

**DOMINANT™** DATA SHEET:  
**Semiconductors** **Domiled™**  
*Innovating Illumination* **GaN : DDx-KJS-I1**

**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)
<b>DDB-KJS-LM2-1-I1</b>	<b>GaN</b>	<b>120</b>	<b>11.2 - 28.5</b>
• 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  $\pm 11\%$ .
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  $\pm 1$  nm.

**Electrical Characteristics at Ta=25°C**

Part Number	Vf @ If = 10 mA		Vr @ Ir = 10 $\mu$ A
	Typ. (V)	Max. (V)	Min. (V)
DDB-KJS	3.9	4.2	5.0

Forward Voltage, Vf is measured with an accuracy of  $\pm 0.1$  V.

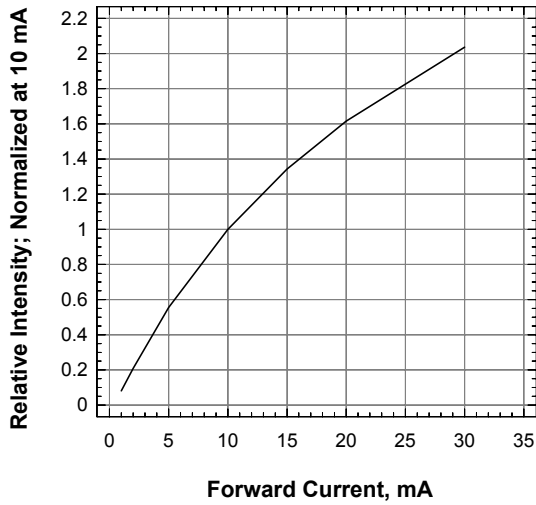
## Absolute Maximum Ratings

	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 <sub>th JA</sub>	500	K/W
- Junction / solder point, R <sub>th JS</sub> (Mounting on FR4 PCB, pad size ≥ 16 mm <sup>2</sup> per pad)	280	K/W

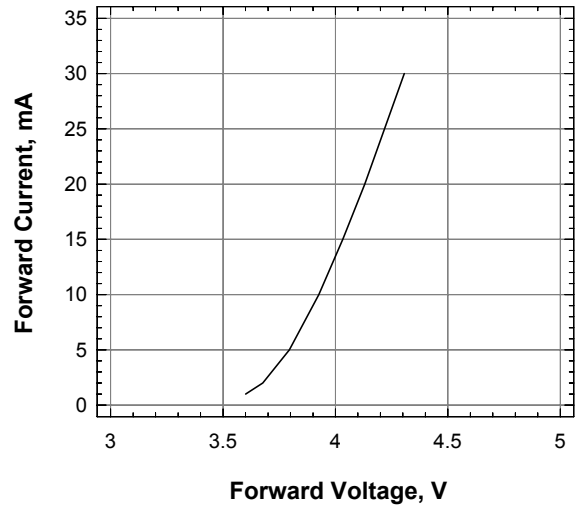
## Characteristics (Ta = 25°C)

	Symbol	Part Number	Value	Unit
Temperature coefficient of $\lambda_{dom}$ (typ) I <sub>F</sub> = 10mA; 0 °C ≤ T ≤ 100 °C	TC <sub><math>\lambda_{dom}</math></sub> (typ)	DDB-KJS	0.01	nm / K
Temperature coefficient of V <sub>F</sub> (typ) I <sub>F</sub> = 10mA; 0 °C ≤ T ≤ 100 °C	TC <sub>V</sub>	DDB-KJS	-2.60	mV / K
Temperature coefficient of I <sub>V</sub> (typ) I <sub>F</sub> = 10mA; 0 °C ≤ T ≤ 100 °C	TC <sub>I<sub>V</sub></sub>	DDB-KJS	-0.30	mcd / K

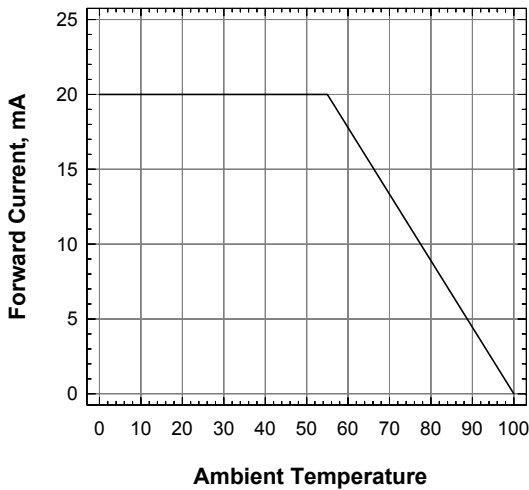
**Relative Luminous Intensity Vs Forward Current**



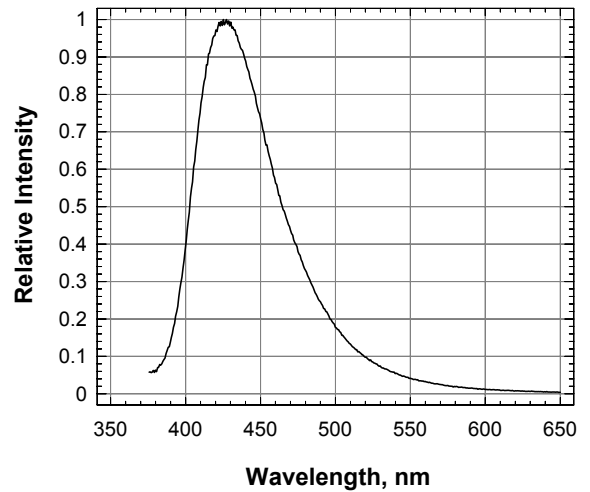
**Forward Current Vs Forward Voltage**



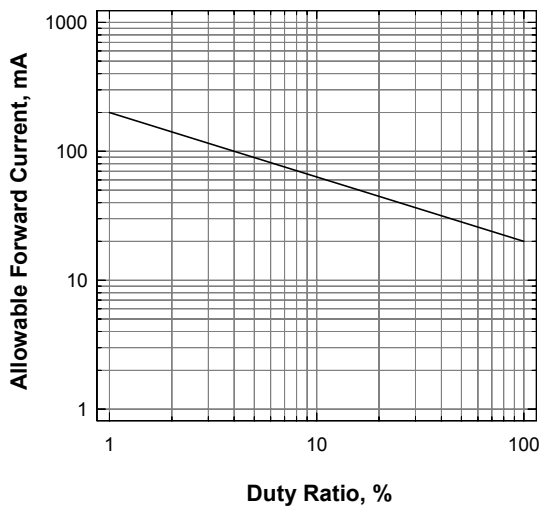
**Maximum Forward Current Vs Temperature**



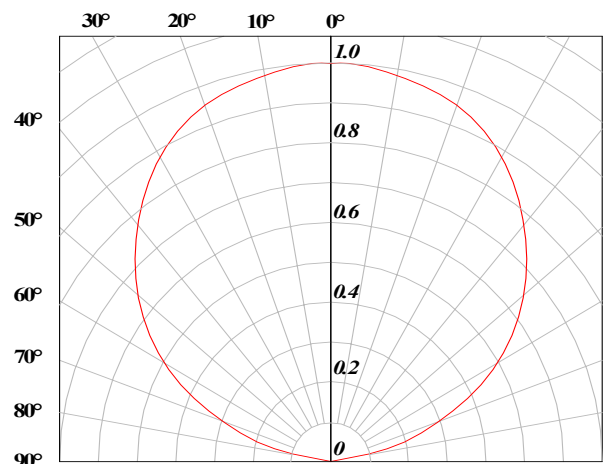
**Relative Intensity Vs Wavelength**



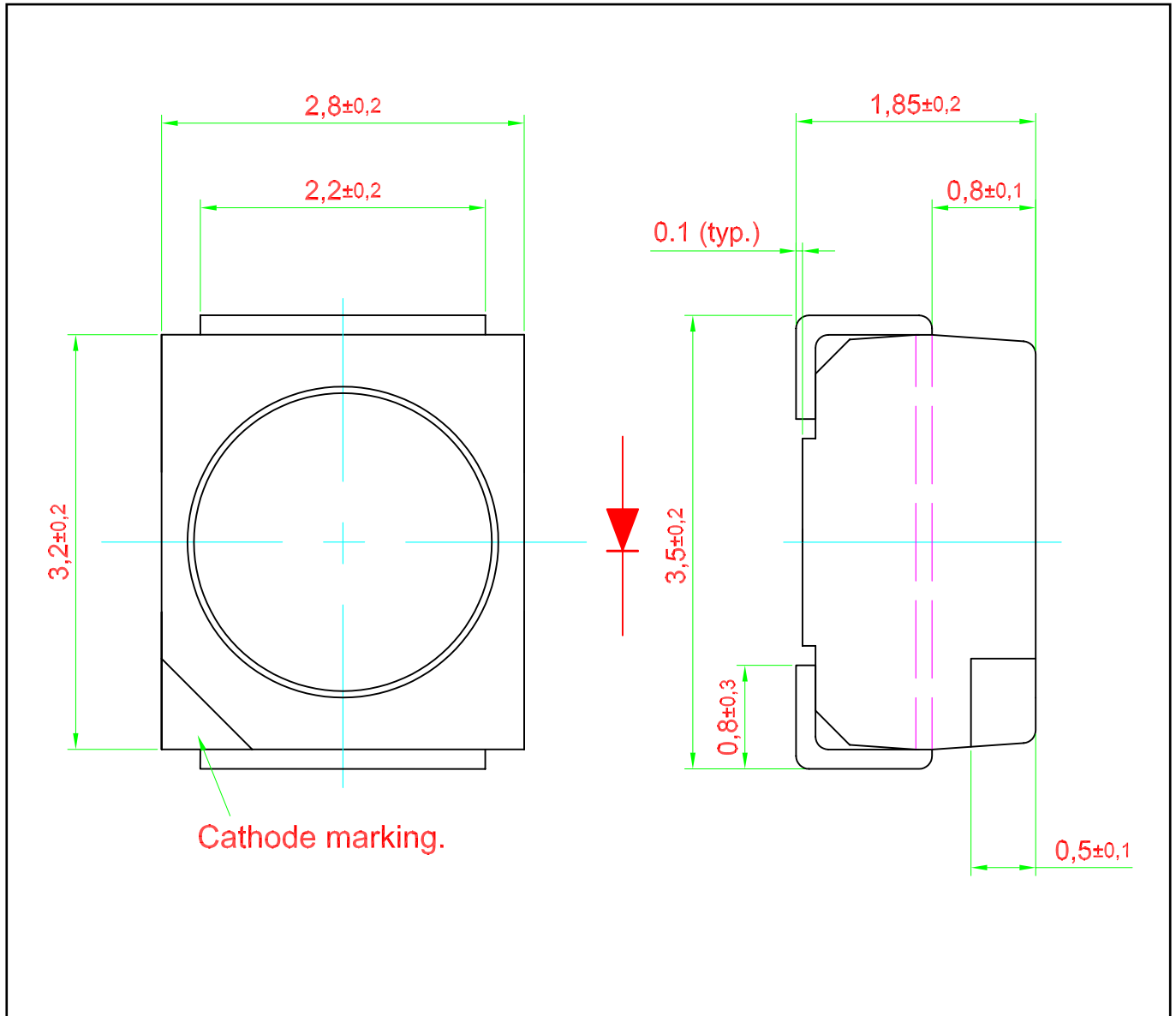
**Allowable Forward Current Vs Duty Ratio  
(Ta=25 Deg C, Tp<10us)**



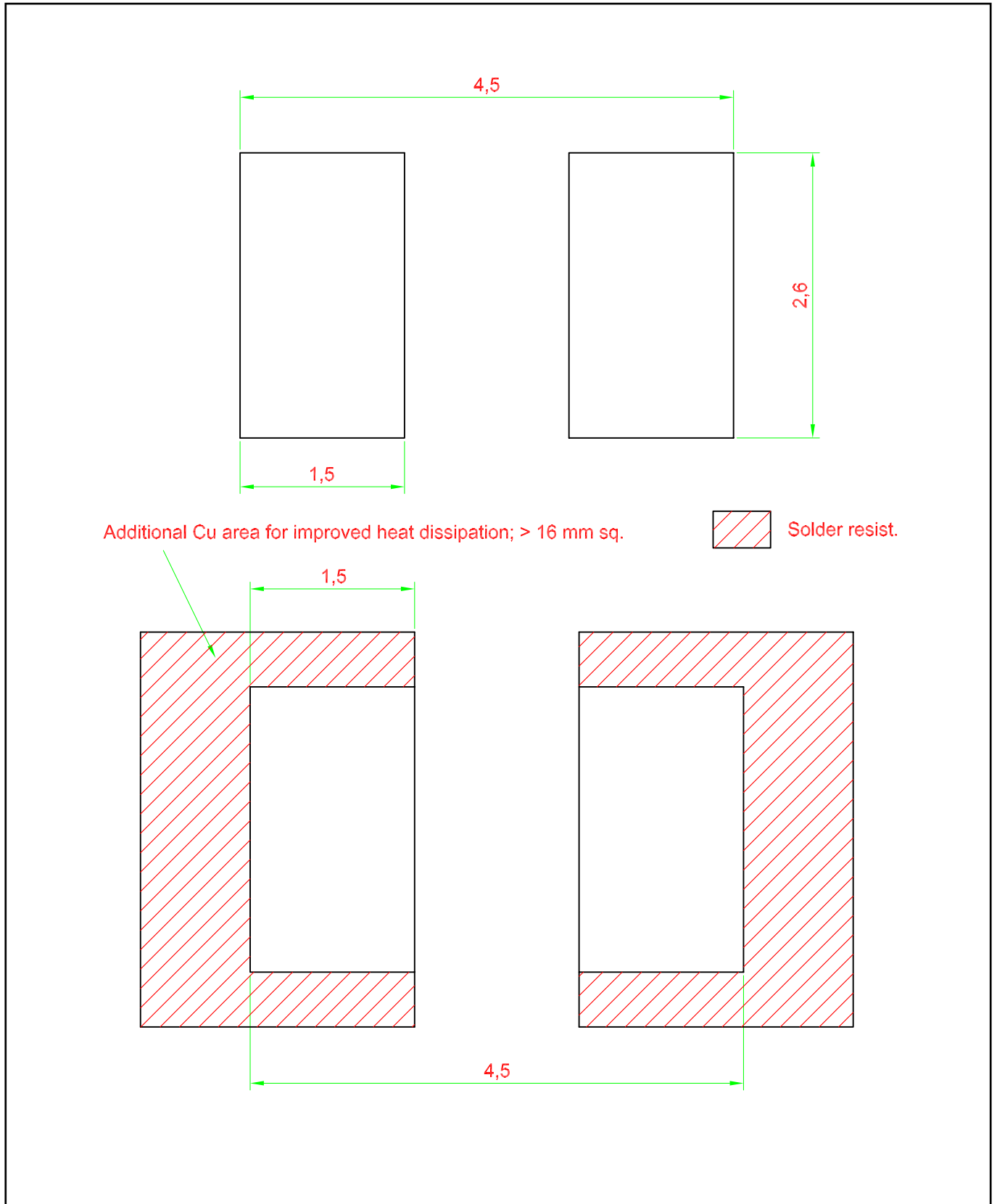
**Radiation Pattern**



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

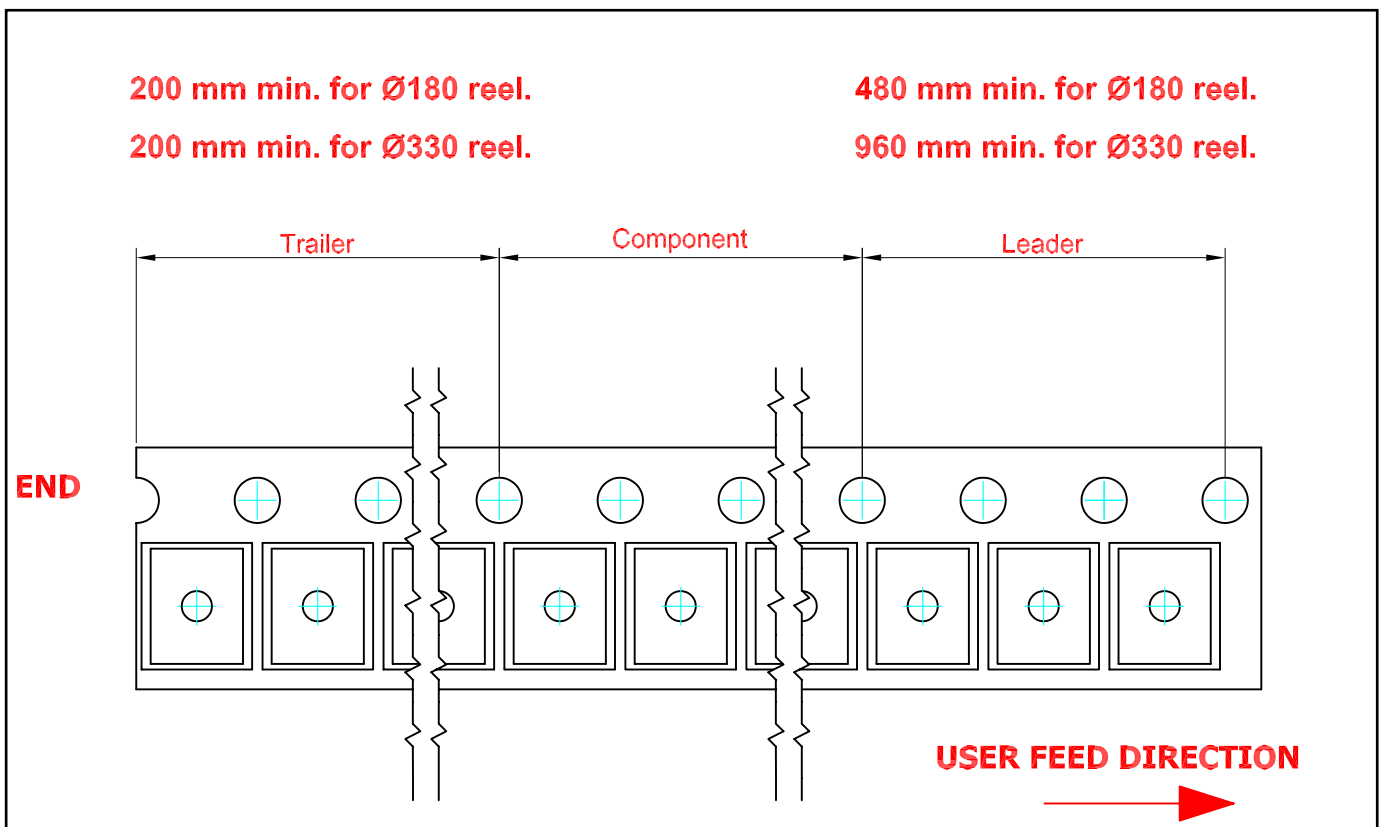
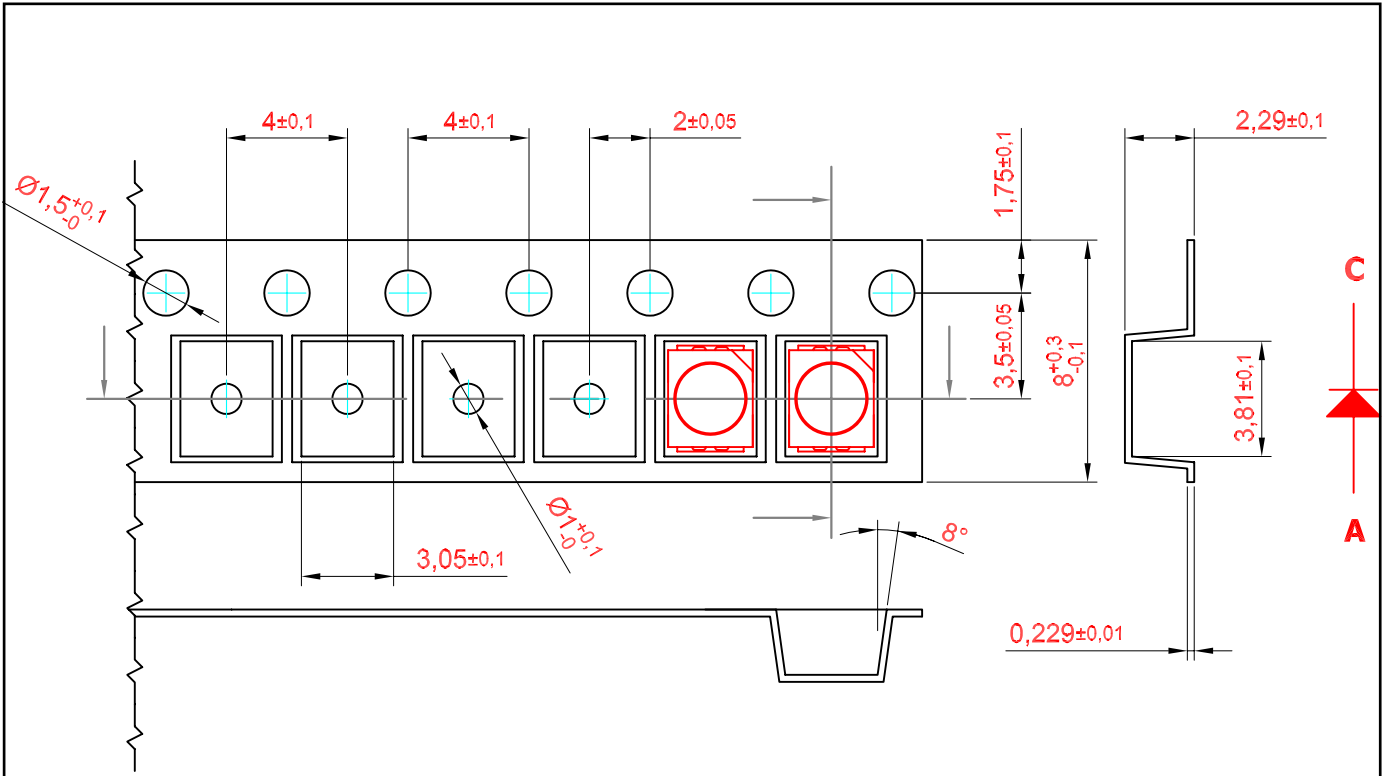


**Recommended Solder Pad**

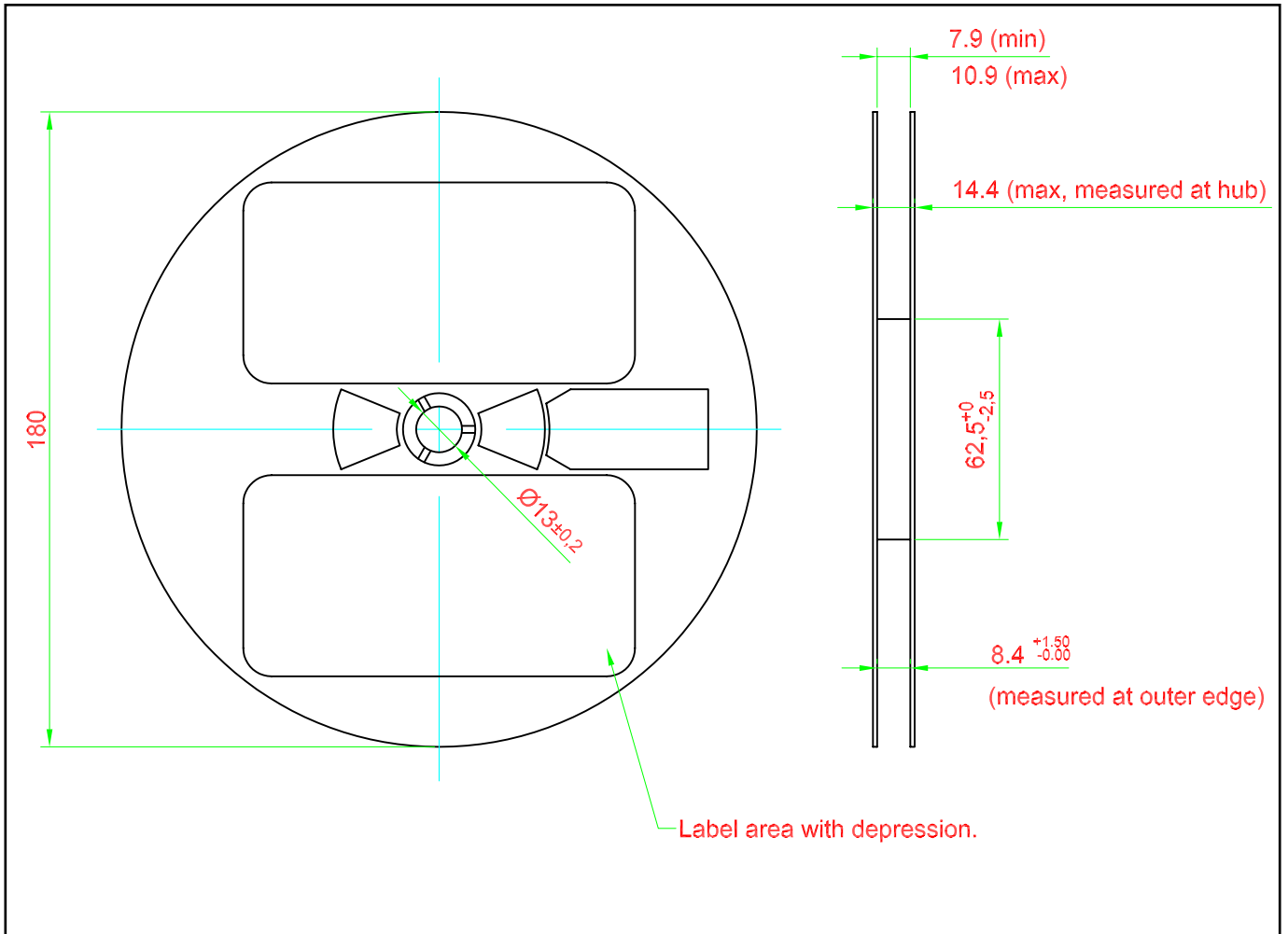


### Taping and orientation

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

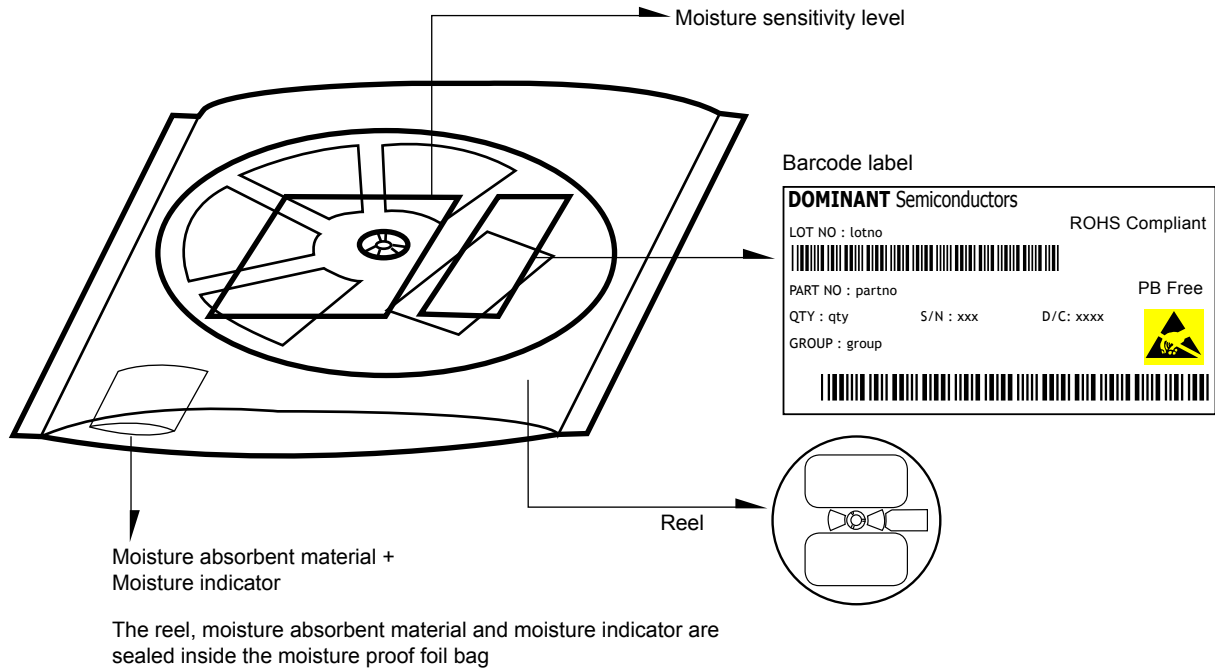


**Packaging Specification**

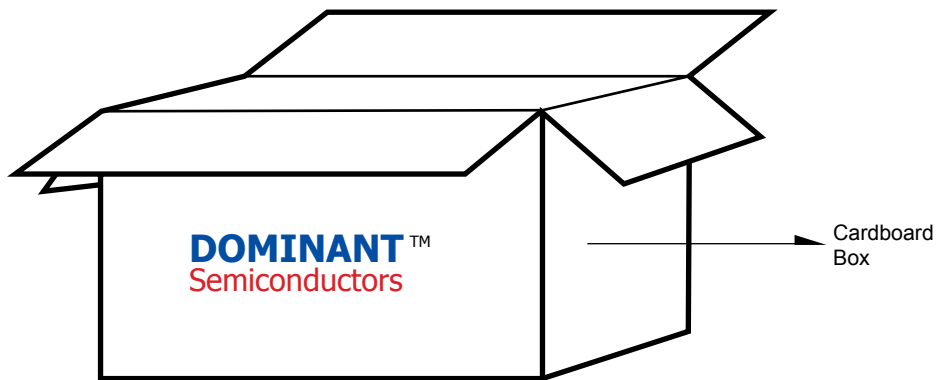




**Packaging Specification**



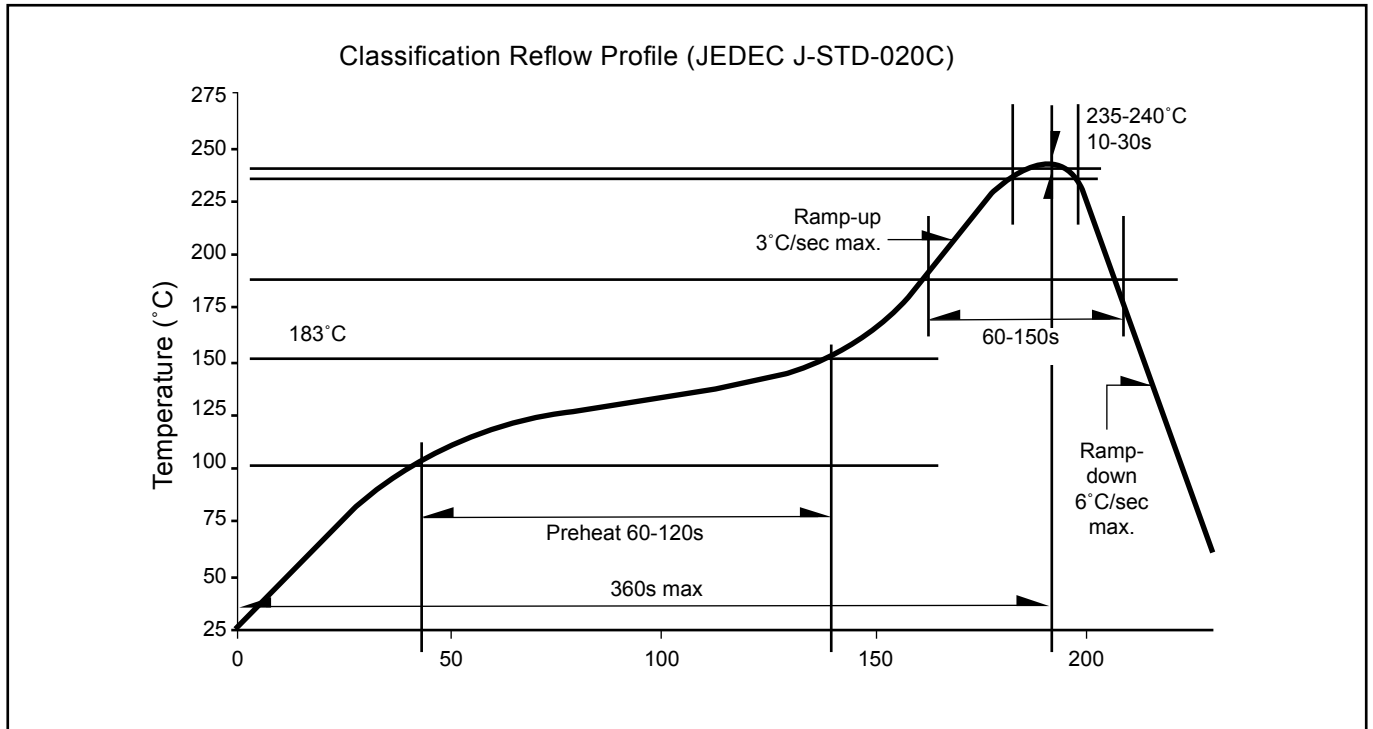
	Average 1pc DomiLED/Multi DomiLED	1 completed bag (2000pcs)
Weight (gram)	0.034	190 ± 10



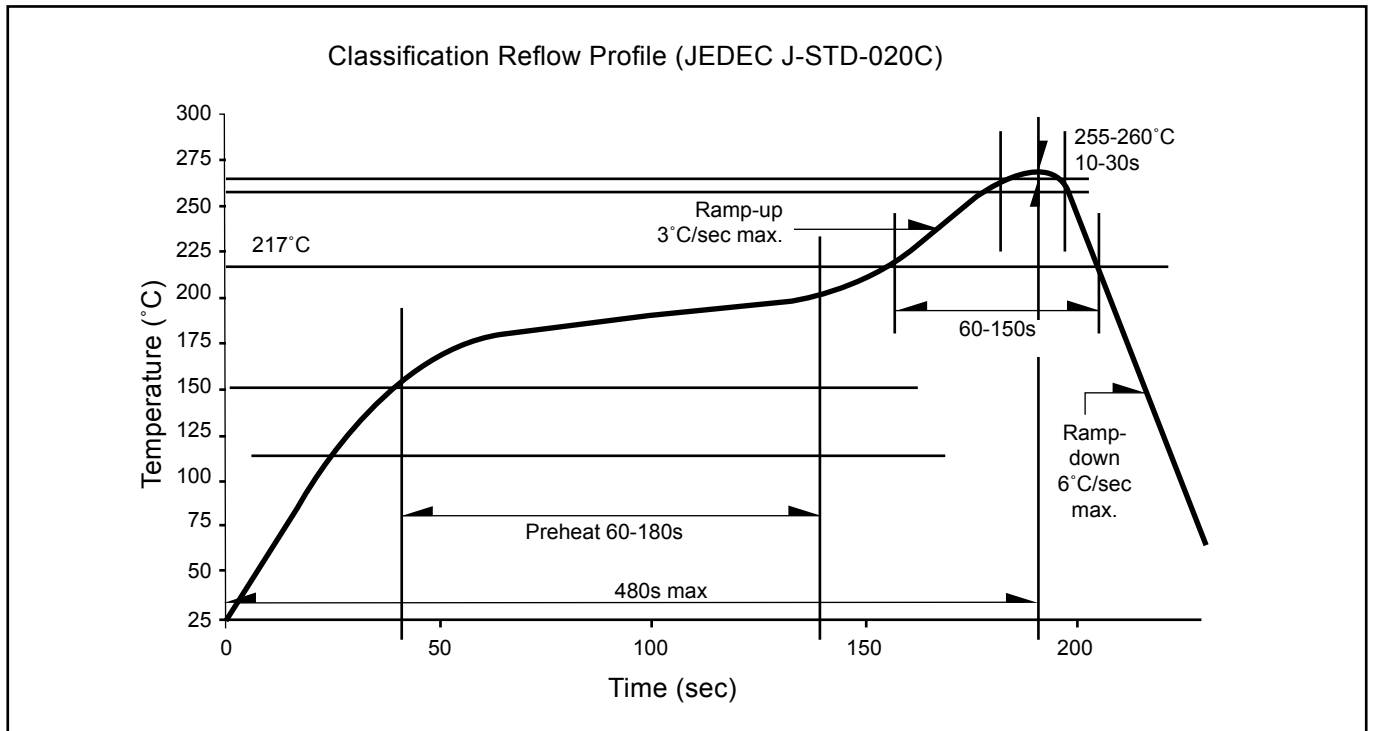
**For DomiLED™**

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

**NOTE**

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DOMINANT Semiconductors products are not authorized for use as critical components in life support devices or systems without the express written approval from the Managing Director of DOMINANT Semiconductors.

## 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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