

Domiled™

Synonymous with function and performance, the 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 surface mount LED.
- > Based on GaN technology.
- > 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 IR reflow 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 | Chip Technology / Color | Viewing Angle° | Luminous Intensity @ IF = 10mA IV (mcd) |
|-------------------------|-------------------------|----------------|---|
| DDB-KJS-LM2-1-I1 | GaN | 120 | 11.2 - 28.5 |
| • DDB-KJS-L1 | Blue, 470nm | | 11.2 - 14.0 |
| • DDB-KJS-L2 | | | 14.0 - 18.0 |
| • DDB-KJS-M1 | | | 18.0 - 22.4 |
| • DDB-KJS-M2 | | | 22.4 - 28.5 |

NOTE

1. All part number above comes in a quantity of 2000 units per reel.
2. Other luminous intensity groups are also available upon request.
3. Luminous intensity is measured with an accuracy of ± 11%.
4. Wavelength binning is carried for all units as per the wavelength-binning table. Only one wavelength group is allowed for each reel.

Wavelength Grouping

| Color | Group | Wavelength distribution (nm) |
|-----------|-------|------------------------------|
| DDB; Blue | Full | 464 - 476 |
| | W | 464 - 468 |
| | X | 468 - 472 |
| | Y | 472 - 476 |

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

Electrical Characteristics at Ta=25°C

| Part Number | Vf @ If = 10 mA | | Vr @ Ir = 10 µA |
|-------------|-----------------|----------|-----------------|
| | Typ. (V) | Max. (V) | Min. (V) |
| DDB-KJS | 3.9 | 4.2 | 5.0 |

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

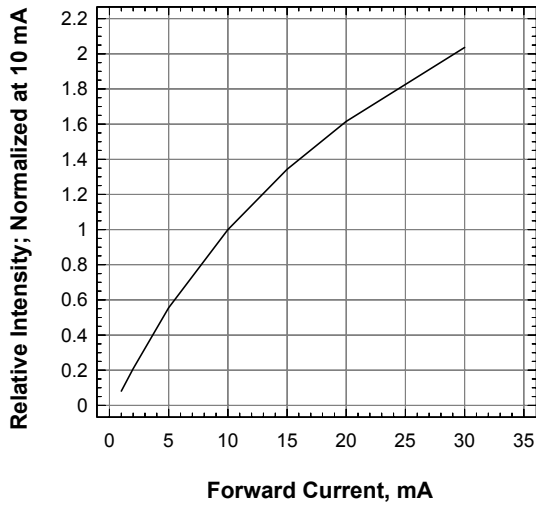
Absolute Maximum Ratings

| | Maximum Value | Unit |
|--|---------------|------|
| DC forward current | 20 | mA |
| Peak pulse current; (tp ≤ 10μs, Duty cycle = 0.005) | 200 | mA |
| Reverse voltage (IR = 10 μA) | 5 | V |
| ESD threshold (HBM) | 2000 | V |
| LED junction temperature | 125 | °C |
| Operating temperature | -40 ... +100 | °C |
| Storage temperature | -40 ... +100 | °C |
| Power dissipation (at room temperature) | 85 | mW |
| Thermal resistance | | |
| - Junction / ambient, R _{th JA} | 500 | K/W |
| - Junction / solder point, R _{th JS} | 280 | K/W |
| (Mounting on FR4 PCB, pad size ≥ 16 mm ² per pad) | | |

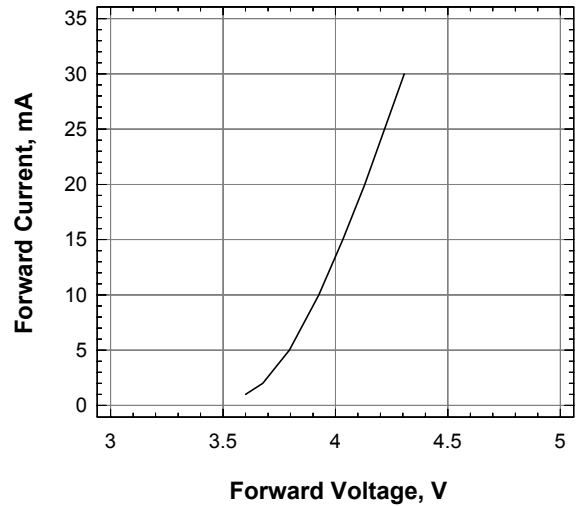
Characteristics (Ta = 25°C)

| | Symbol | Part Number | Value | Unit |
|---|-------------------------------------|-------------|-------|---------|
| Temperature coefficient of λ _{dom} (typ) I _F = 10mA; 0 °C ≤ T ≤ 100 °C | TC _{λ_{dom}} (typ) | DDB-KJS | 0.01 | nm / K |
| Temperature coefficient of V _F (typ) I _F = 10mA; 0 °C ≤ T ≤ 100 °C | TC _V | DDB-KJS | -2.60 | mV / K |
| Temperature coefficient of I _V (typ) I _F = 10mA; 0 °C ≤ T ≤ 100 °C | TC _{I_V} | DDB-KJS | -0.30 | mcd / K |

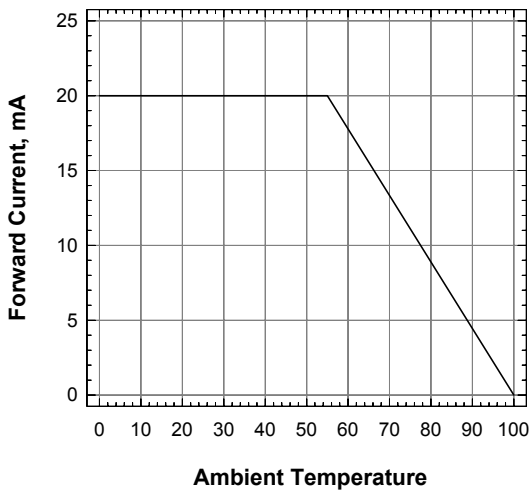
Relative Luminous Intensity Vs Forward Current



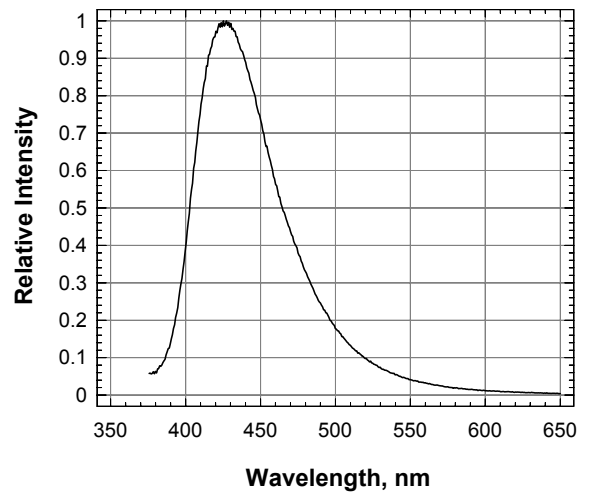
Forward Current Vs Forward Voltage



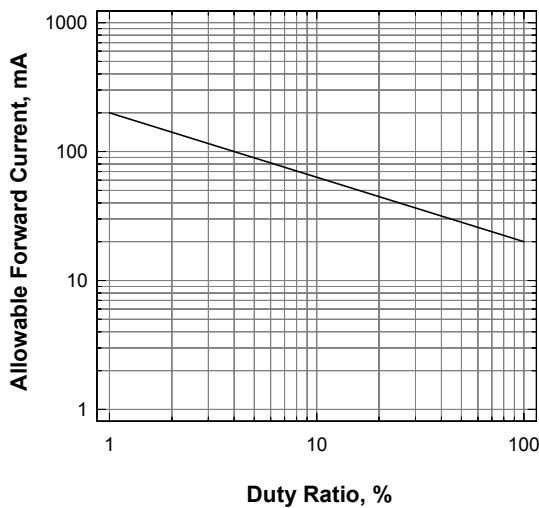
Maximum Forward Current Vs Temperature



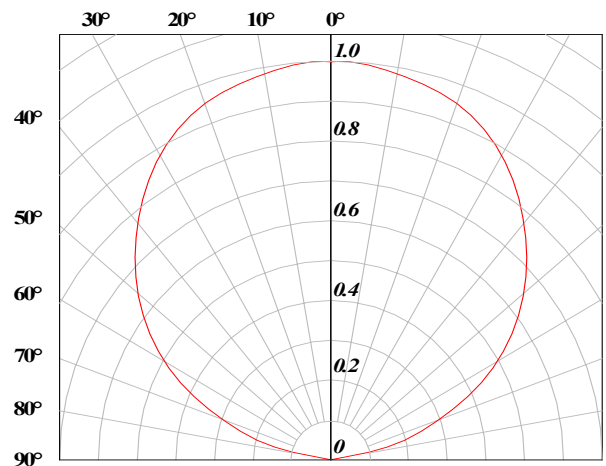
Relative Intensity Vs Wavelength



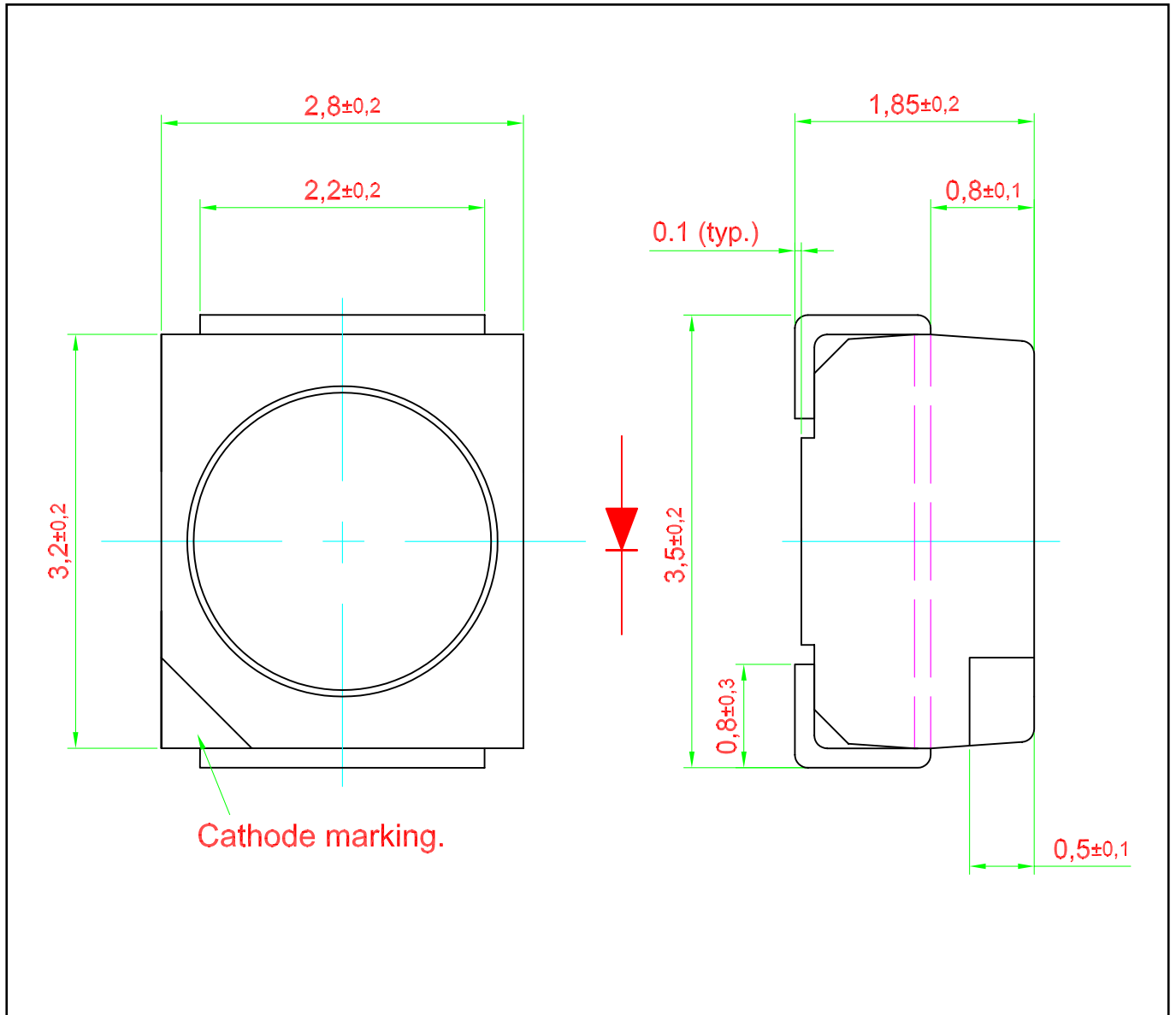
**Allowable Forward Current Vs Duty Ratio
(Ta=25 Deg C, Tp<10us)**



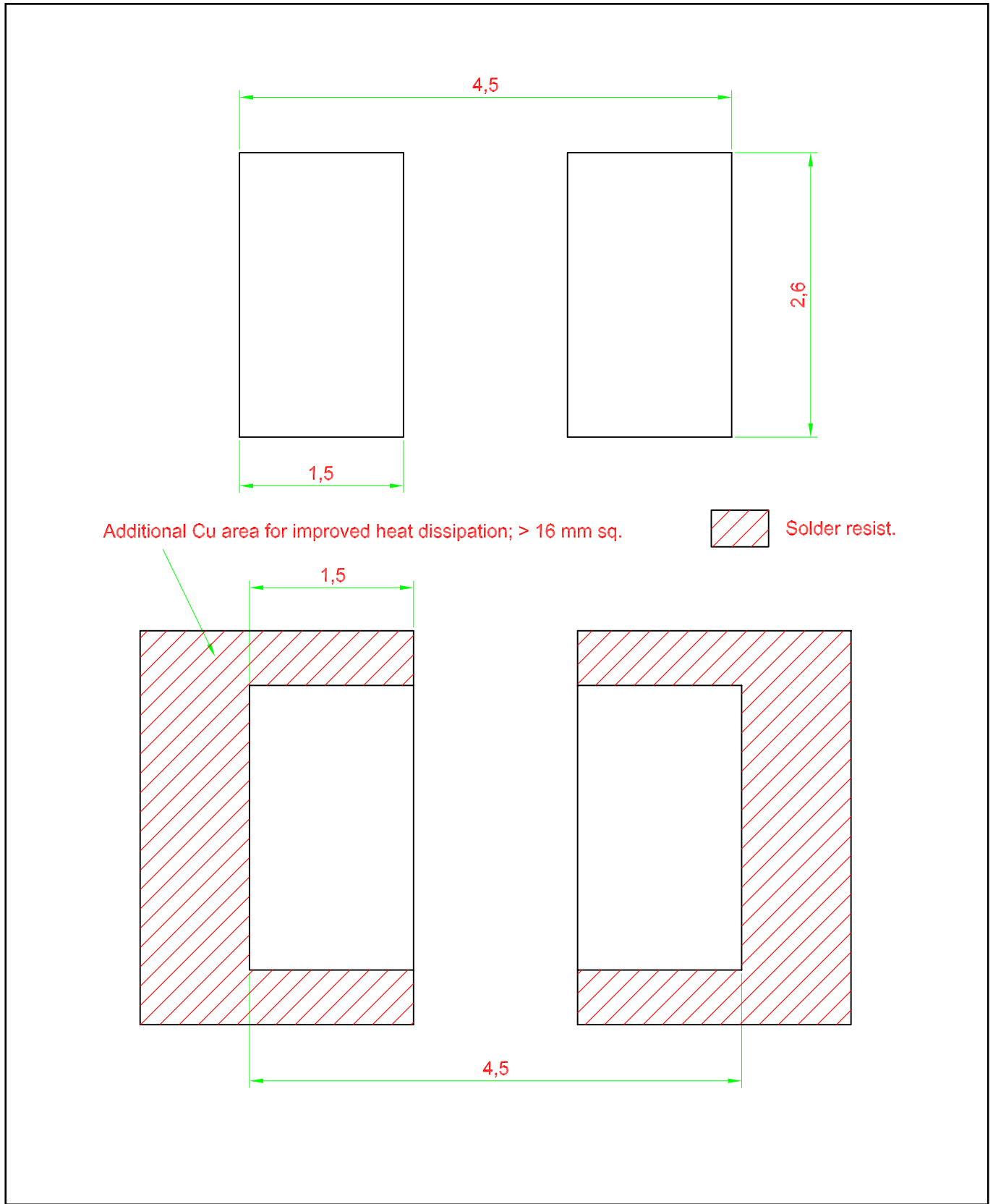
Radiation Pattern



DomiLED™ • GaN : DDx-KJS-I1 Package Outlines

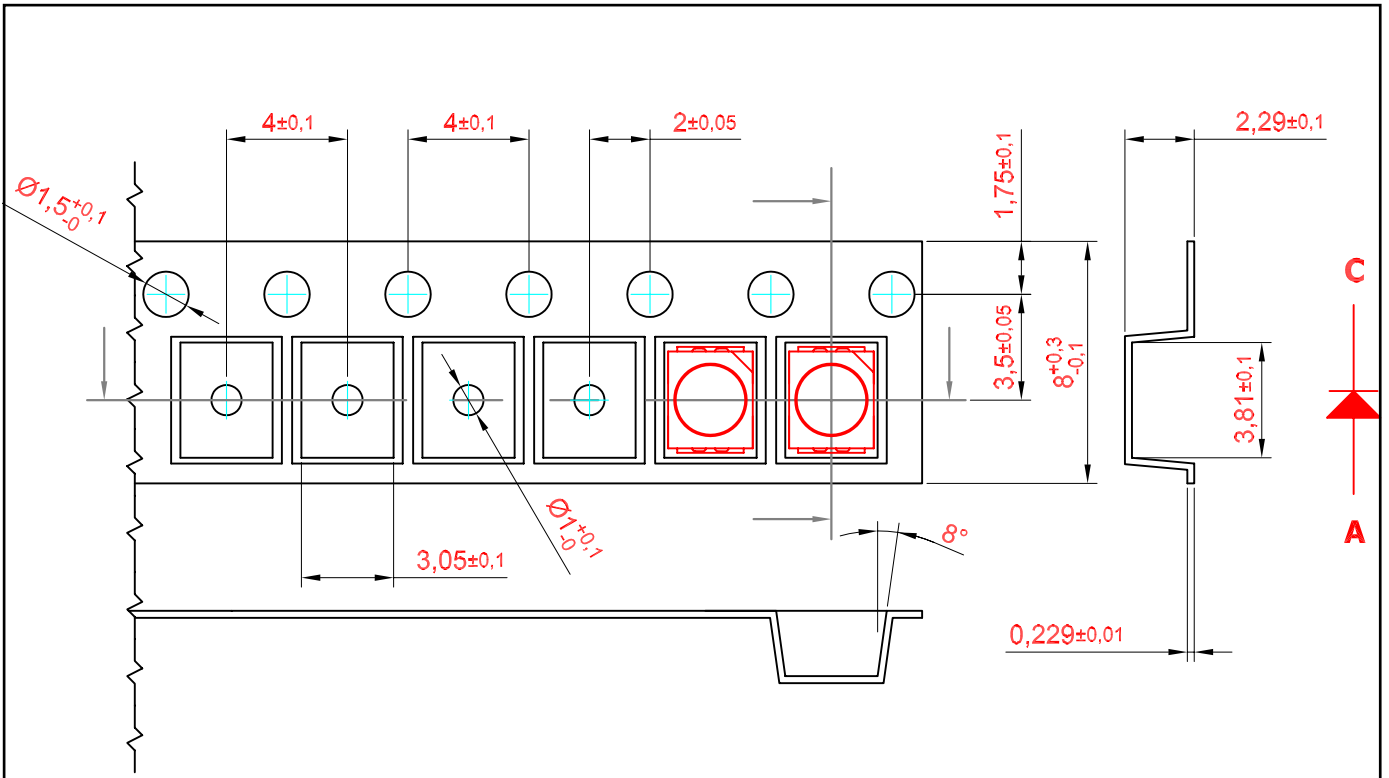


Recommended Solder Pad



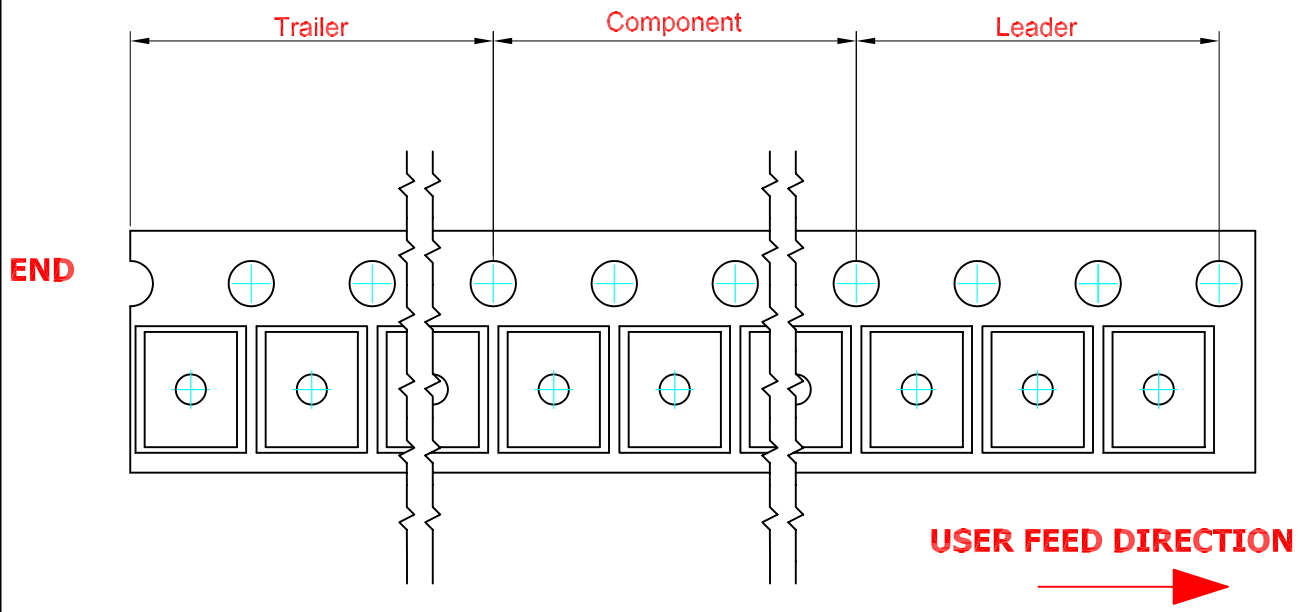
Taping and orientation

- Reels come in quantity of 2000 units.
- Reel diameter is 180 mm.

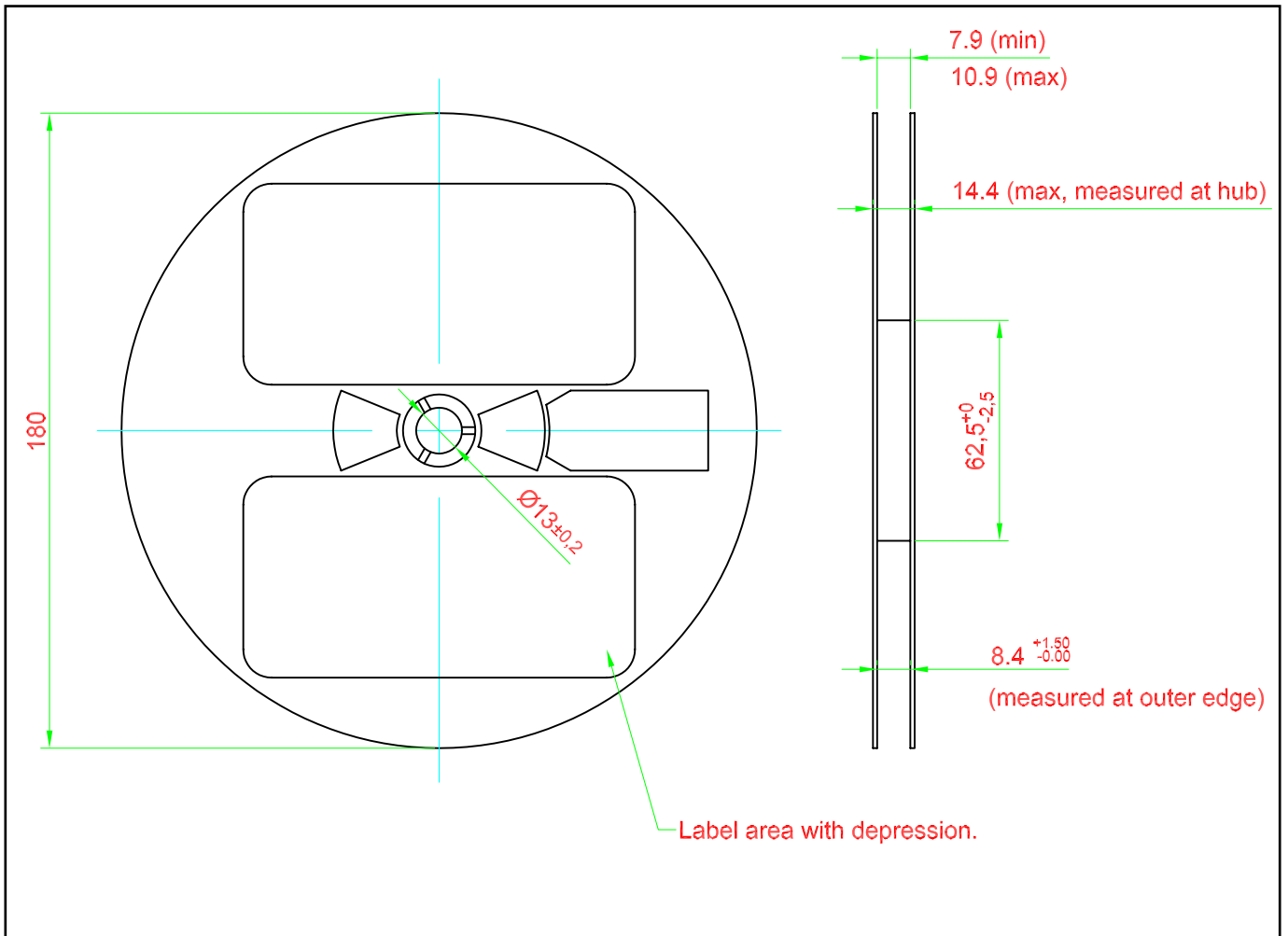


200 mm min. for $\varnothing 180$ reel.
200 mm min. for $\varnothing 330$ reel.

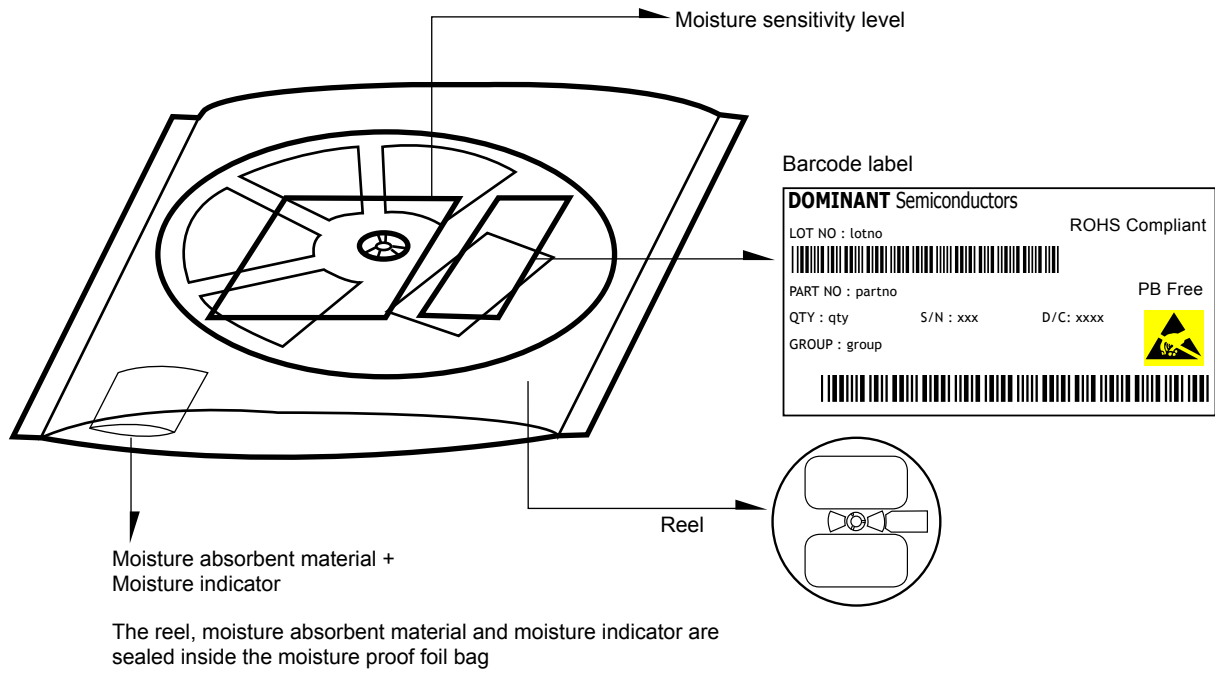
480 mm min. for $\varnothing 180$ reel.
960 mm min. for $\varnothing 330$ reel.



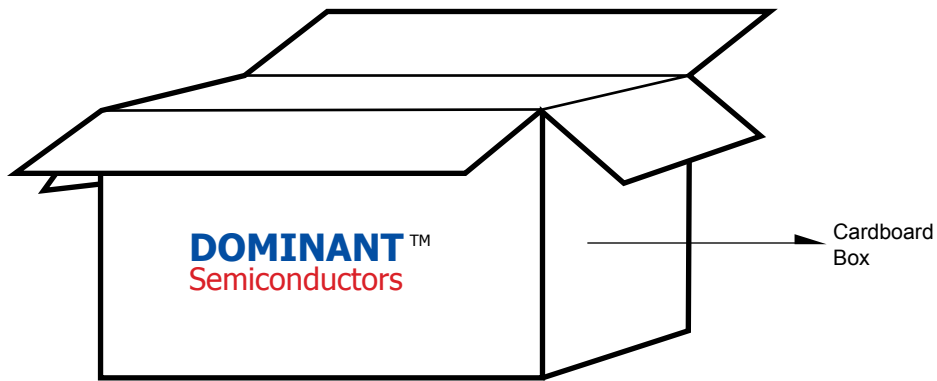
Packaging Specification



Packaging Specification



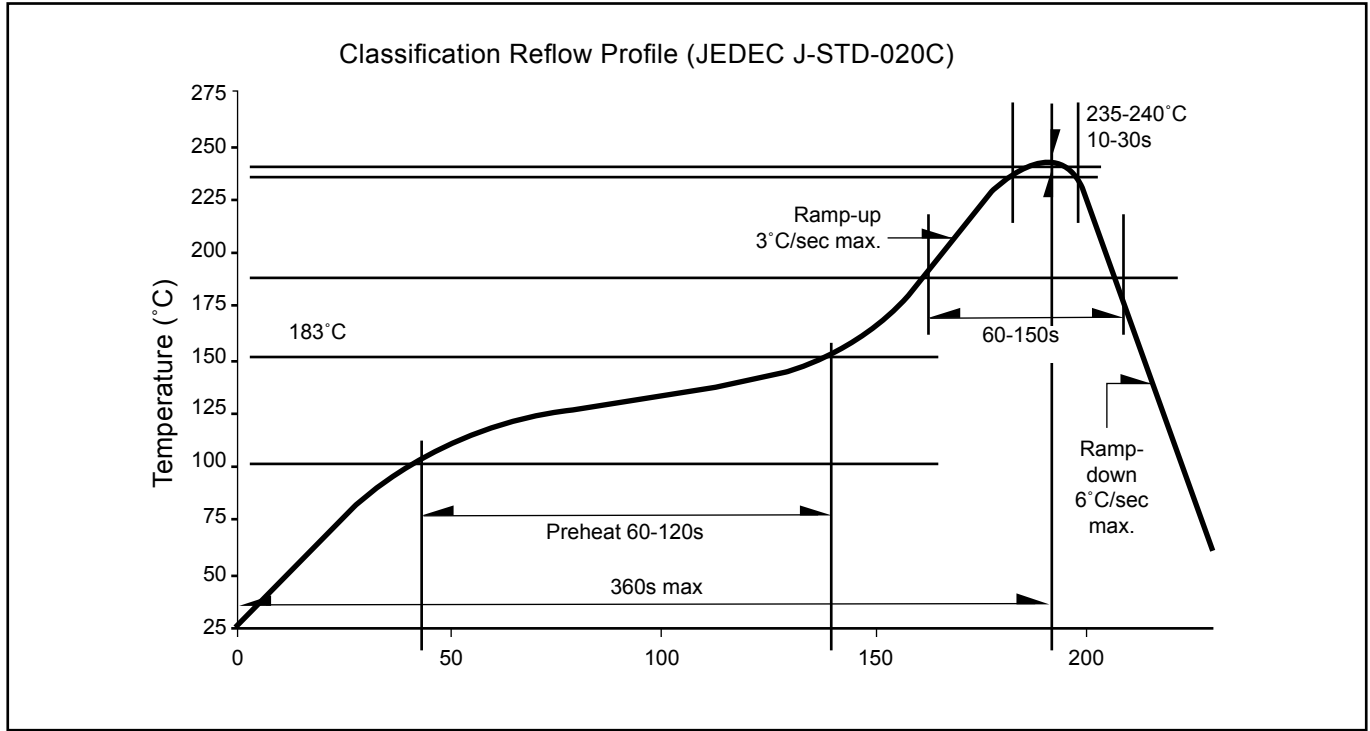
| | Average 1pc DomiLED/Multi DomiLED | 1 completed bag (2000pcs) |
|---------------|-----------------------------------|---------------------------|
| Weight (gram) | 0.034 | 190 ± 10 |



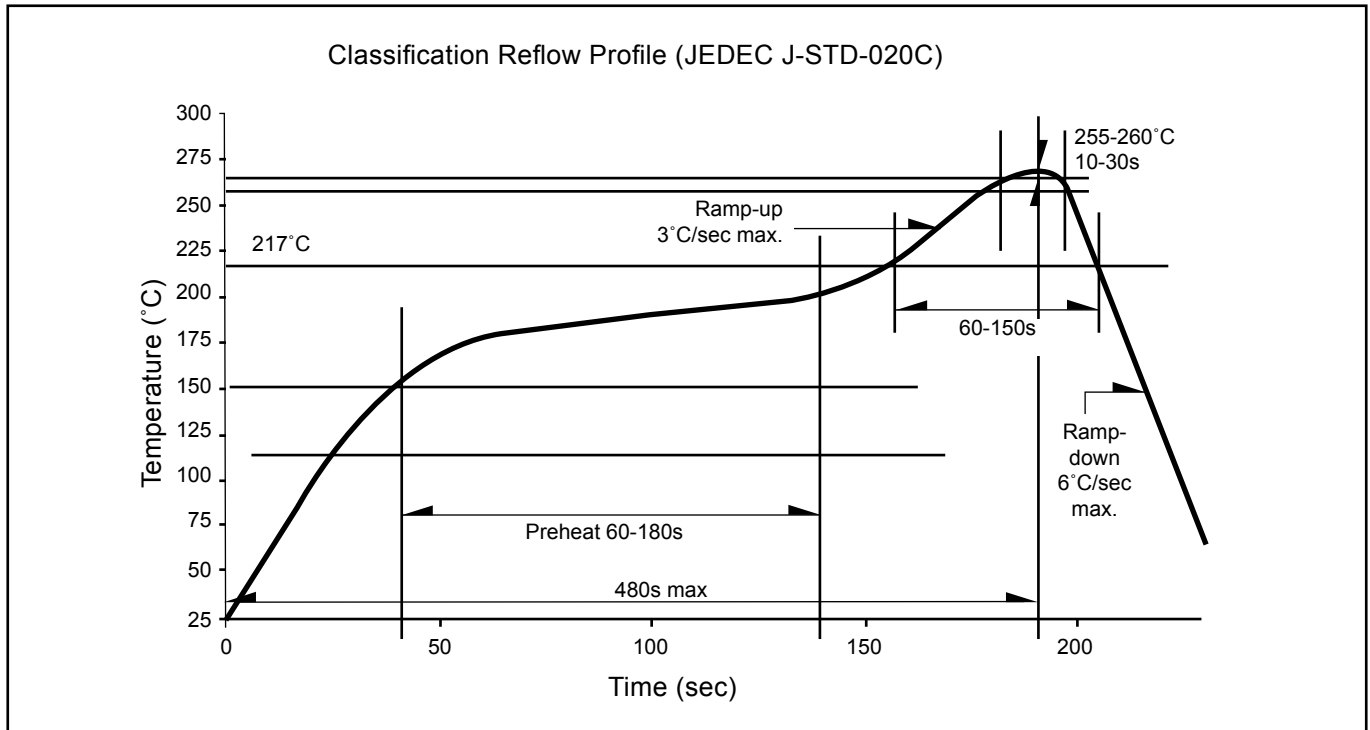
For DomiLED™

| Cardboard Box Size | Dimensions (mm) | Empty Box Weight (kg) | Reel / Box | Quantity / Box (pcs) |
|--------------------|-----------------|-----------------------|--------------|----------------------|
| Small | 300 x 250 x 250 | 0.58 | 15 reels MAX | 30,000 MAX |
| Large | 416 x 516 x 476 | 1.74 | 55 reels MAX | 110,000 MAX |

Recommended Sn-Pb IR-Reflow Soldering Profile



Recommended Pb-free Soldering Profile



Revision History

| Page | Subjects | Date of Modification |
|------|-----------------|----------------------|
| - | Initial Release | 27 Jun 2007 |
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NOTE

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About Us

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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