

### **DomiLED**<sup>TM</sup>

Synonymous with function and performance, the DomiLED<sup>TM</sup> 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 InGaN / Sapphire technology.
- > 120° viewing angle.
- > Small package outline.
- > Qualified according to JEDEC moisture sensitivity Level 2.
- > Compatible to IR reflow soldering.
- > Environmental friendly; RoHS compliance.

### **Applications:**

- > Display: full color display video notice board.
- > Industry: white goods (eg: Oven, microwave, etc.).



### Optical Characteristics at Tj=25°C

Part Ordering Number	Chip Technology / Color	Viewing Angle°	Luminous Intensity @ IF = 20mA IV (mcd)
<b>DDB-DRS-RS2-1</b>	<b>InGaN</b>	<b>120</b>	<b>112.5 - 285.0</b>
• DDB-DRS-R1	Blue, 470nm		112.5 - 140.0
• DDB-DRS-R2			140.0 - 180.0
• DDB-DRS-S1			180.0 - 224.0
• DDB-DRS-S2			224.0 - 285.0
<b>DDT-DRS-UV2-1</b>	<b>InGaN</b>	<b>120</b>	<b>450.0 - 1125.0</b>
• DDT-DRS-U1	True Green, 525nm		450.0 - 560.0
• DDT-DRS-U2			560.0 - 715.0
• DDT-DRS-V1			715.0 - 900.0
• DDT-DRS-V2			900.0 - 1125.0
● <b>DDB-DRS-PQ2-1</b>	<b>InGaN</b>	<b>120</b>	<b>45.0 - 112.5</b>
• DDB-DRS-P1	Blue, 470nm		45.0 - 56.0
• DDB-DRS-P2			56.0 - 71.5
• DDB-DRS-Q1			71.5 - 90.0
• DDB-DRS-Q2			90.0 - 112.5
● <b>DDT-DRS-ST2-1</b>	<b>InGaN</b>	<b>120</b>	<b>180.0 - 450.0</b>
• DDT-DRS-S1	True Green, 525nm		180.0 - 224.0
• DDT-DRS-S2			224.0 - 285.0
• DDT-DRS-T1			285.0 - 355.0
• DDT-DRS-T2			355.0 - 450.0

● **Not for new design**

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.
5. An optional Vf binning is also available upon request. Binning scheme is as per following table.

### Wavelength Grouping at Tj=25°C

Color	Group	Wavelength distribution (nm)
DDB; Blue	Full	464 - 476
	W	464 - 468
	X	468 - 472
	Y	472 - 476
DDT; True Green	Full	520 - 536
	W	520 - 524
	X	524 - 528
	Y	528 - 532
	Z	532 - 536

Dominant wavelength is measured with an accuracy of  $\pm 1$  nm.

### Electrical Characteristics at Tj=25°C

Part Number	Vf @ If = 20mA			Vr @ Ir = 10uA
	Min. (V)	Typ. (V)	Max. (V)	Min. (V)
DDB	2.8	3.2	3.65	5
DDT	2.8	3.4	3.65	5

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

### Vf Bining at Tj=25°C (Optional)

Vf Bin @ 20 mA	Forward Voltage (V)
0A	2.75 ... 3.05
00	3.05 ... 3.35
01	3.35 ... 3.65

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

Please consult sales & marketing for special part number to incorporate Vf binning.

### Materials

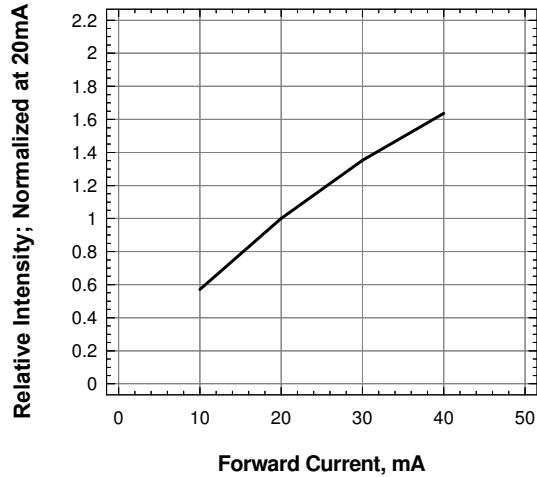
Materials	
Lead Frame	Copper alloy
Housing	High temperature resistant plastic, PPA
Encapsulant	Epoxy
Lead-finishing	Pure tin plating, Sn

Note: Package is Pb-free.

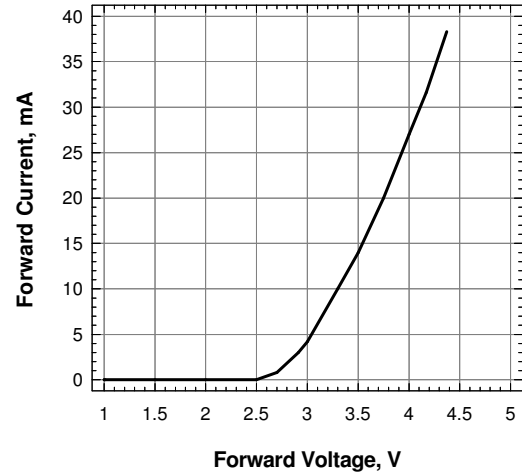
## Absolute Maximum Ratings

	Maximum Value	Unit
DC forward current	20	mA
Peak pulse current; ( $t_p \leq 10\mu\text{s}$ , Duty cycle = 0.005)	200	mA
Reverse Voltage	5	V
ESD threshold (HBM)	500	V
LED junction temperature	100	°C
Operating temperature	-40 ... +85	°C
Storage temperature	-40 ... +100	°C
Power dissipation (at room temperature)	80	mW

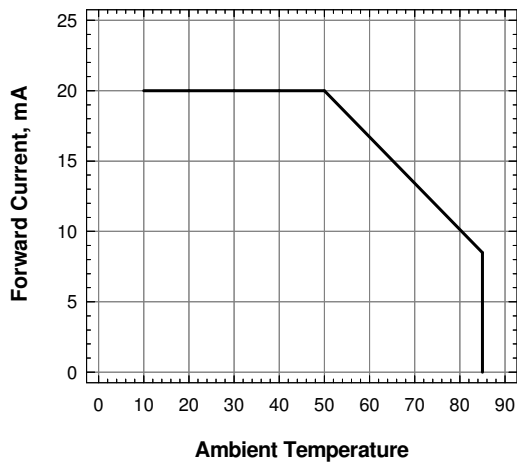
Relative Luminous Intensity Vs. Forward Current



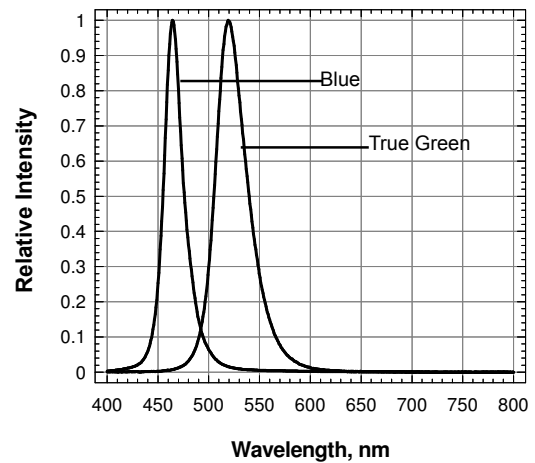
Forward Current Vs. Forward Voltage



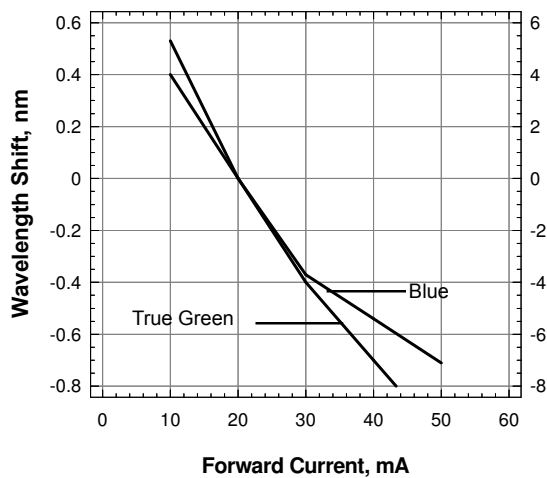
Maximum Forward Current Vs. Temperature



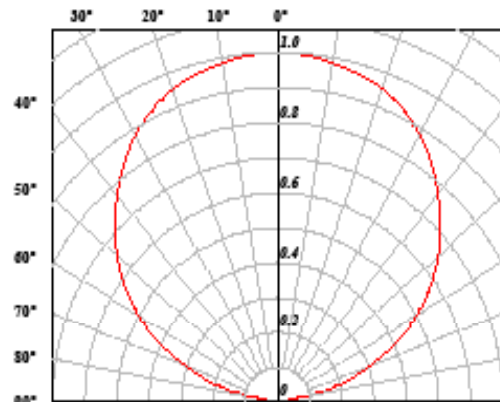
Relative Intensity Vs. Wavelength



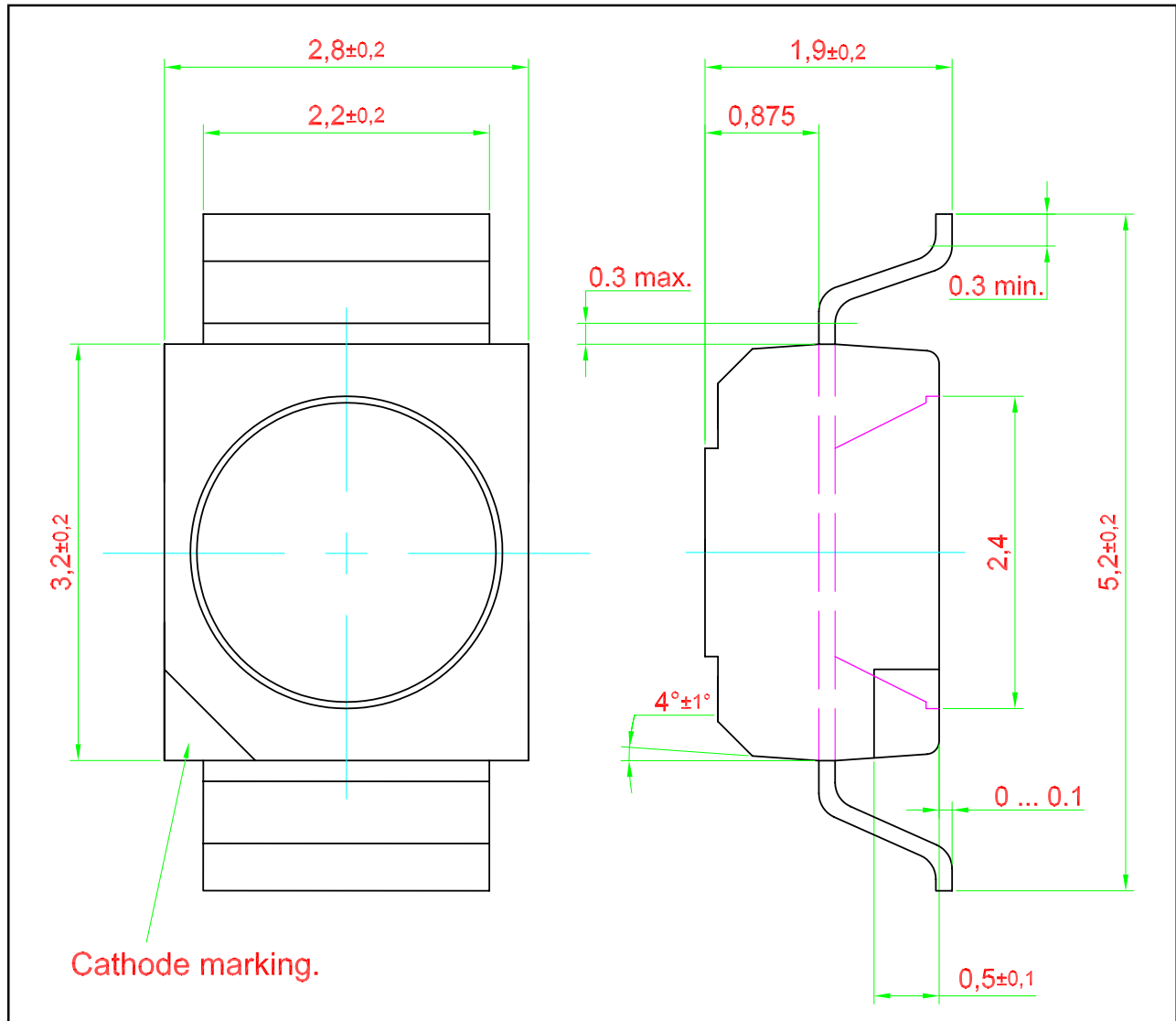
Wavelength Shift Vs. Forward Current



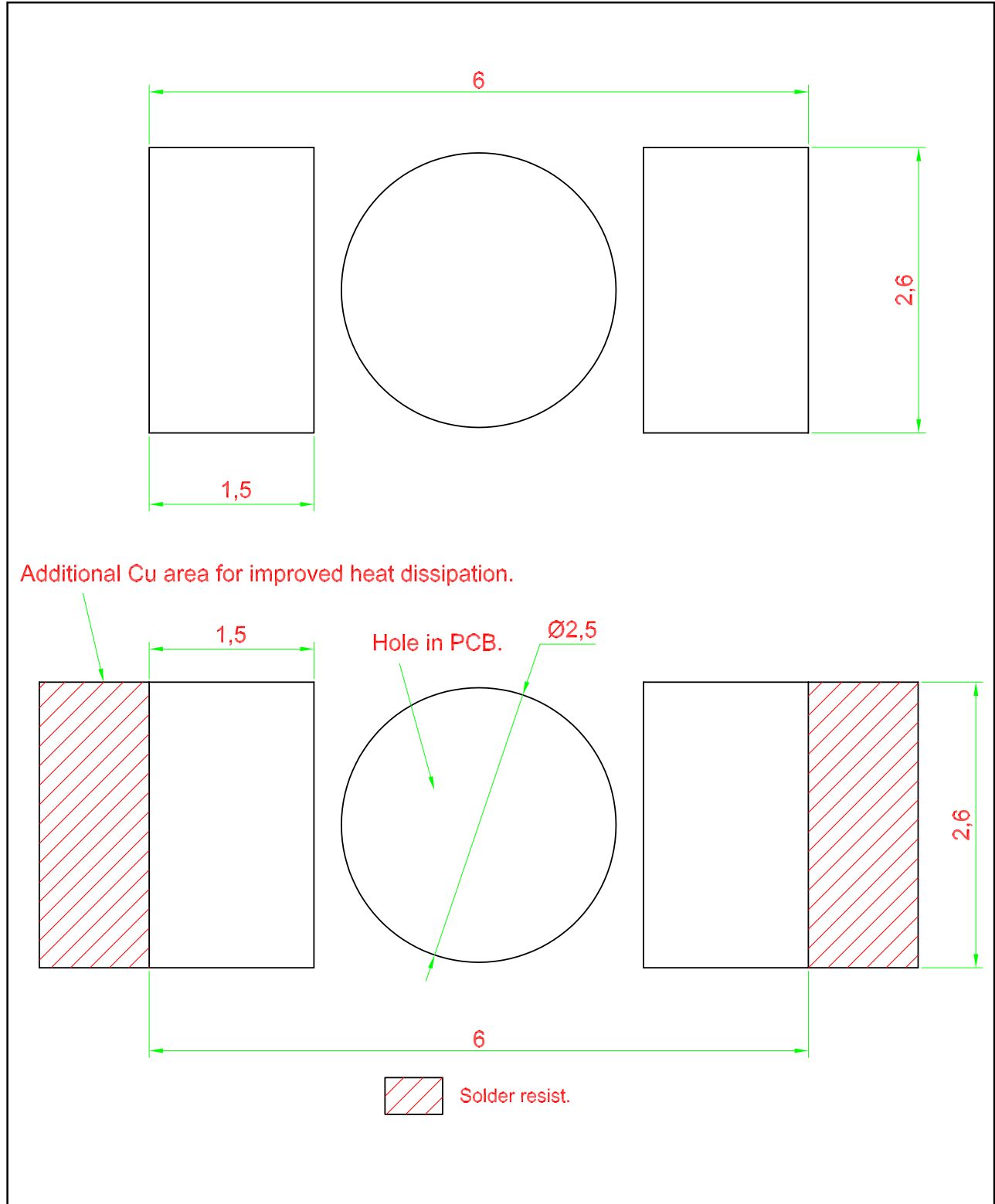
Radiation Pattern



**DomiLED™ • InGaN : DDx-DRx Package Outlines**

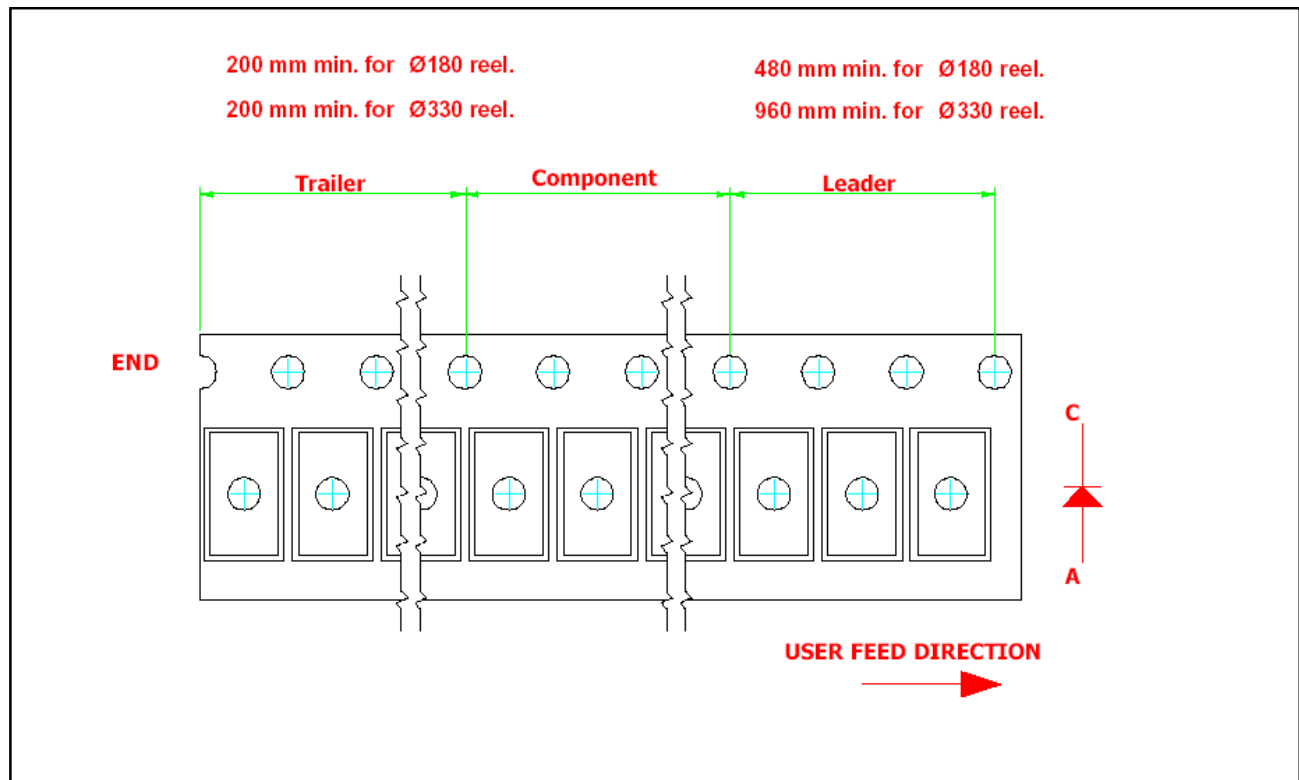
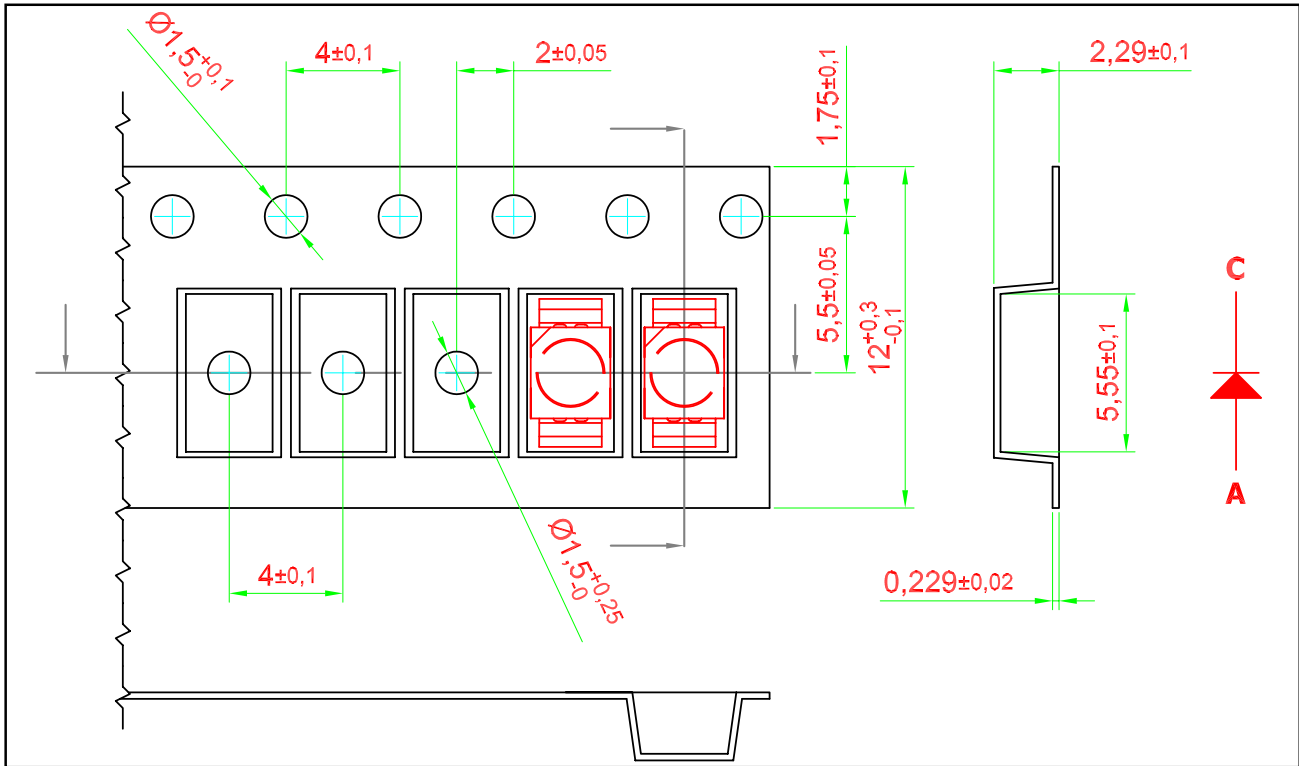


### Recommended Solder Pad



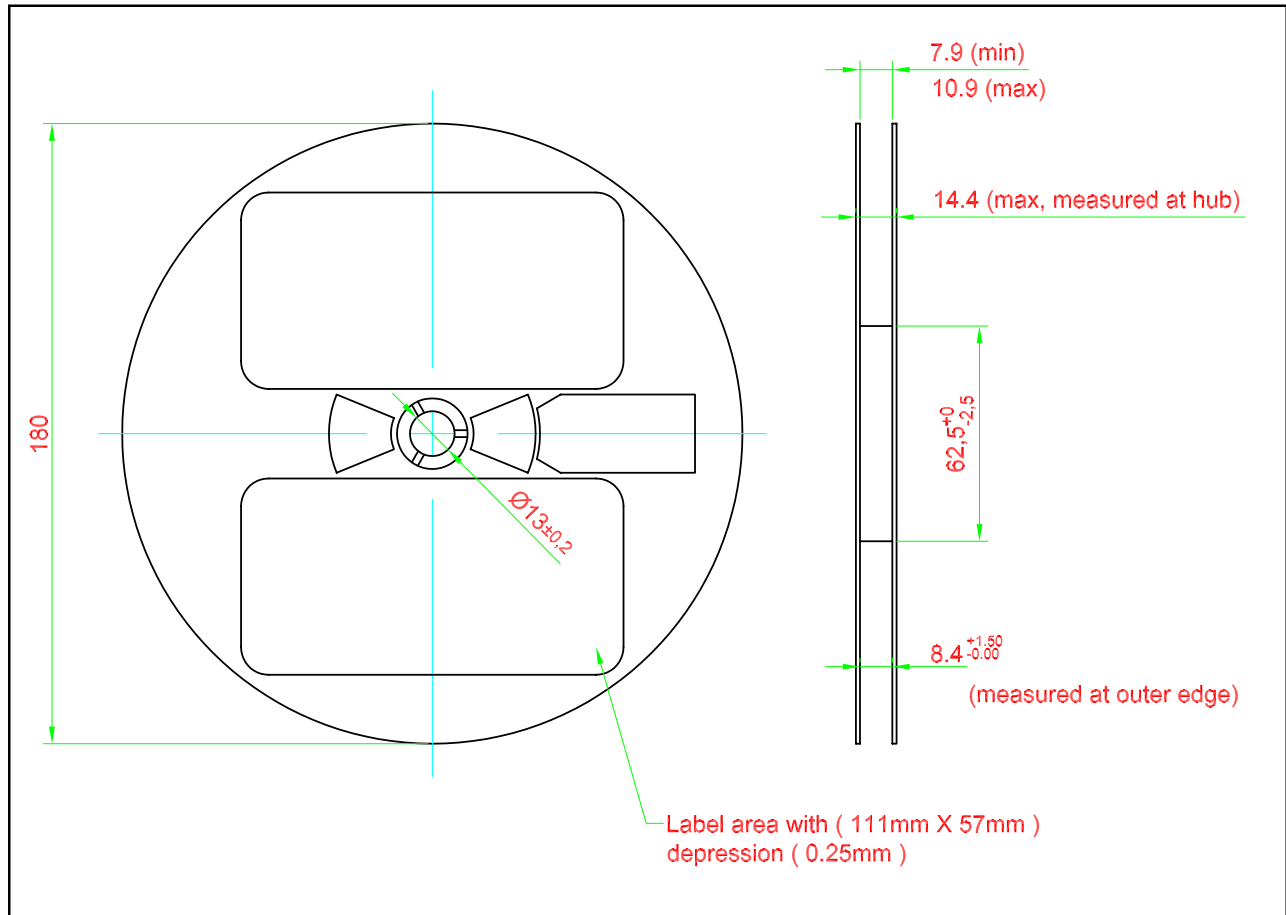
## Taping and orientation

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

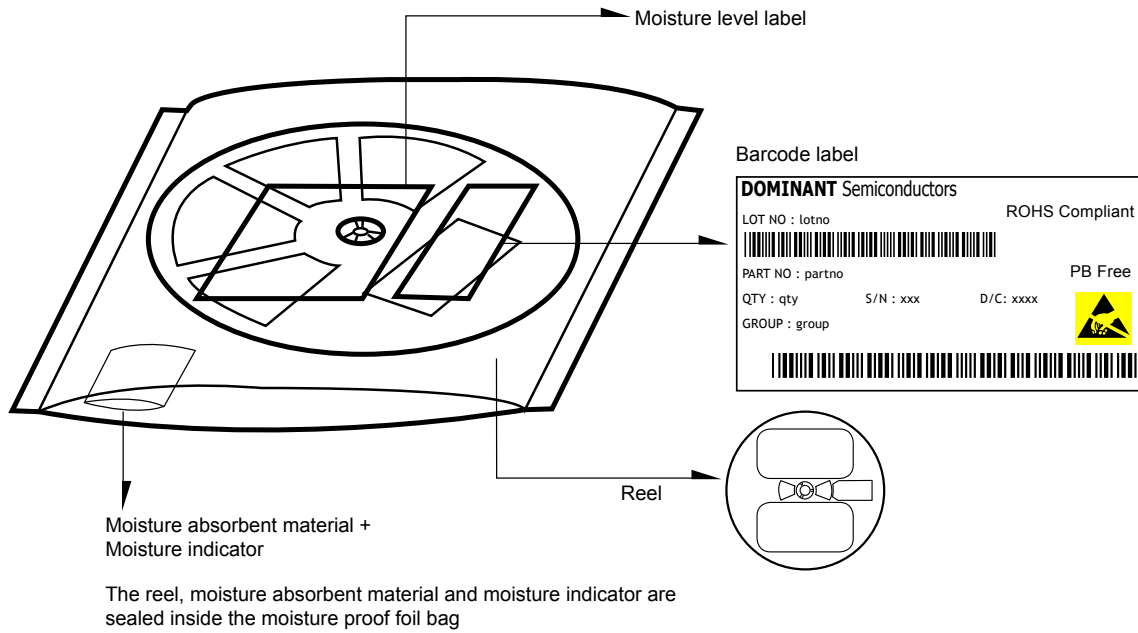




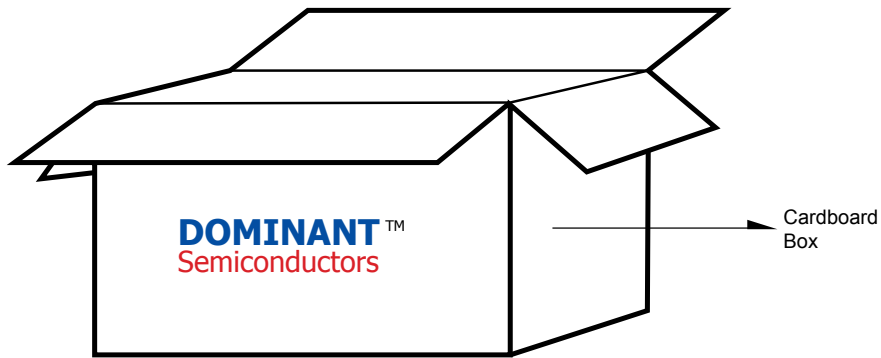
## Packaging Specification



**Packaging Specification**



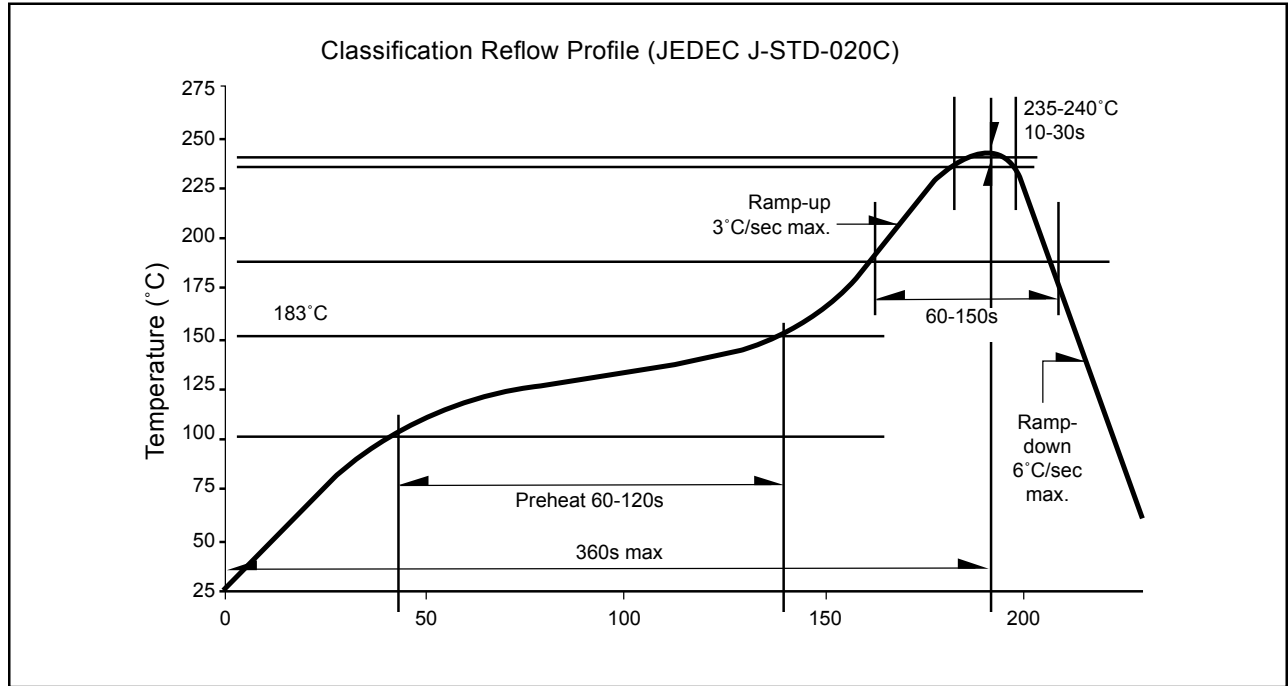
	Average 1pc DomiLED/Multi DomiLED	1 completed bag (2000pcs)
Weight (gram)	0.034	190 ± 10



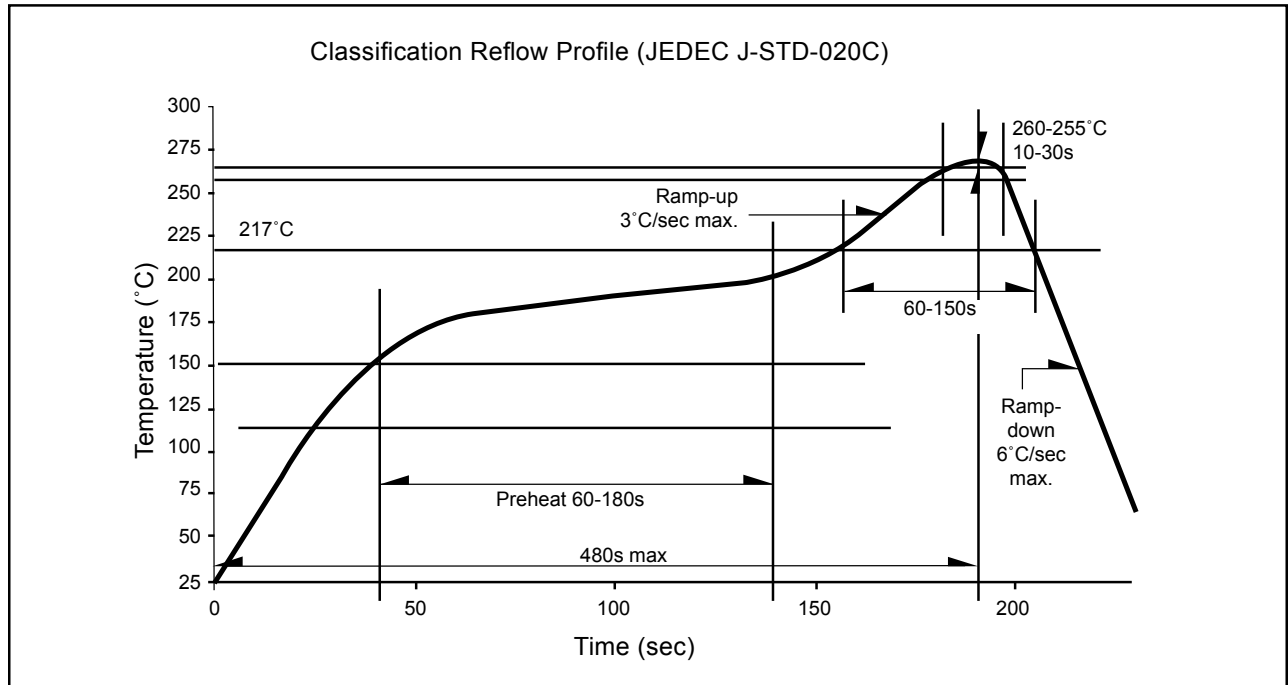
**For DomiLED™**

Cardboard Box Size	Dimensions (mm)	Empty Box Weight (kg)	Reel / Box	Quantity / Box (pcs)
Small	300 x 250 x 250	0.3	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
2	Add new partno: DDB-DRS-RS2-1 DDT-DRS-UV2-1 Not for new design: DDB-DRS-PQ2-1 DDT-DRS-ST2-1	26 Feb 2008

**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>.

### **Please contact us for more information:**

#### Head Quarter

DOMINANT Semiconductors Sdn. Bhd.  
Lot 6, Batu Berendam, FTZ Phase III, 75350 Melaka, Malaysia  
Tel: (606) 283 3566 Fax: (606) 283 0566  
E-mail: [sales@dominant-semi.com](mailto:sales@dominant-semi.com)

#### DOMINANT Semiconductors Malaysia Sdn. Bhd. Shanghai Representative Office

DOMINANT Semiconductors (Shenzhen) Co. Ltd.  
Rm 1007, DaZhong Building, No. 1515 Zhong Shan (W) Rd, Shanghai, China 200235  
Tel: +86 21 6428 6428 Fax: +86 21 6428 6880  
E-mail: [sales\\_china@dominant-semi.com](mailto:sales_china@dominant-semi.com)

#### DOMINANT Korea Sales Office

DOMINANT Semiconductors Korea Inc.  
#709, Yatap Leaders Bldg., 342-1 Yatap-dong, Bundang-gu, Seongnam-si, Gyeonggi-do, 463-828 Korea.  
Tel: +82-31-701-5203 Fax: +82-31-701-5204  
E-mail: [sales\\_korea@dominant-semi.com](mailto:sales_korea@dominant-semi.com)

#### DOMINANT U.S.A Sales Office

25 Rockaway Road, 08833 Lebanon, New Jersey, USA  
Tel: (908) 439-9930 Cell: (908) 343-5810 Fax: (908) 439-9929  
E-mail: [don.wendel@dominant-semi.com](mailto:don.wendel@dominant-semi.com)

#### DOMINANT Europe Sales Office

DOMINANT Semiconductors Europe GmbH  
Raiffeisenstr. 38, 74906 Bad Rappenau Germany  
Tel: +49 (0) 7264-89010-10 / +49 (0) 7264-89010-11 Cell: +49 173-6907370 / +49 173-6907751  
Fax: +49 (0) 7264-89010-29  
E-mail: [gerd.wachno@dominant-semi.eu](mailto:gerd.wachno@dominant-semi.eu); [hartmut.wettengl@dominant-semi.eu](mailto:hartmut.wettengl@dominant-semi.eu)

#### DOMINANT India Sales Office

C-11, Vasanth Business Centre #86, TTK Road, Alwarpet Chennai - 600 018, INDIA  
Tel: 91-44-42030616 / 516 Cell: 91-9444920537 Fax: 91-9444920616  
E-mail: [pravat.behera@dominant-semi.com](mailto:pravat.behera@dominant-semi.com)

