

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 InGaN 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 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.).



Optical Characteristics at Tj=25°C

Part Ordering Number	Chip Technology / Color	Viewing Angle°	Luminous Intensity @ IF = 20mA IV (mcd)
DDB-CRS-PQ2-1	InGaN	120	45.0 - 112.5
• DDB-CRS-P1	Blue, 470nm		45.0 - 56.0
• DDB-CRS-P2			56.0 - 71.5
• DDB-CRS-Q1			71.5 - 90.0
• DDB-CRS-Q2			90.0 - 112.5
DDB-SRS-QR2-1	InGaN	120	71.5 - 180.0
• DDB-SRS-Q1	Blue, 470nm		71.5 - 90.0
• DDB-SRS-Q2			90.0 - 112.5
• DDB-SRS-R1			112.5 - 140.0
• DDB-SRS-R2			140.0 - 180.0
DDB-URS-RS1-1	InGaN	120	112.5 - 224.0
• DDB-URS-R1	Blue, 470nm		112.5 - 140.0
• DDB-URS-R2			140.0 - 180.0
• DDB-URS-S1			180.0 - 224.0
DDT-CRS-RS2-1	InGaN	120	112.5 - 285.0
• DDT-CRS-R1	True Green, 525nm		112.5 - 140.0
• DDT-CRS-R2			140.0 - 180.0
• DDT-CRS-S1			180.0 - 224.0
• DDT-CRS-S2			224.0 - 285.0
DDT-SRS-ST2-1	InGaN	120	180.0 - 450.0
• DDT-SRS-S1	True Green, 525nm		180.0 - 224.0
• DDT-SRS-S2			224.0 - 285.0
• DDT-SRS-T1			285.0 - 355.0
• DDT-SRS-T2			355.0 - 450.0
DDT-URS-TU2-1	InGaN	120	285.0 - 715.0
• DDT-URS-T1	True Green, 525nm		285.0 - 335.0
• DDT-URS-T2			335.0 - 450.0
• DDT-URS-U1			450.0 - 560.0
• DDT-URS-U2			560.0 - 715.0
DDC-URS-TU1-1	InGaN	120	285.0 - 560.0
• DDC-URS-T1	Cyan, 505nm		285.0 - 355.0
• DDC-URS-T2			355.0 - 450.0
• DDC-URS-U1			450.0 - 560.0
● DDC-CRS-RS2-1	InGaN	120	112.5 - 285.0
• DDC-CRS-R1	Cyan, 505nm		112.5 - 140.0
• DDC-CRS-R2			140.0 - 180.0
• DDC-CRS-S1			180.0 - 224.0
• DDC-CRS-S2			224.0 - 285.0

● **Not for new design**

Optical Characteristics at Tj=25°C

Part Ordering Number	Chip Technology / Color	Viewing Angle°	Luminous Intensity @ IF = 20mA IV (mcd)
● DDC-SRS-ST2-1	InGaN	120	180.0 - 450.0
• DDC-SRS-S1	Cyan, 505nm		180.0 - 224.0
• DDC-SRS-S2			224.0 - 285.0
• DDC-SRS-T1			285.0 - 355.0
• DDC-SRS-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 ± 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
DDC; Cyan	Full	499 - 511
	W	499 - 503
	X	503 - 507
	Y	507 - 511
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 ± 1 nm.

Electrical Characteristics at Tj=25°C

Part Number	Vf @ If = 20 mA			Vr @ Ir = 10 μ A
	Min. (V)	Typ. (V)	Max. (V)	Min. (V)
DDC, DDB	2.9	3.2	3.8	5.0
DDT	2.9	3.4	4.0	5.0

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

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.

Vf Bining (Optional)

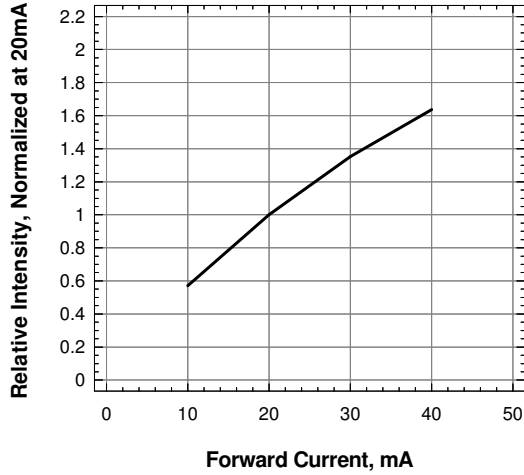
Vf Bin @ 20 mA	Forward Voltage (V)
0A	2.75 ... 3.05
00	3.05 ... 3.35
01	3.35 ... 3.65
02	3.65 ... 3.95
03	3.95 ... 4.25

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

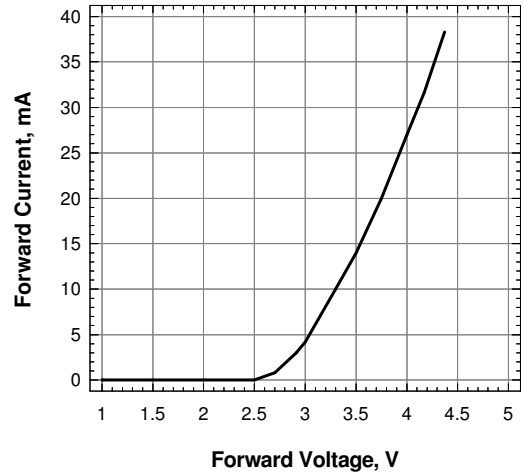
Absolute Maximum Ratings

	Maximum Value	Unit
DC forward current	20	mA
Peak pulse current; ($t_p \leq 10\mu s$, Duty cycle = 0.005)	200	mA
Reverse Voltage	5	V
ESD Threshold (HBM)	2	kV
LED junction temperature	125	°C
Operating temperature	-40 ... +100	°C
Storage temperature	-40 ... +100	°C
Power dissipation (at room temperature)	85	mW

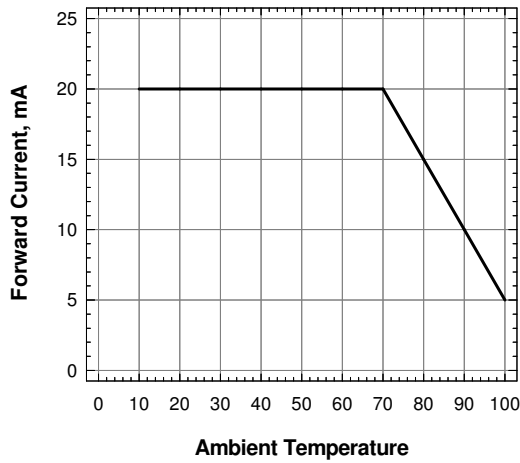
Relative Luminous Intensity Vs Forward Current



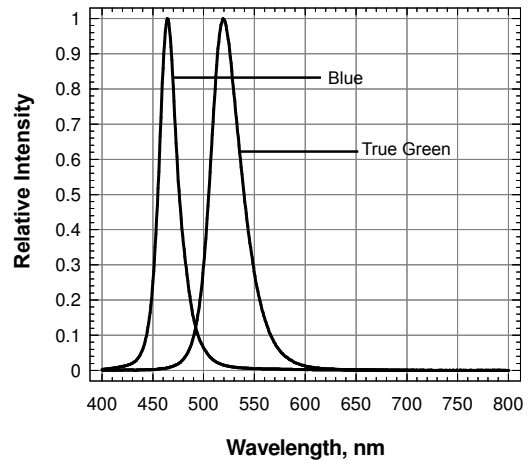
Forward Current Vs Forward Voltage



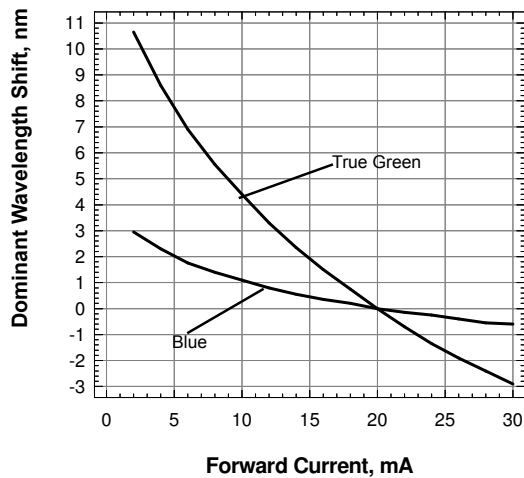
Maximum Forward Current Vs Temperature



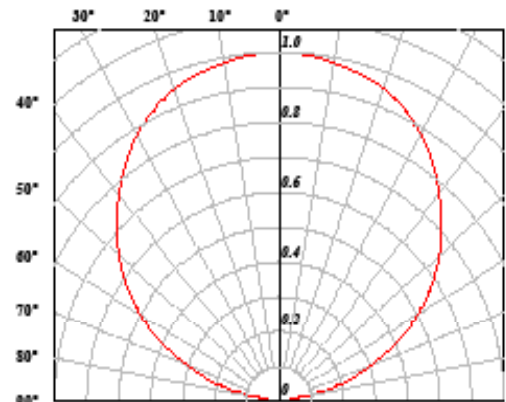
Relative Intensity Vs Wavelength



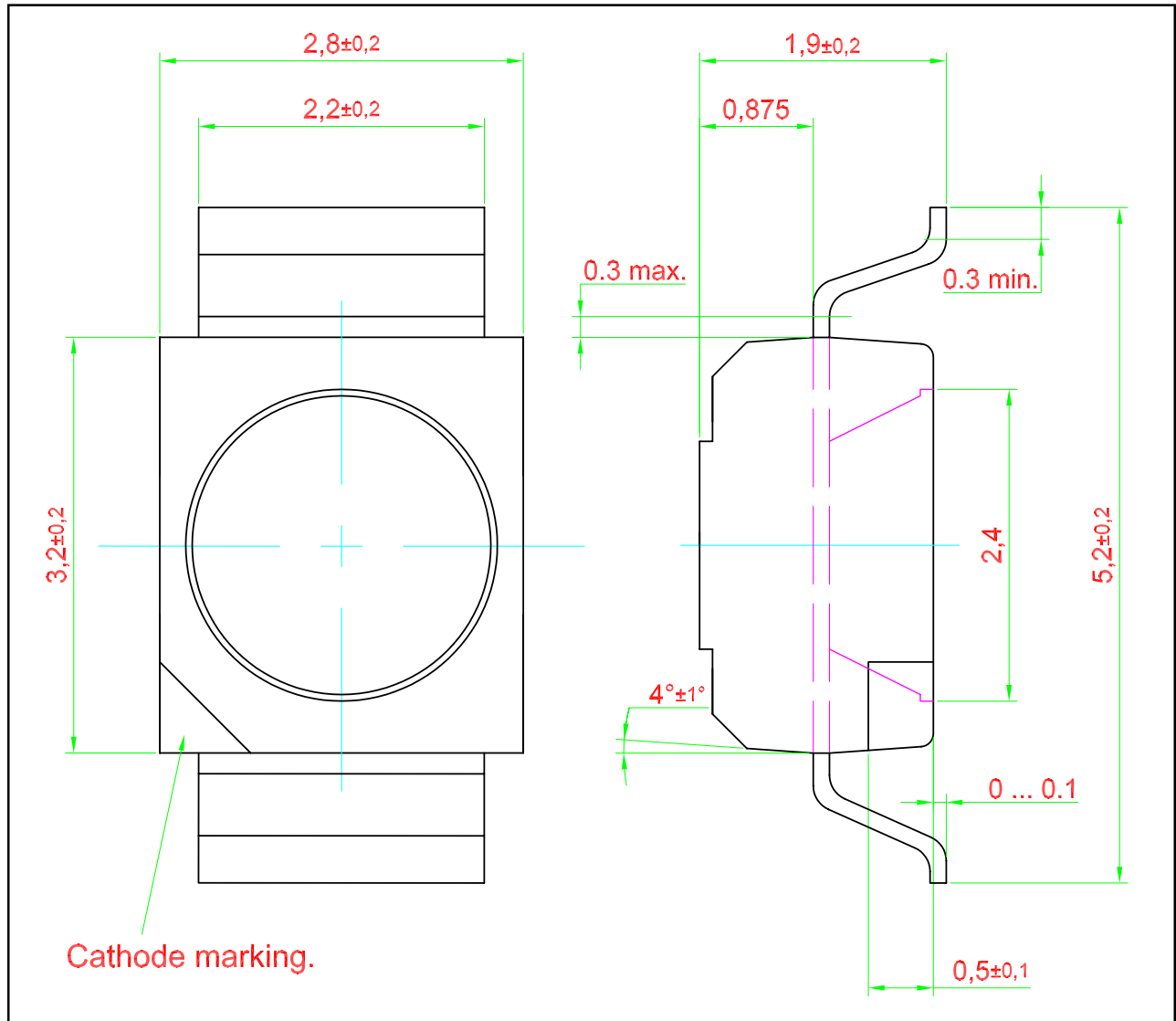
Dominant Wavelength Shift Vs Forward Current



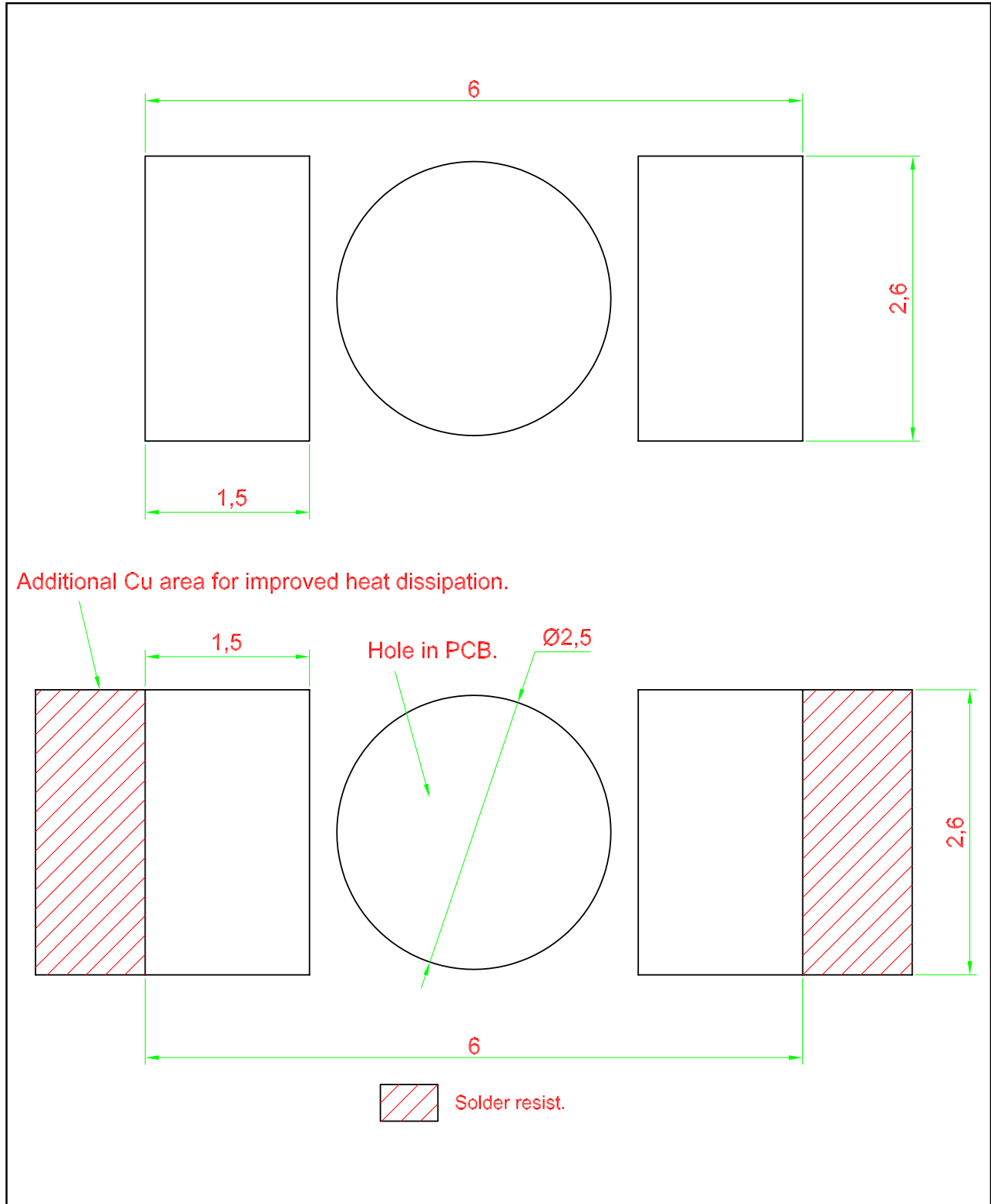
Radiation Pattern



DomiLED™ • InGaN : DDx-xRx Package Outlines

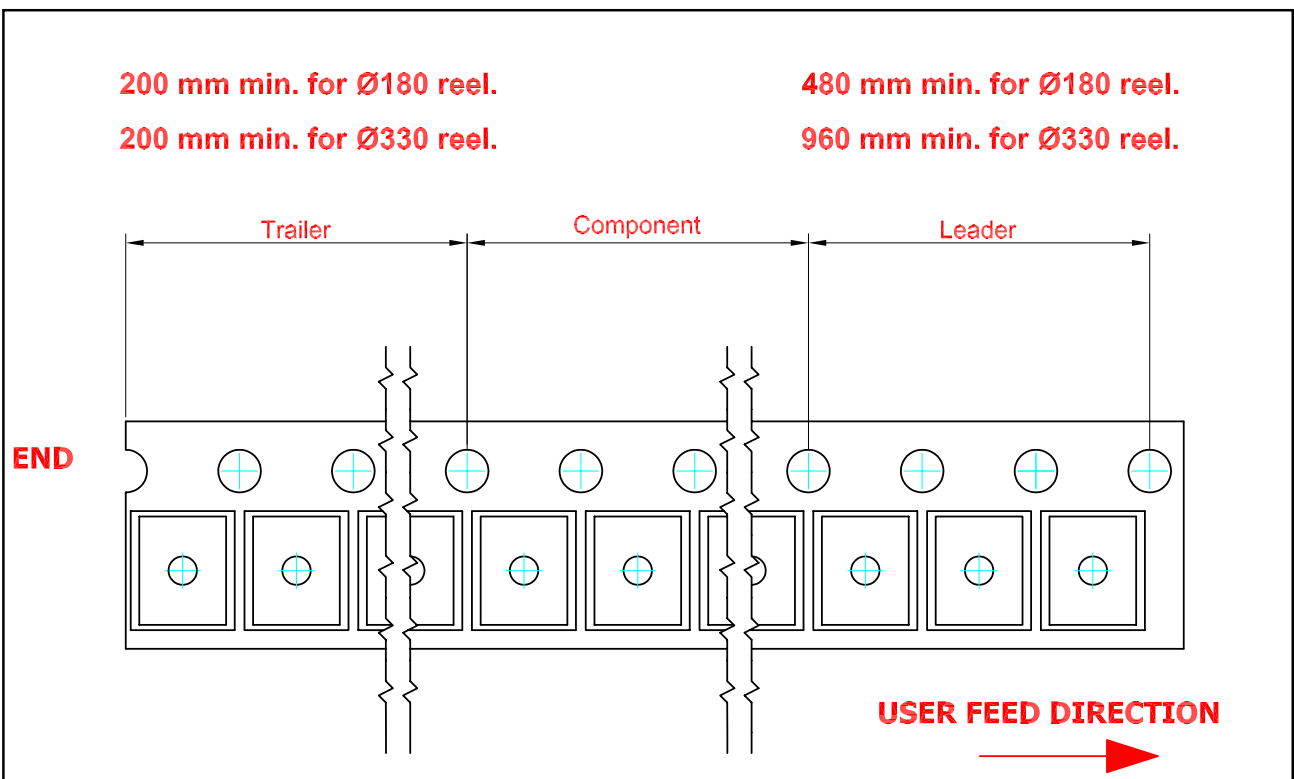
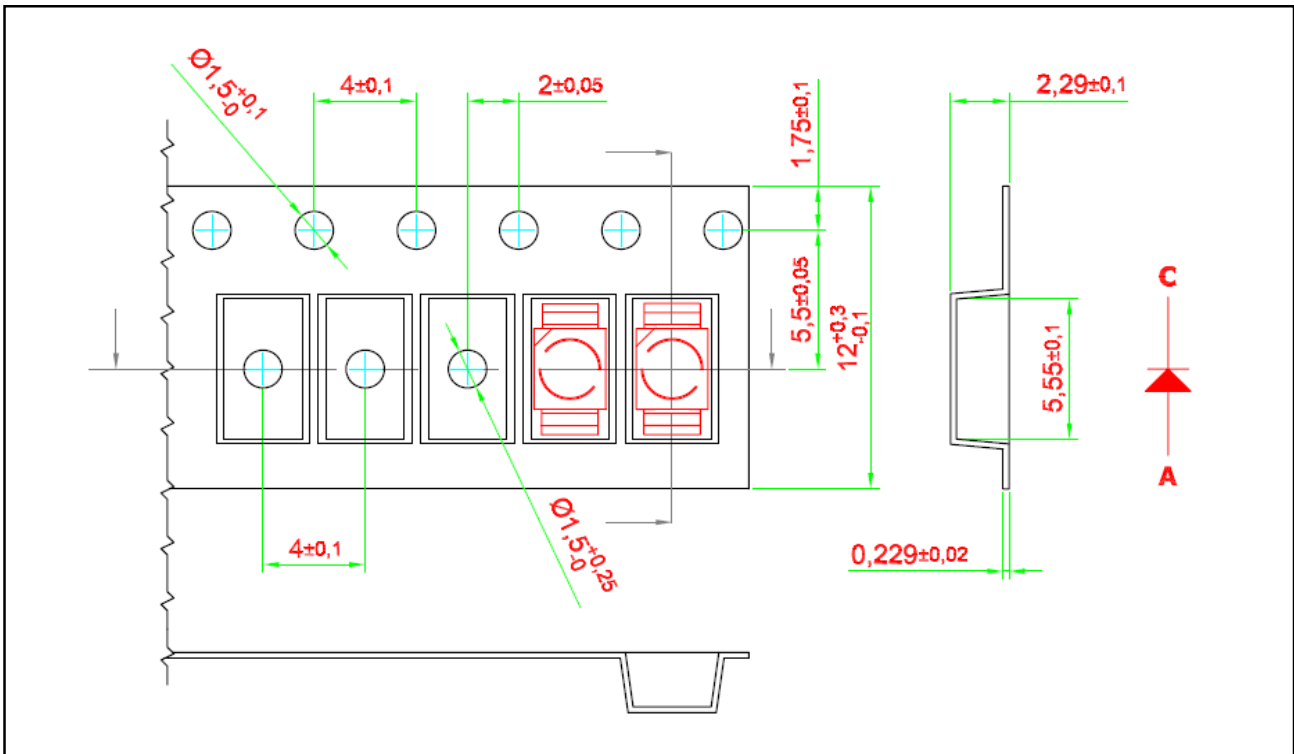


Recommended Solder Pad

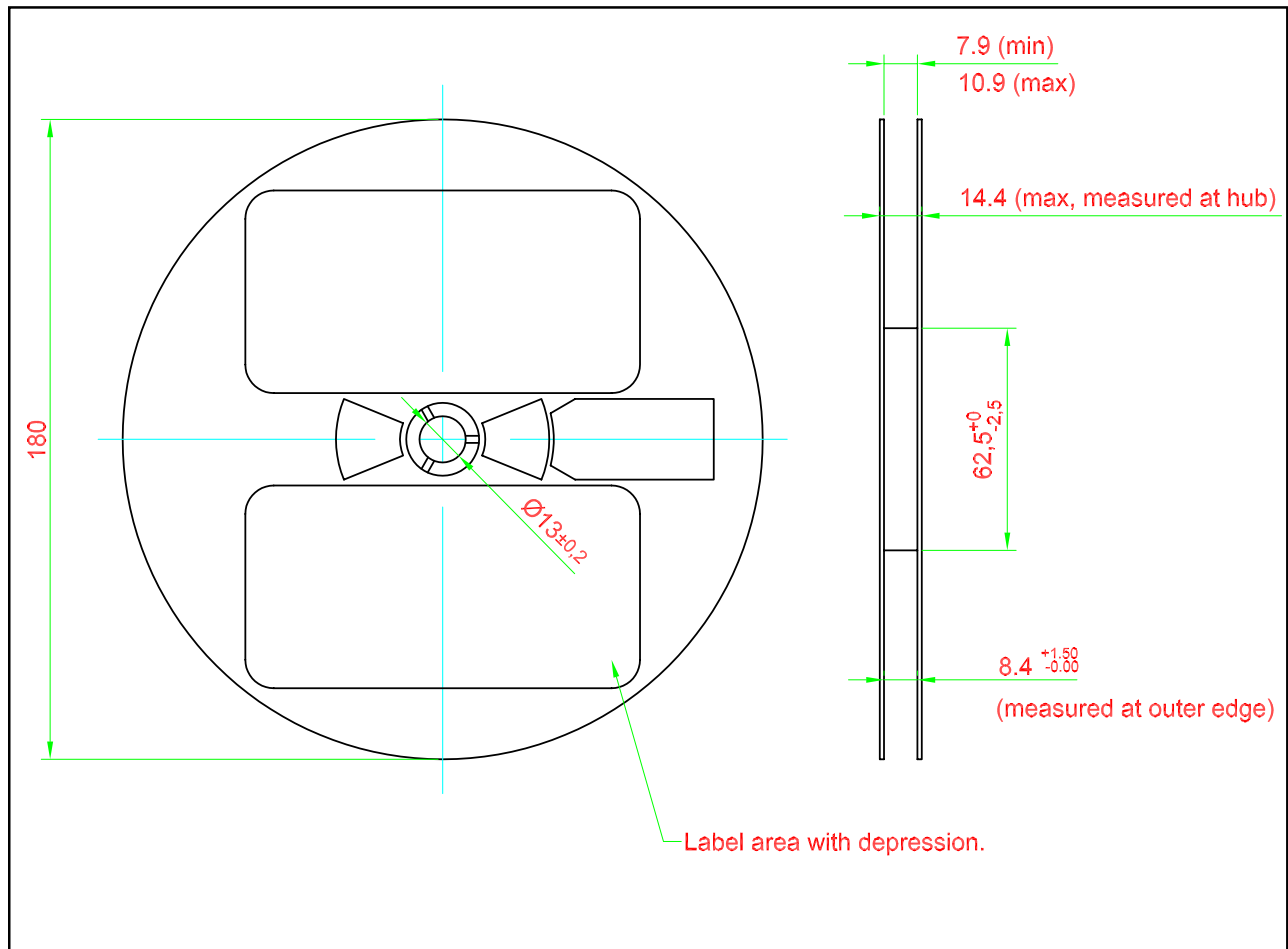


Taping and orientation

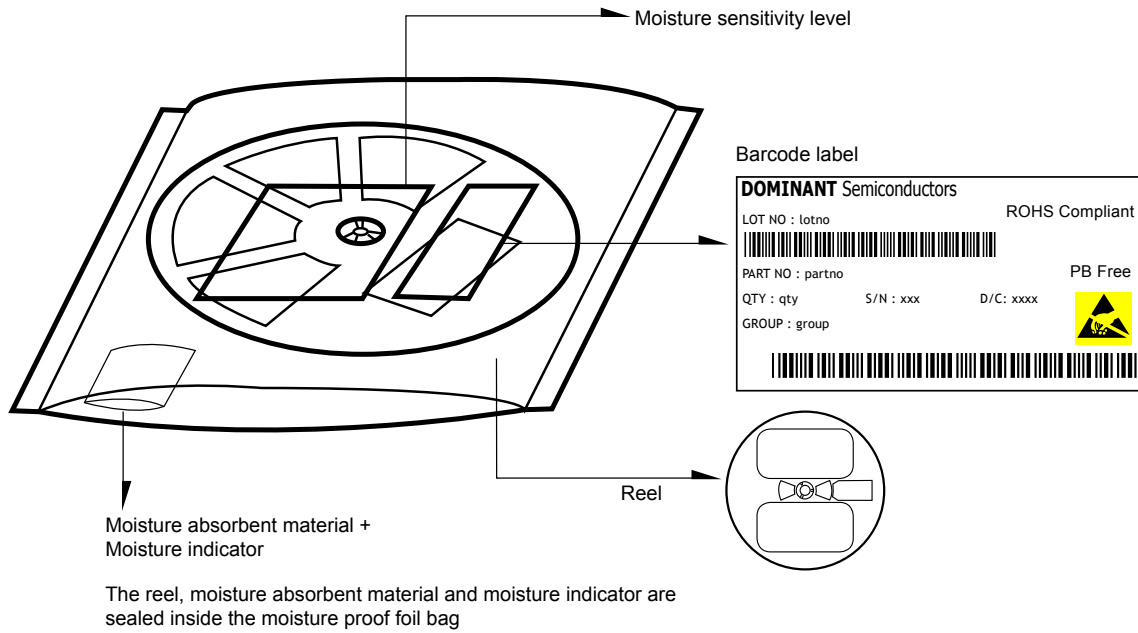
- Reels come in quantity of 2000 units.
- Reel diameter is 180 mm.



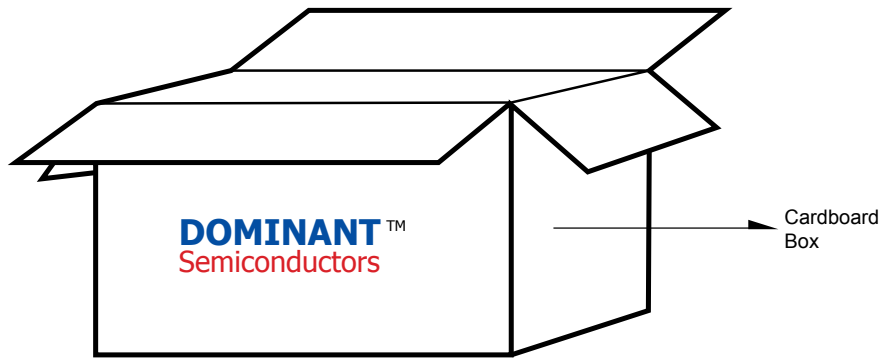
Packaging Specification



Packaging Specification



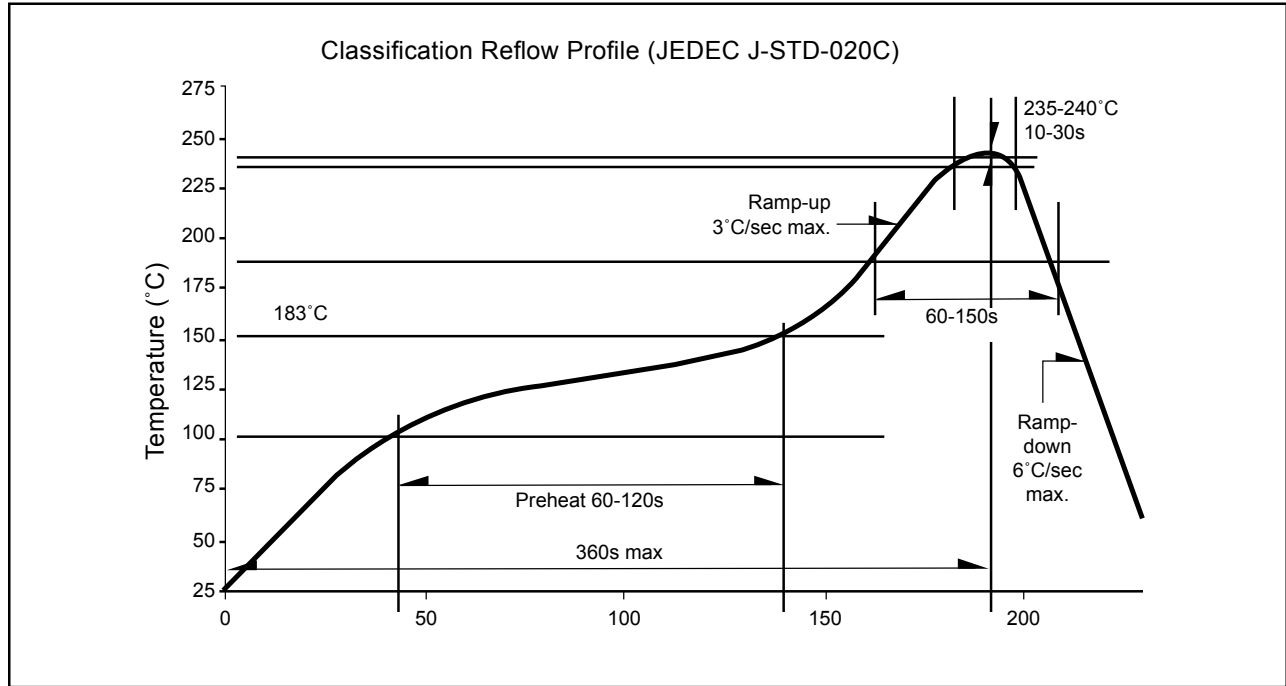
	Average 1pc DomiLED/Multi DomiLED	1 completed bag (2000pcs)
Weight (gram)	0.034	190 ± 10



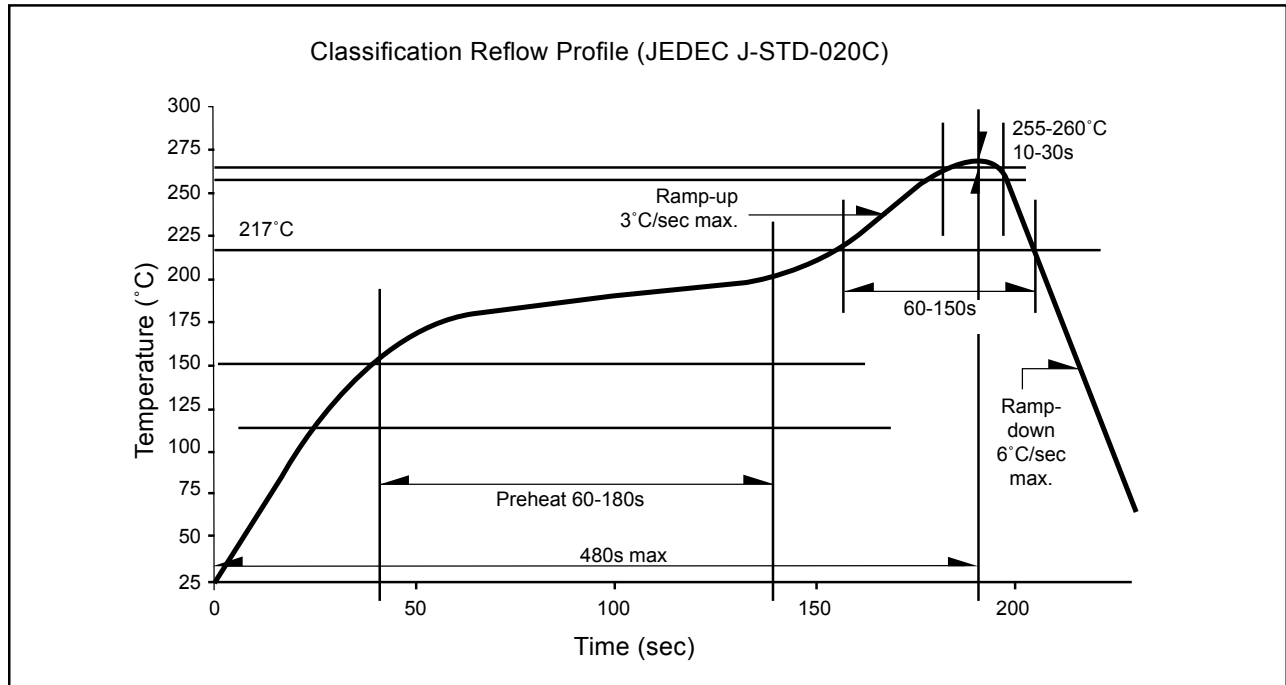
For DomiLED™

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
2	Not for new design: DDC-CRS-RS2-1 DDC-SRS-ST2-1	03 Mar 2008

NOTE

All the information contained in this document is considered to be reliable at the time of publishing. However, DOMINANT Semiconductors does not assume any liability arising out of the application or use of any product described herein.

DOMINANT Semiconductors reserves the right to make changes at any time without prior notice to any products in order to improve reliability, function or design.

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>.

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

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

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

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

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; 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



DOMINANT™
Semiconductors
Innovating Illumination