

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.
- > Designed for sideway illumination.
- > 120° viewing angle.
- > Small package outline.
- > Qualified according to JEDEC moisture sensitivity Level 2.
- > Compatible to IR reflow soldering.
- > Environmental friendly; RoHS compliance.
- > Compliance to automotive standard; AEC-Q101.



Applications:

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



Optical Characteristics at Tj=25°C

Part Ordering Number	Color	Viewing Angle°	Luminous Intensity @ IF = 20mA IV (mcd) <small>Appx. 1.1</small>		
			Min.	Typ.	Max.
● DSB-SSS-PQ2-1	Blue, 470nm	120	45.0	71.5	112.5
DSB-USS-QR2-1	Blue, 470nm	120	71.5	112.5	180.0
DSB-USS-ST1-1	Blue, 470nm	120	180.0	224.0	355.0
● DST-SSS-RS2-1	True Green, 525nm	120	112.5	180.0	285.0
● DST-SSS-TU1-1	True Green, 525nm	120	285.0	355.0	560.0
DST-USS-TU2-1	True Green, 525nm	120	285.0	450.0	715.0
DST-USS-UV1-1	True Green, 525nm	120	450.0	560.0	900.0

● Not for new design

Electrical Characteristics at Ta=25°C

Part Number	Vf @ If = 20mA <small>Appx. 3.1</small>			Vr @ Ir = 10uA
	Min. (V)	Typ. (V)	Max. (V)	Min. (V)
DSB	2.9	3.2	3.8	5.0
DST	2.9	3.4	4.0	5.0

Absolute Maximum Ratings

	Maximum Value	Unit
DC forward current	20	mA
Peak pulse current; (tp ≤ 10μs, 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)	80	mW

Wavelength Grouping

Color	Group	Wavelength distribution (nm) <i>Appx. 2.2</i>
DSB;Blue	Full	464 - 476
	W	464 - 468
	X	468 - 472
	Y	472 - 476
DST; True Green	Full	520 - 536
	W	520 - 524
	X	524 - 528
	Y	528 - 532
	Z	532 - 536

Luminous Intensity Group at Tj=25°C

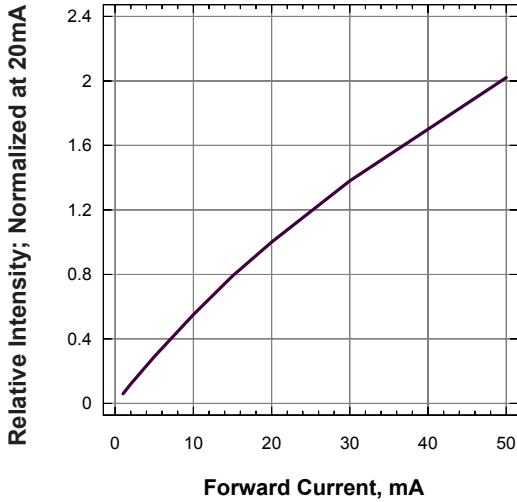
Brightness Group	Luminous Intensity <i>Appx. 1.1</i> IV (mcd)
P1	45.0...56.0
P2	56.0...71.5
Q1	71.5...90.0
Q2	90.0...112.5
R1	112.5...140.0
R2	140.0...180.0
S1	180.0...224.0
S2	224.0...285.0
T1	285.0...355.0
T2	355.0...450.0
U1	450.0...560.0
U2	560.0...715.0
V1	715.0...900.0

Vf Binning (Optional)

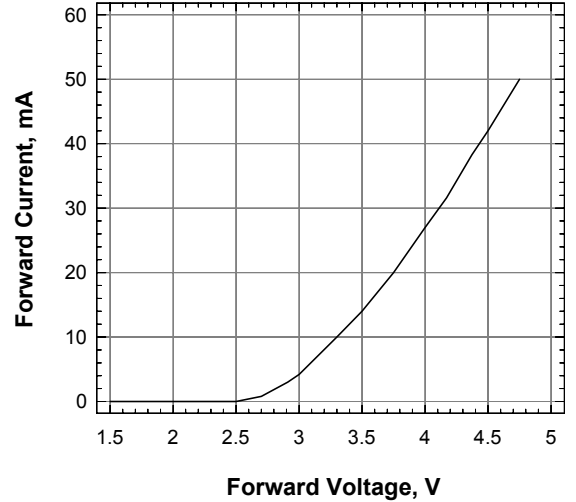
Vf Bin @ 20mA	Forward Voltage (V) <i>Appx. 3.1</i>
0A	2.75 ... 3.05
00	3.05 ... 3.35
01	3.35 ... 3.65
02	3.65 ... 3.95
03	3.95 ... 4.25

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

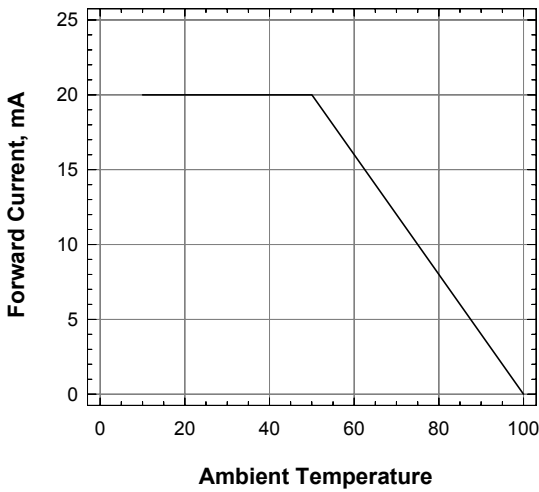
Relative Luminous Intensity Vs Forward Current



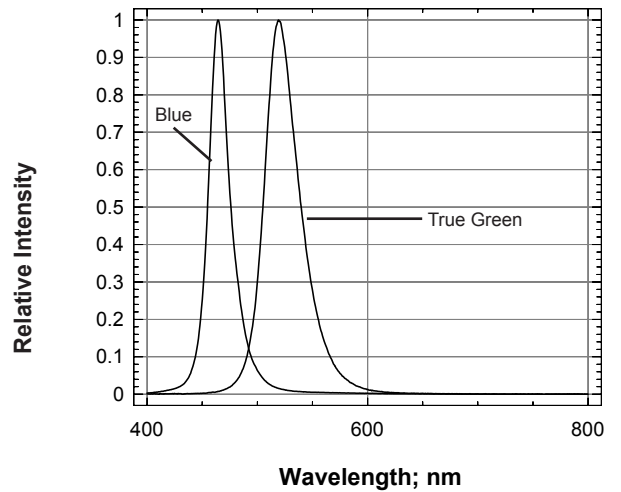
Forward Current Vs Forward Voltage



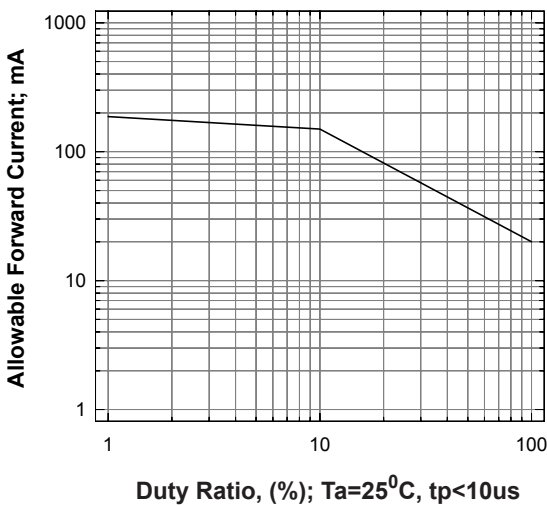
Maximum Current Vs Ambient Temperature



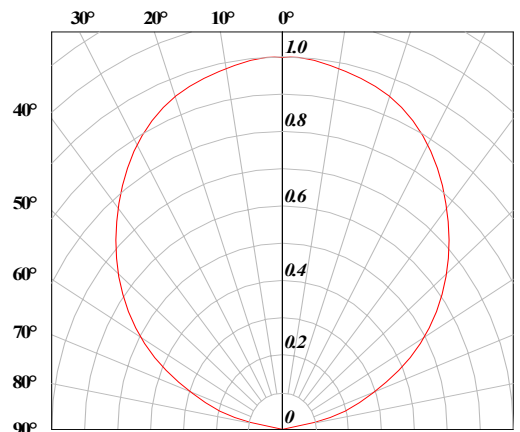
Relative Intensity Vs Wavelength



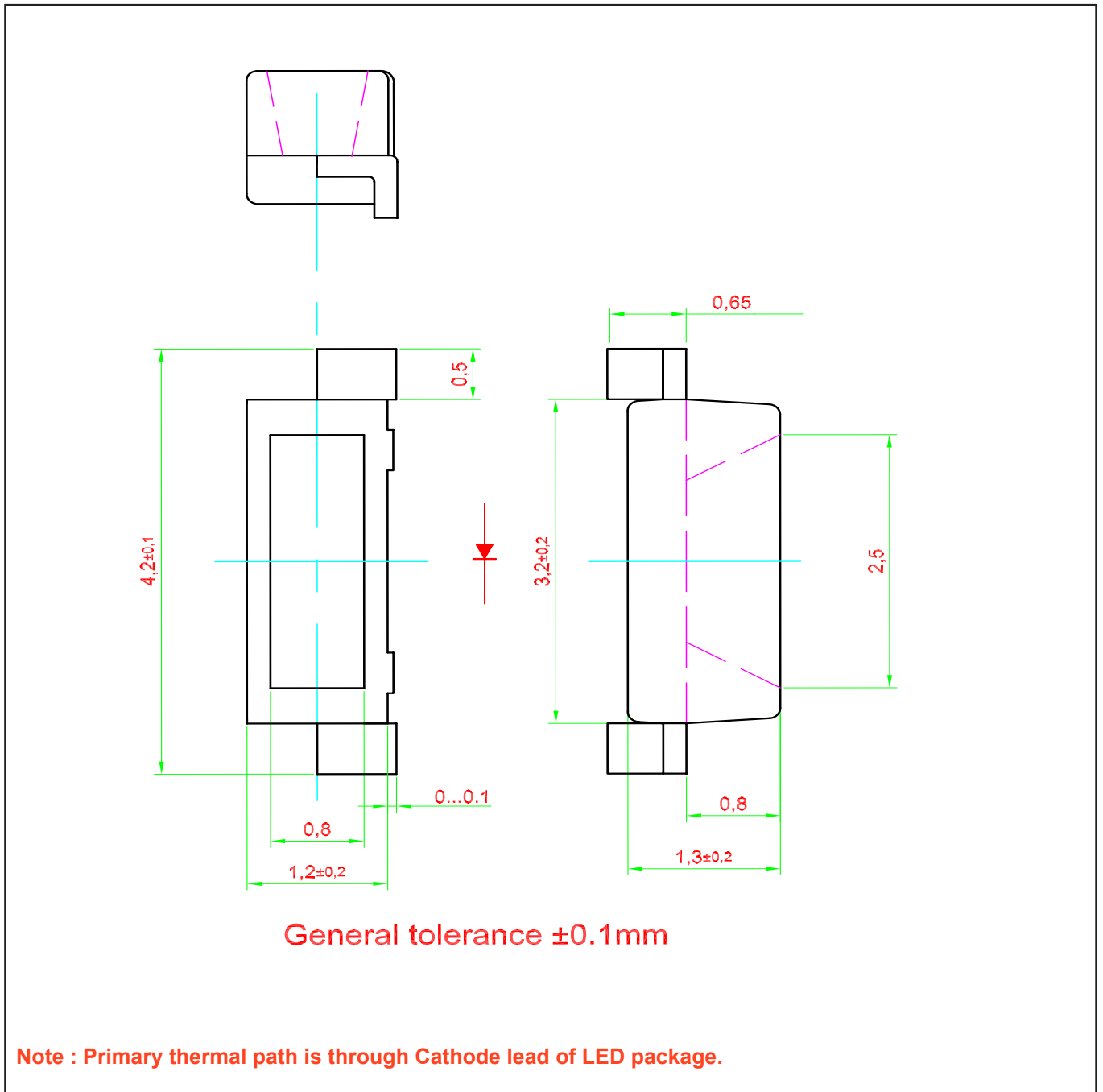
Allowable Forward Current Vs Duty Ratio



Radiation Pattern



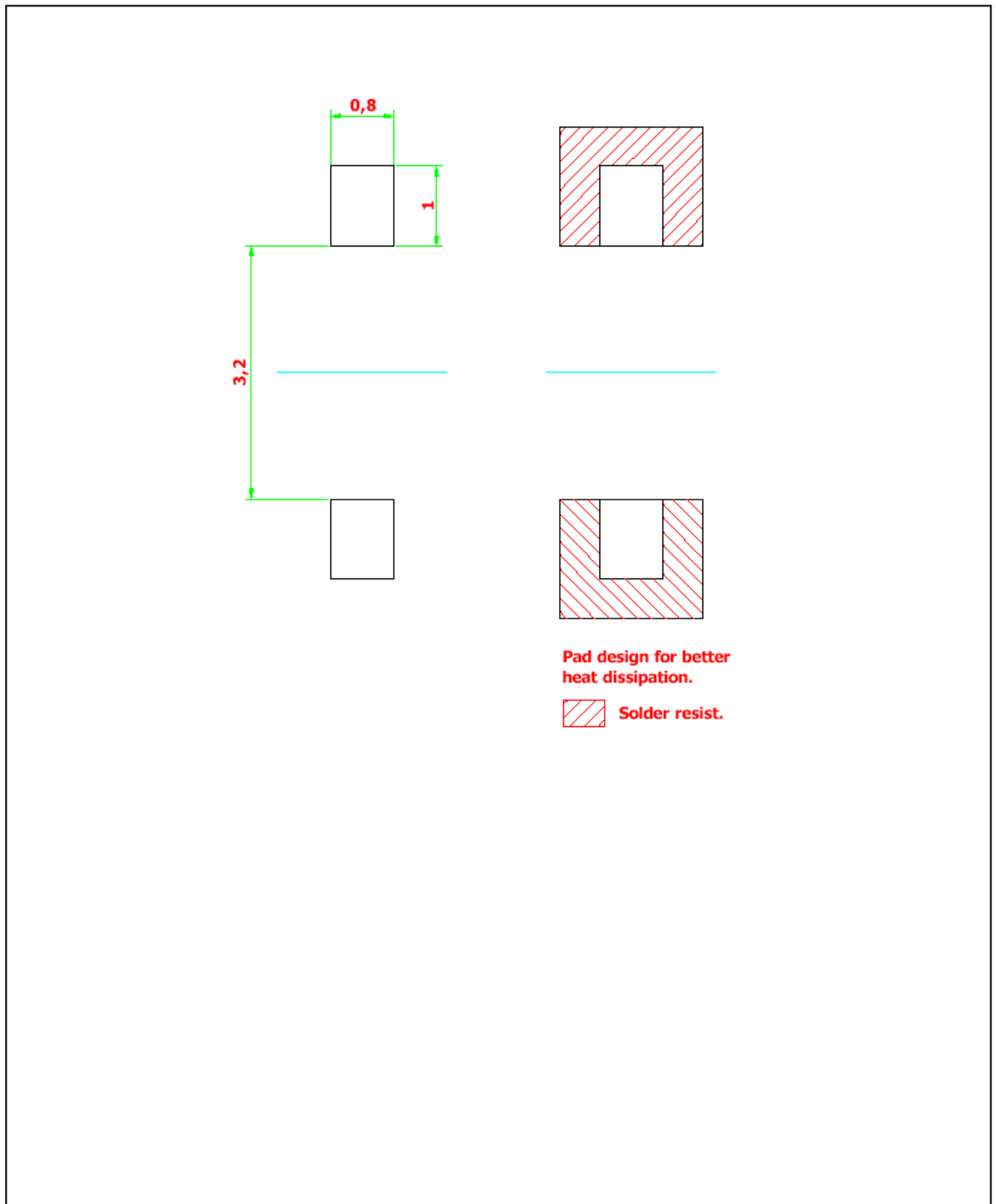
DomiLED™ • InGaN : DSx-xSx Package Outlines



Material

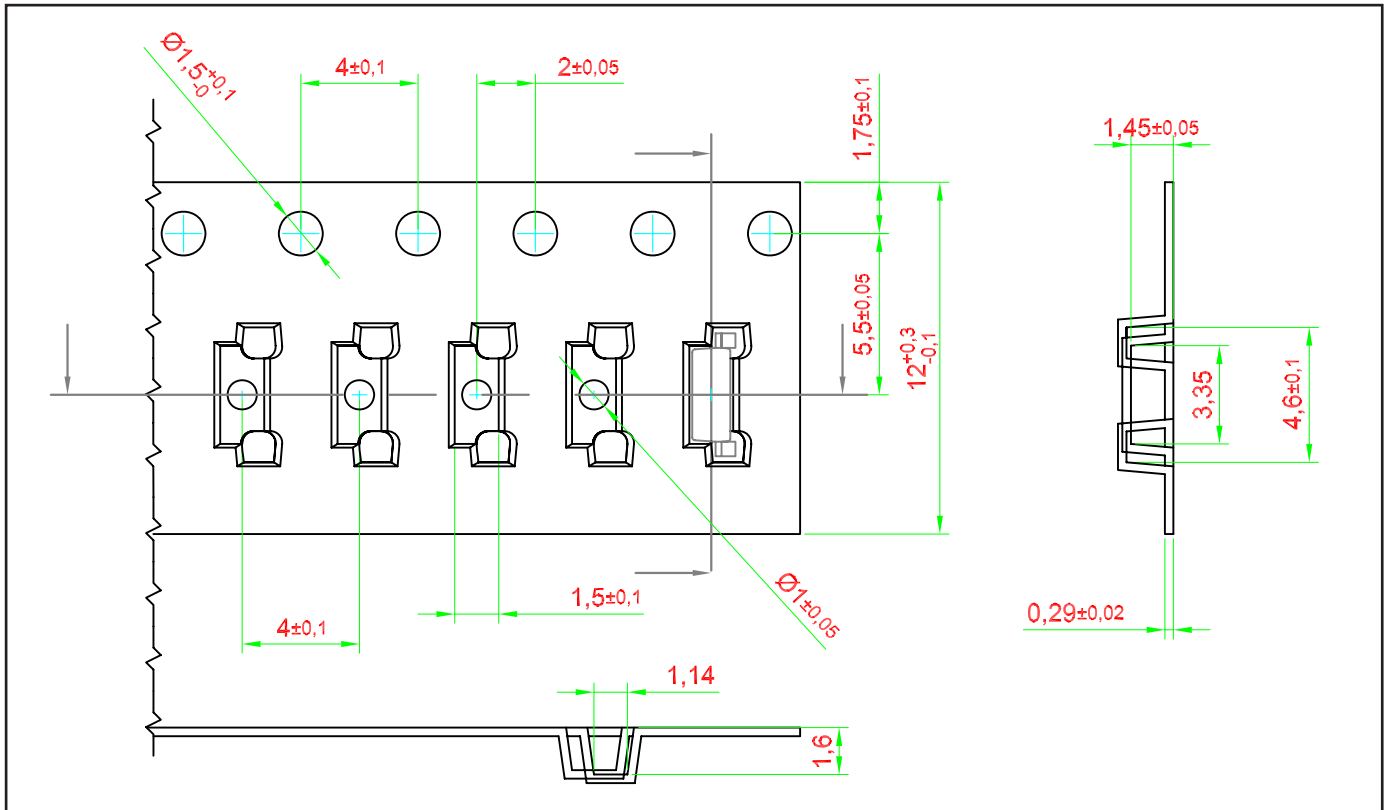
Material	
Lead-frame	Cu Alloy With Ag Plating
Package	High Temperature Resistant Plastic, PPA
Encapsulant	Epoxy
Soldering Leads	Sn-Sn Plating

Recommended Solder Pad

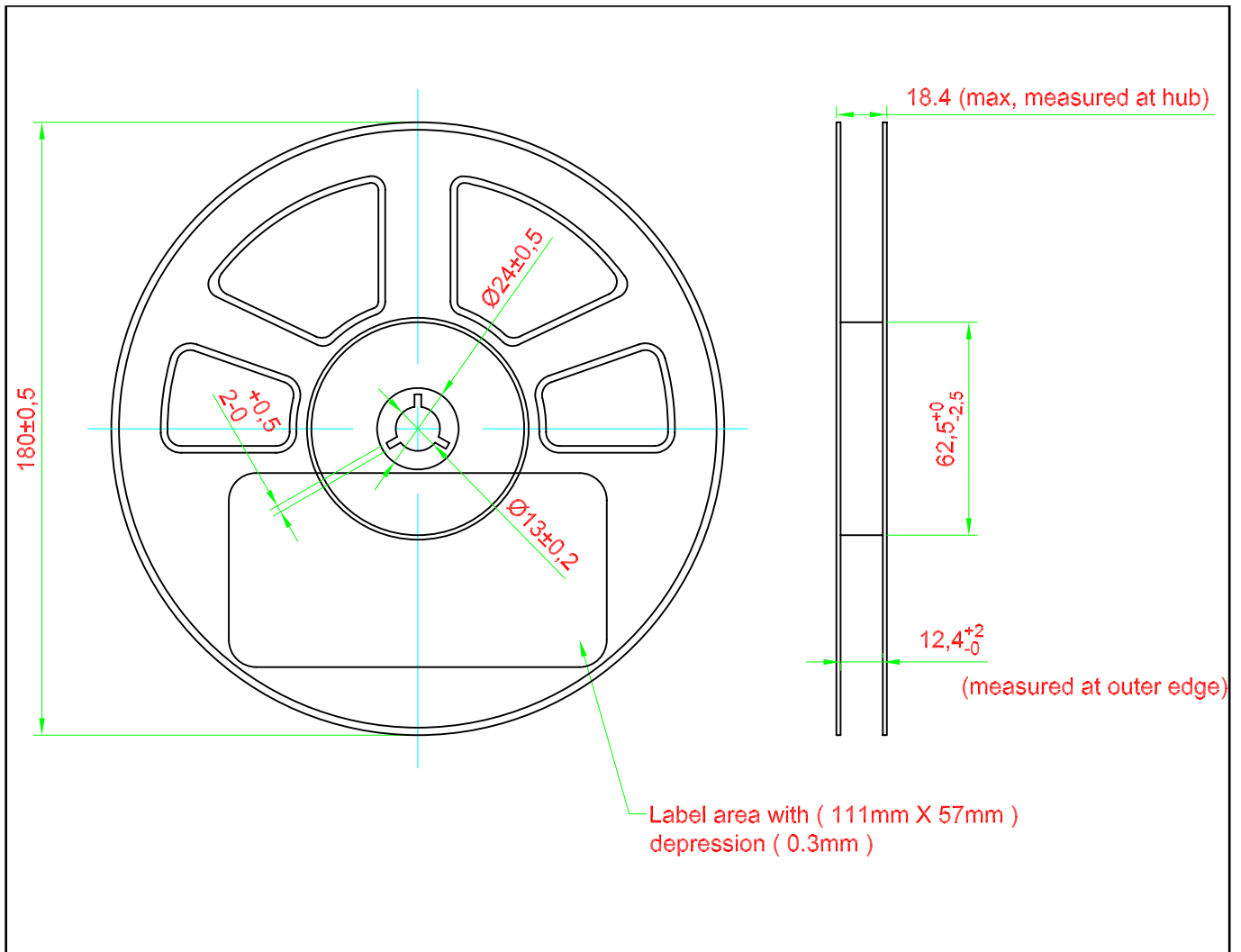


Taping and orientation

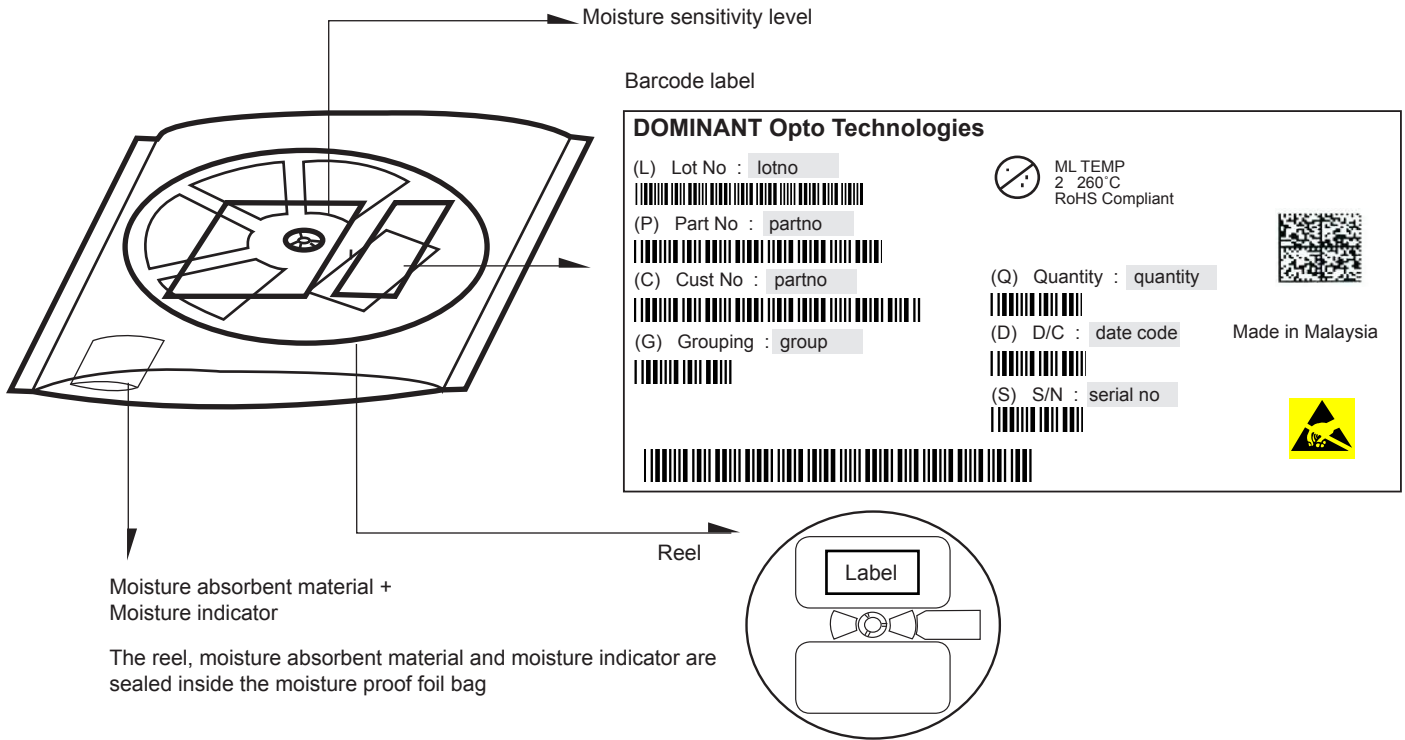
- Reels come in quantity of 2500 units.
- Reel diameter is 180 mm.



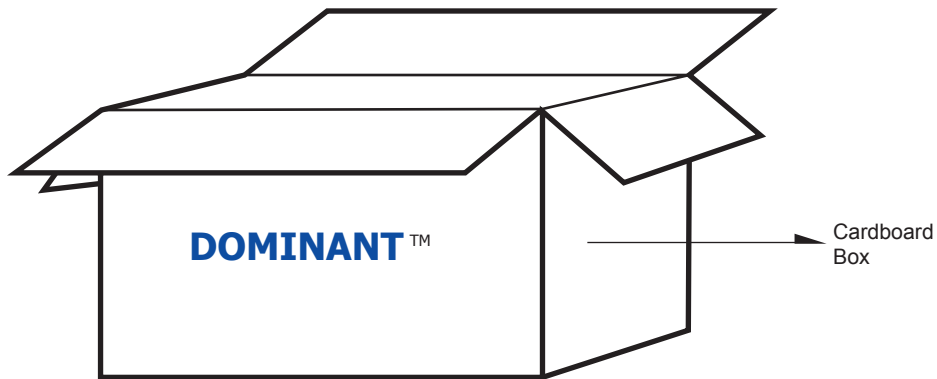
Packaging Specification



Packaging Specification



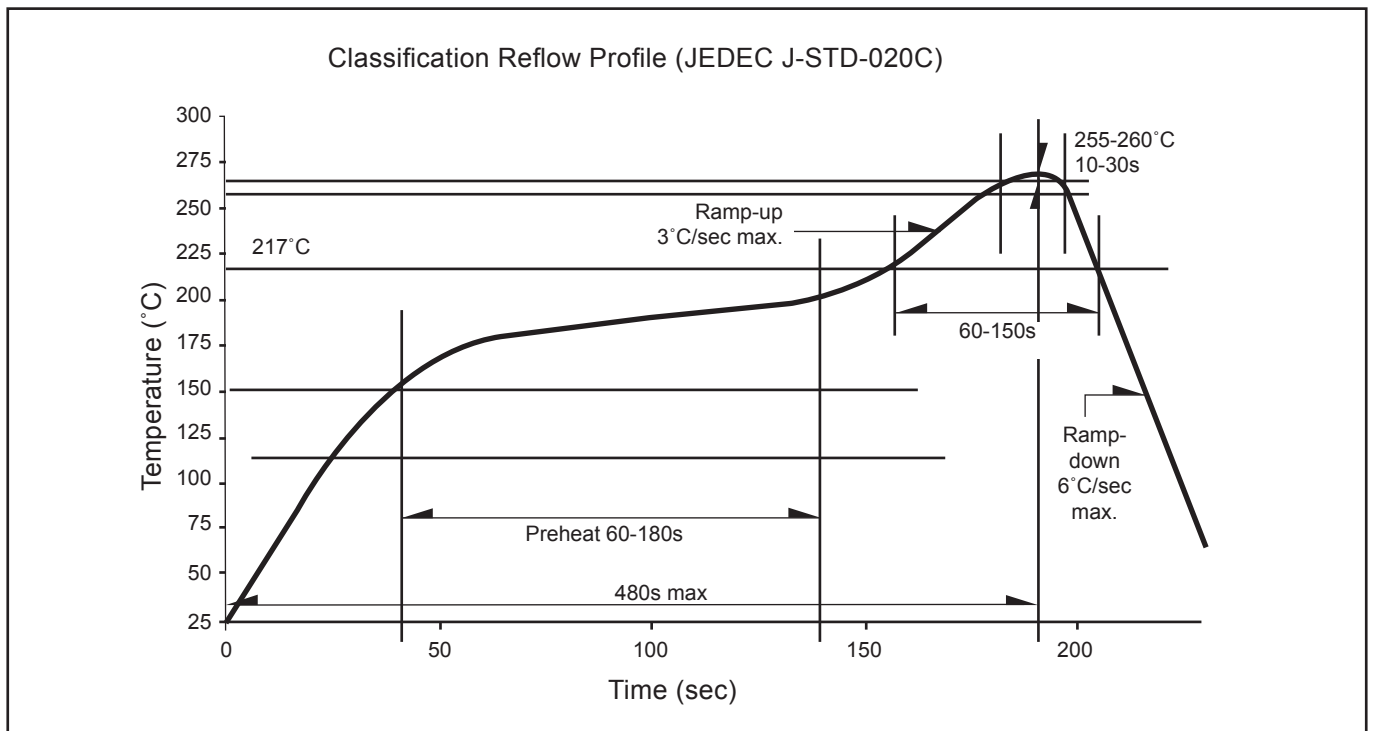
	Average 1pc Right Angle DomiLED	1 completed bag (2500pcs)
Weight (gram)	0.010	240 ± 10



For Right Angle DomiLED™

Cardboard Box Size	Dimensions (mm)	Empty Box Weight (kg)	Reel / Box
Super Small	325 x 225 x 190	0.38	7 reels MAX
Small	325 x 225 x 280	0.54	11 reels MAX
Medium	570 x 440 x 230	1.46	48 reels MAX
Large	570 x 440 x 460	1.92	96 reels MAX

Recommended Pb-free Soldering Profile



Appendix

1) **Brightness:**

- 1.1 Luminous intensity is measured with an internal reproducibility of $\pm 8 \%$ and an expanded uncertainty of $\pm 11 \%$ (according to GUM with a coverage factor of $k=3$).
- 1.2 Luminous flux is measured with an internal reproducibility of $\pm 8 \%$ and an expanded uncertainty of $\pm 11 \%$ (according to GUM with a coverage factor of $k=3$).

2) **Color:**

- 2.1 Chromaticity coordinate groups are measured with an internal reproducibility of ± 0.005 and an expanded uncertainty of ± 0.01 (accordingly to GUM with a coverage factor of $k=3$).
- 2.2 DOMINANT wavelength is measured with an internal reproducibility of $\pm 0.5\text{nm}$ and an expanded uncertainty of $\pm 1\text{nm}$ (accordingly to GUM with a coverage factor of $k=3$).

3) **Voltage:**

- 3.1 Forward Voltage, V_f is measured with an internal reproducibility of $\pm 0.05\text{V}$ and an expanded uncertainty of $\pm 0.1\text{V}$ (accordingly to GUM with a coverage factor of $k=3$).

Revision History

Page	Subjects	Date of Modification
6	Update package drawing	05 Dec 2008
6	Print error on package drawing	08 Apr 2009
5	Add Allowable Forward Currant Vs Duty Ratio Graph	17 Apr 2009
-	Update Company Name	08 Mar 2010
5	Update Graph: Relative Luminous Intensity Vs Forward Current	29 Dec 2011
9	Error in carrier tape	21 Jun 2012
1, 6, 8, 10	Add Features Add Notes in Packaging Outline Update Carrier Tape Update Packaging Specification	10 Mar 2016
1, 6, 12	Update Features Update Package Outline Add Appendix	03 Oct 2016

NOTE

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About Us

DOMINANT Opto Technologies 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 Opto Technologies can be found on the Internet at <http://www.dominant-semi.com>.

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