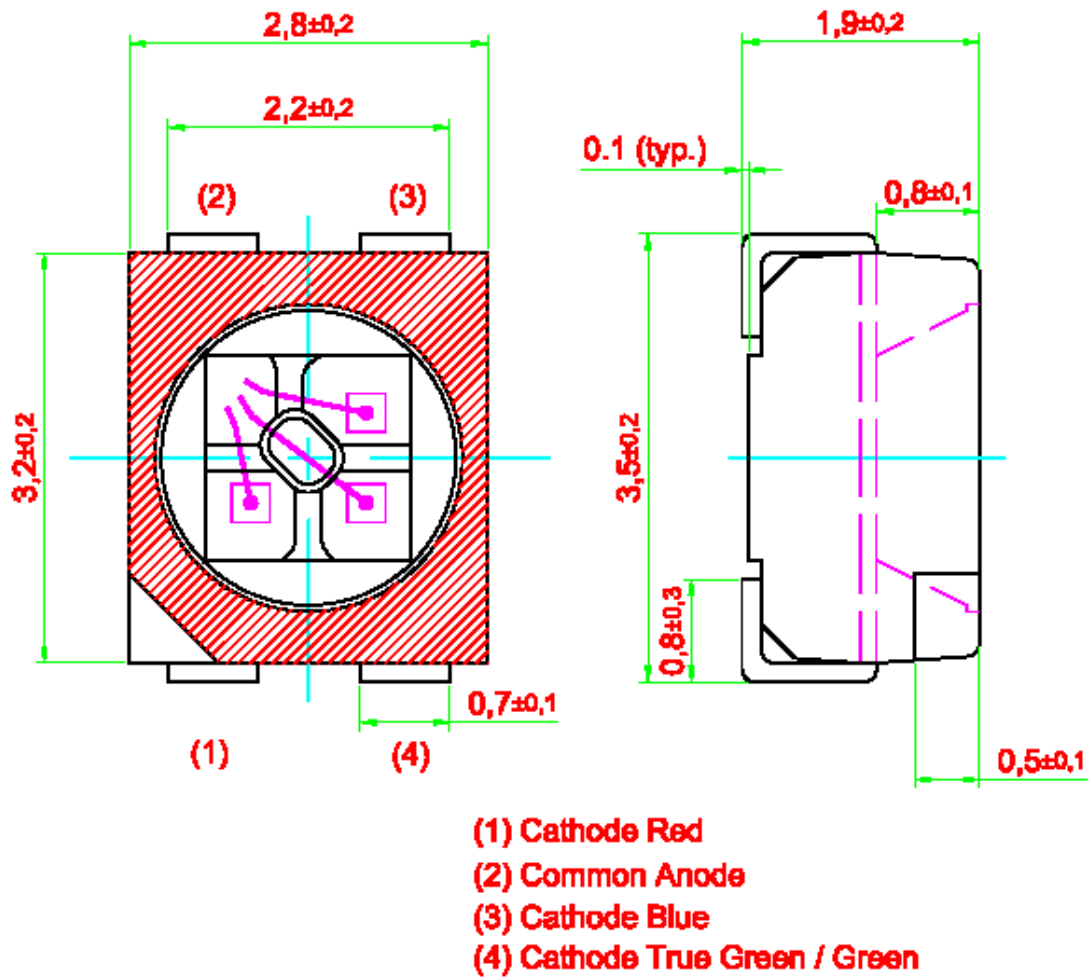
Maximum Forward Current Vs Temperature (1 chip on)



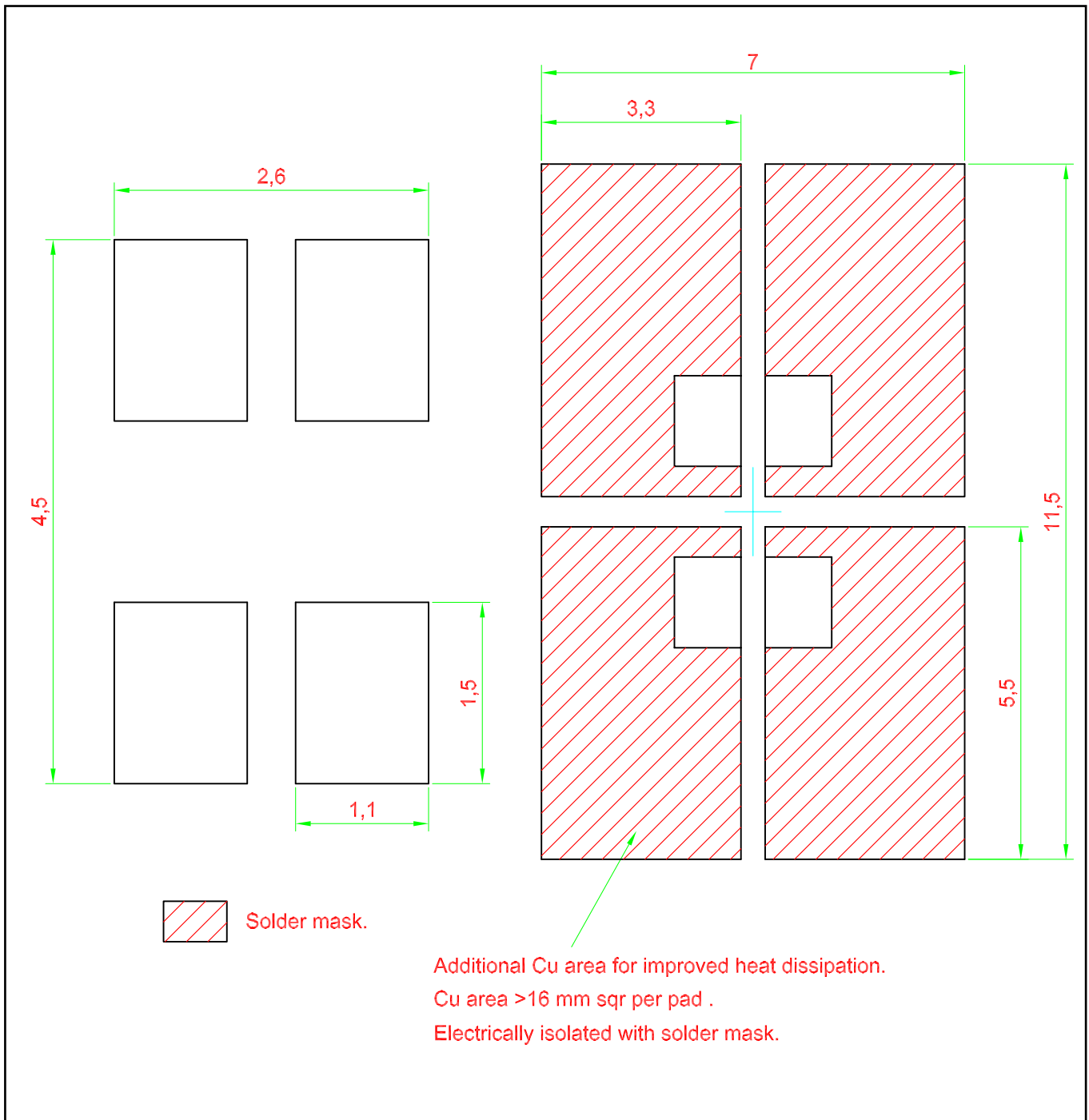
Maximum Forward Current Vs Temperature (3 chips on)



Multi DomiLED™ • DMRTB-CJ : Tri-Color Package Outlines

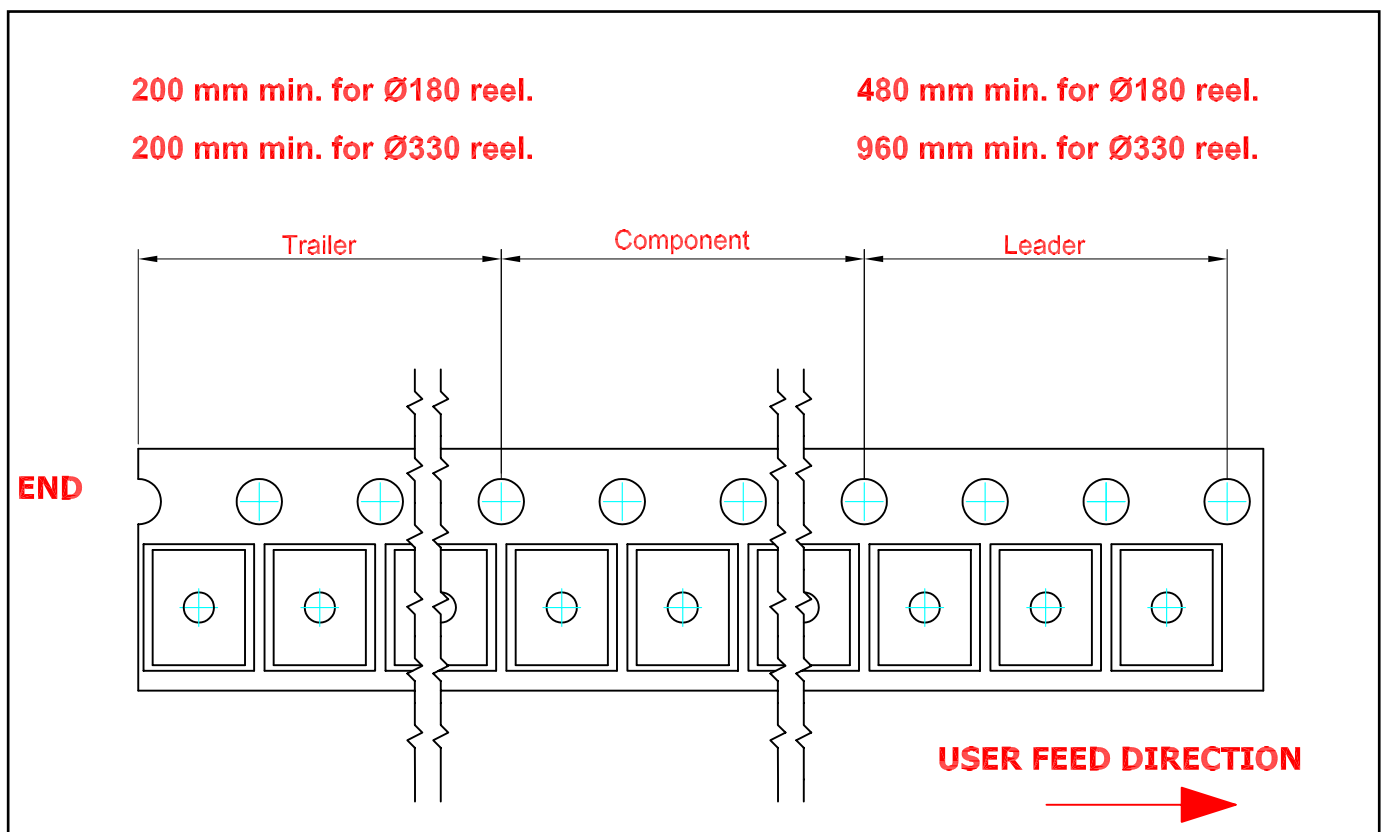
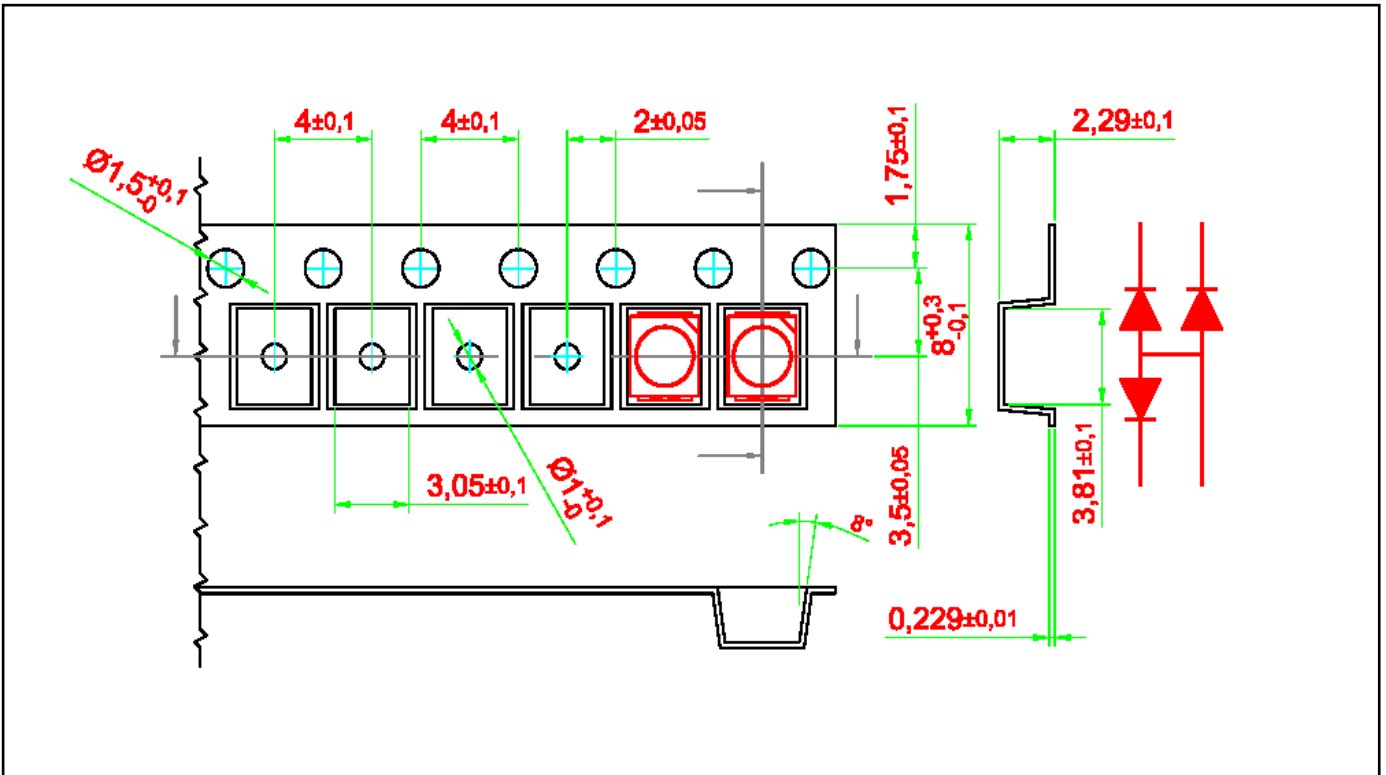


Recommended Solder Pad

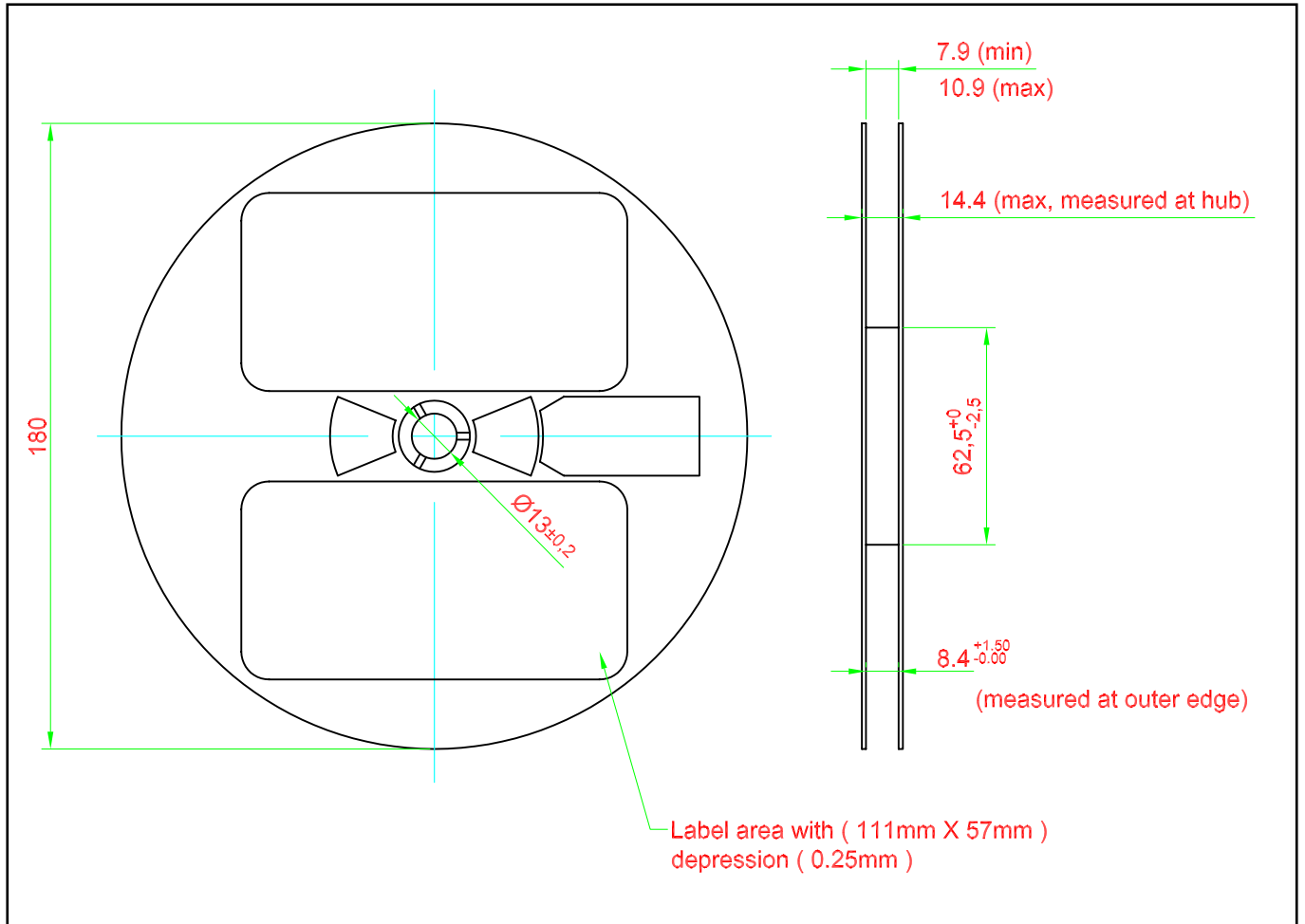


Taping and orientation

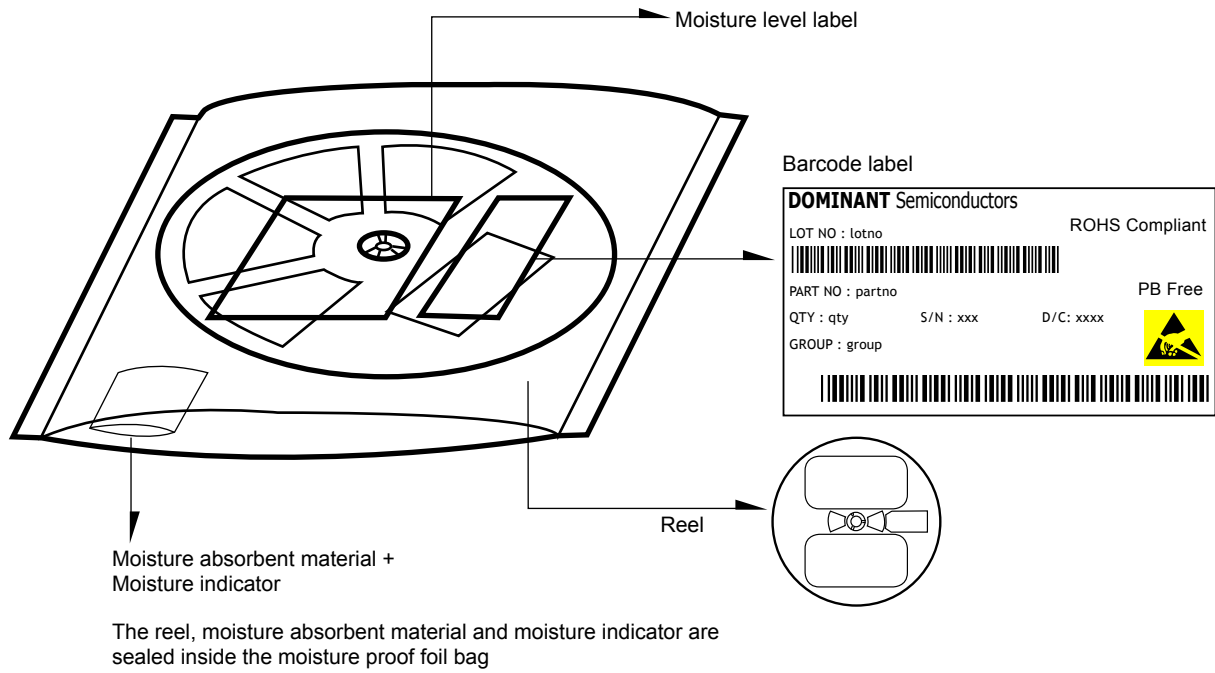
- Reels come in quantity of 1025 or 2050 units.
- Reel diameter is 180 mm.



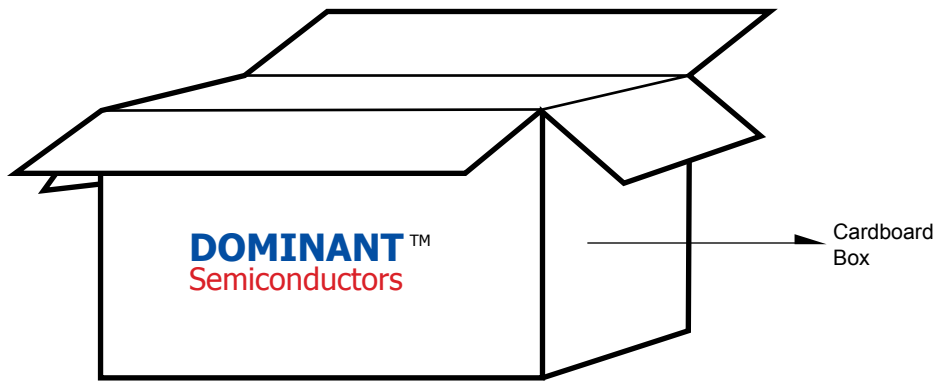
Packaging Specification



Packaging Specification



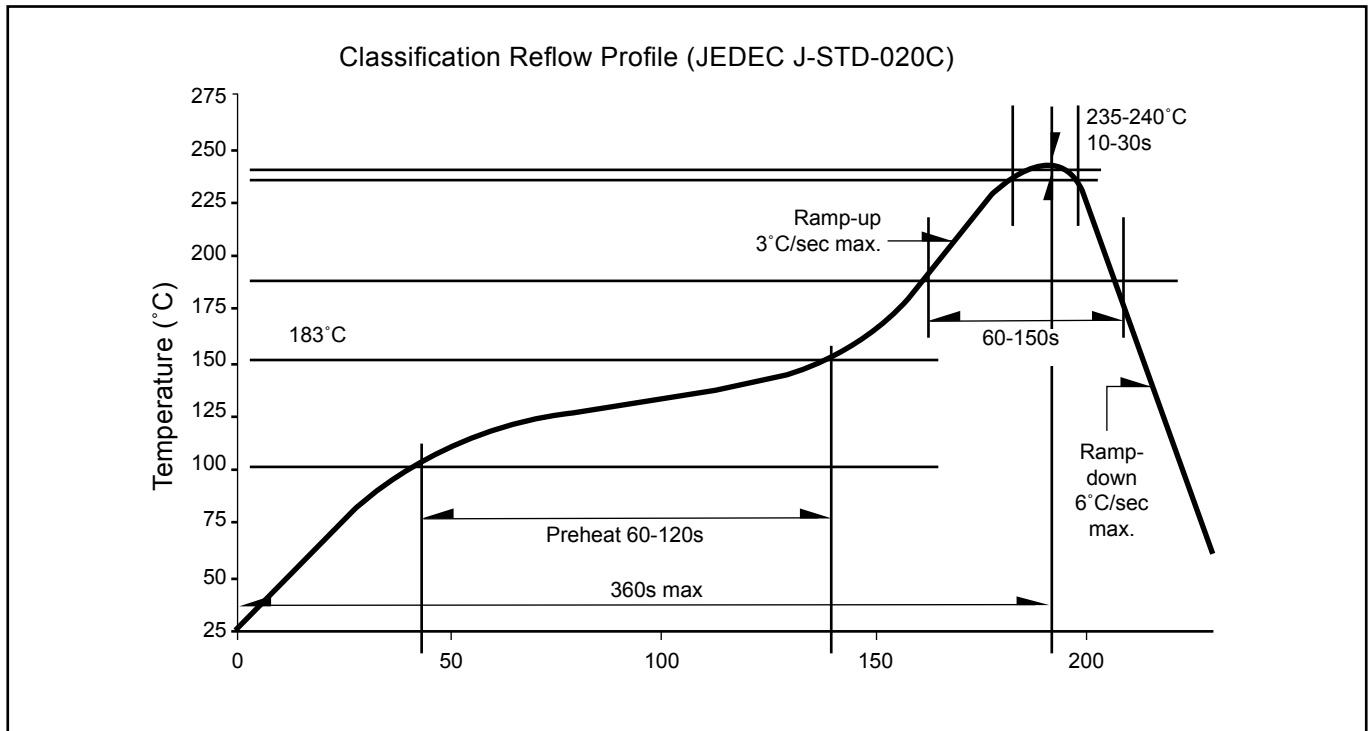
| | Average 1pc DomiLED/Multi DomiLED | 1 completed bag (2000pcs) |
|---------------|-----------------------------------|---------------------------|
| Weight (gram) | 0.034 | 190 ± 10 |



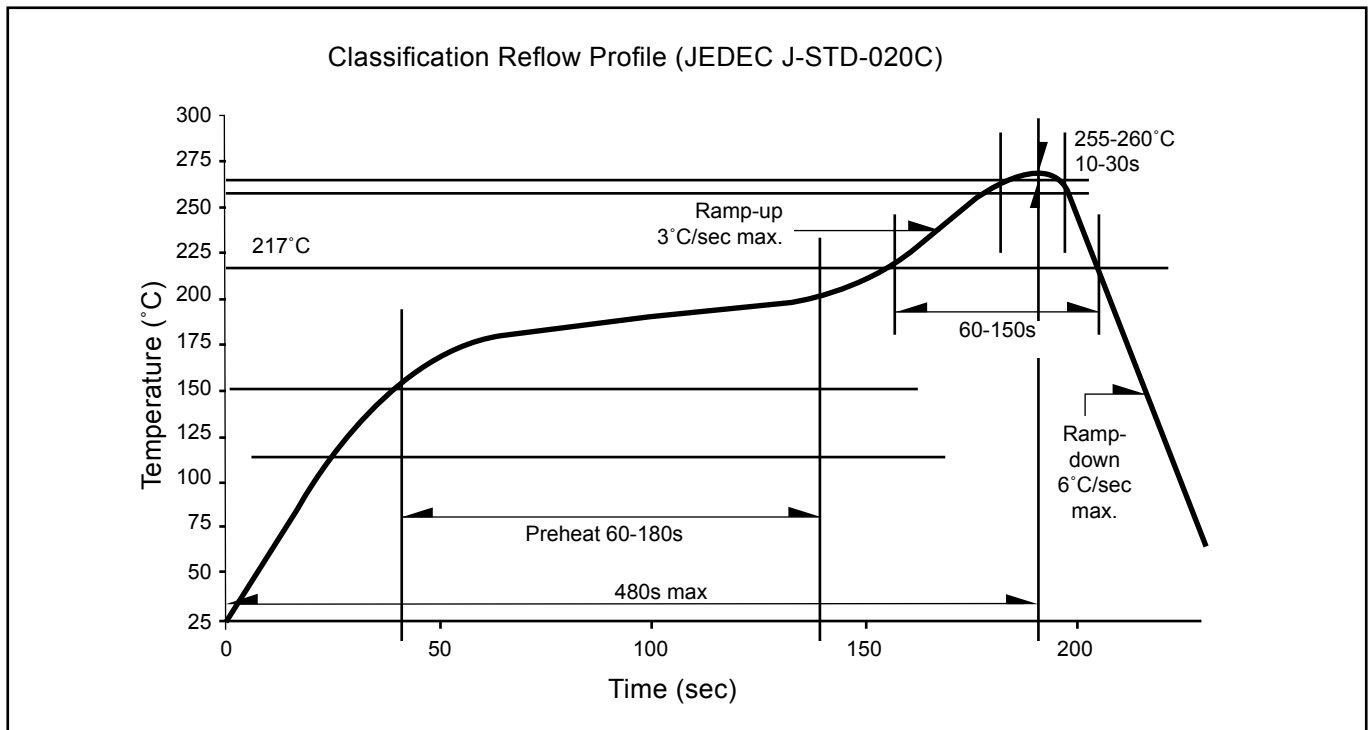
For Multi DomiLED™

| Cardboard Box Size | Dimensions (mm) | Empty Box Weight (kg) | Reel / Box | Quantity / Box (pcs) |
|--------------------|-----------------|-----------------------|--------------|----------------------|
| Small | 300 x 250 x 250 | 0.3 | 15 reels MAX | 30,000 MAX |
| Large | 416 x 516 x 476 | 1.4 | 50 reels MAX | 100,000 MAX |

Recommended Sn-Pb IR-Reflow Soldering Profile



Recommended Pb-free Soldering Profile



Revision History

| Page | Subjects | Date of Modification |
|------|------------|----------------------|
| - | New Format | 27 Nov 2006 |
| | | |
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DOMINANT Semiconductors is a dynamic Malaysian Corporation that is among the world's leading SMT LED Manufacturers. An excellence – driven organization, it offers a comprehensive product range for diverse industries and applications. Featuring an internationally certified quality assurance acclaim, DOMINANT's extra bright LEDs are perfectly suited for various lighting applications in the automotive, consumer and communications as well as industrial sectors. With extensive industry experience and relentless pursuit of innovation, DOMINANT's state-of-art manufacturing, research and testing capabilities have become a trusted and reliable brand across the globe. More information about DOMINANT Semiconductors can be found on the Internet at <http://www.dominant-semi.com>.

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