DOMINANT™
Opto Technologies
Innovating Illumination

DATA SHEET:

Power DomiLED™

AlInGaP : DWx

Power DomiLED™

With its significant power in terms brightness, viewing angle and variety of application possibilities, Power DomiLED™ truly is a standout performer! Ideal for automotive interior lighting as well as home, office and industrial applications, it is also a proven performer in electronic signs and signals.



Features:



> High brightness surface mount LED using thin film 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.
Exterior applications, eg: signal lighting, Center High Mounted Stop Light (CHMSL)
> Signage: full colour display video notice board, signage, special effect lighting.
> Industrial: white goods (eg: Oven, microwave, etc.), light bar, illuminated advertising.
> Lighting: architecture lighting, general lighting, garden light, channel light.

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Optical Characteristics at Tj=25˚C

Part Ordering Number	Color	Viewing Angle˚	Luminous Intensity @ IF = 50mA IV (mcd) Min.	Typ.	Max.
DWS-SJS-ST2-1	Super Red, 632nm	120	180.0	285.0	450.0
DWS-SJS-T2V1-1	Super Red, 632nm	120	355.0	560.0	900.0
DWR-SJS-TU2-1	Red, 625nm	120	285.0	450.0	715.0
DWR-TJS-UV2-1	Red, 625nm	120	450.0	715.0	1125.0
DWR-TJS-VW2-1	Red, 625nm	120	715.0	1125.0	1800.0
DWA-SJS-UV2-1	Amber, 615nm	120	450.0	715.0	1125.0
● DWA-SJS-VW1-1	Amber, 615nm	120	715.0	1000.0	1400.0
DWO-SJS-UV2-1	Orange, 605nm	120	450.0	715.0	1125.0
DWY-SJS-UV1-1	Yellow, 587nm	120	450.0	560.0	900.0
DWY-SJS-U2V-1	Yellow, 587nm	120	560.0	900.0	1125.0
DWY-TJS-UV2-1	Yellow, 587nm	120	450.0	715.0	1125.0
DWP-SJS-PQ1-1	Pure Green, 560nm	120	45.0	56.0	90.0
DWP-SJS-P2R1-1	Pure Green, 560nm	120	56.0	90.0	140.0
DWP-SJS-Q2R-1	Pure Green, 560nm	120	90.0	135.0	180.0

● Not for new design

NOTE
1. All part number above comes in a quantity of 2000 units per reel.
2. Other luminous intensity groups may also be 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 bining is also available upon request. Bining scheme is as per following table.

Electrical Characteristics at Tj=25˚C

Part Number	Vf @ If = 50mA Min. (V)	Typ. (V)	Max. (V)	V_r @ I_r = 10uA Min. (V)
DWS-SJS, DWR-SJS, DWA-SJS, DWO-SJS, DWY-SJS, DWP-SJS	1.7	2.1	2.6	12
DWR-TJS, DWY-TJS	1.7	2.6	3.2	12

Forward voltages are measure using a current pulse of 1 ms and with an accuracy of ± 0.1V.

Absolute Maximum Ratings

	Maximum Value	Unit
DC forward current	70	mA
Peak pulse current; (tp ≤ 10µs, Duty cycle = 0.1)	100	mA
Reverse voltage	12	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)	225	mW

Wavelength Grouping

Color	Group	Wavelength distribution (nm)
DWS; Super Red	Full	625 - 640
DWR-SJ; Red	Full	620 - 630
DWR-TJ; Red (TS)	Full	620 - 635
DWA; Amber	Full	610 - 621
	W	610 - 615
	X	615 - 621
DWO; Orange	Full	600 - 612
	W	600 - 603
	X	603 - 606
	Y	606 - 609
	Z	609 - 612
DWY; Yellow	Full	582 - 594
	W	582 - 585
	X	585 - 588
	Y	588 - 591
	Z	591 - 594
DWP; Pure Green	Full	552.5 - 564.5
	W	552.5 - 555.5
	X	555.5 - 558.5
	Y	558.5 - 561.5
	Z	561.5 - 564.5

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

Luminous Intensity Group at Tj=25˚C

Brightness Group	Luminous Intensity 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
V2	900.0 ... 1125.0
W1	1125.0 ... 1400.0
W2	1400.0 ... 1800.0

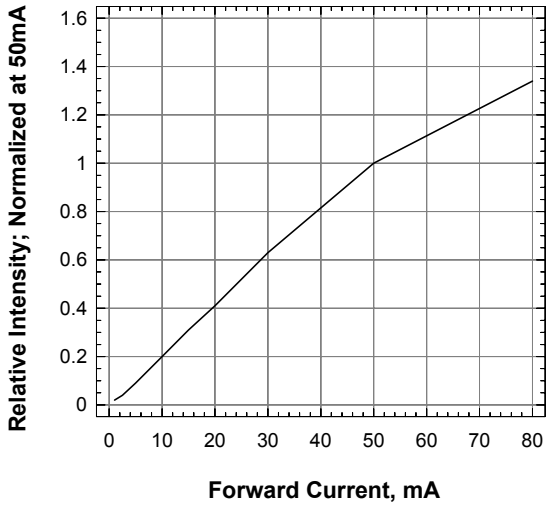
Luminous intensity is measured with an accuracy of ± 11%.

Vf Bining (Optional)

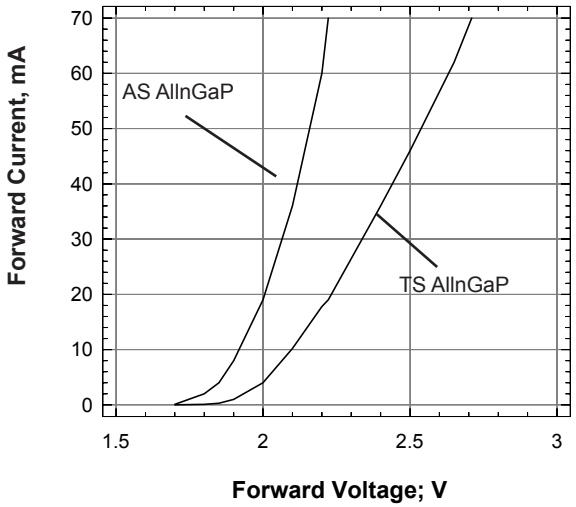
Vf @ If = 50mA	Forward Voltage (V)
50	1.7 ... 2.0
51	2.0 ... 2.3
52	2.3 ... 2.6
53	2.6 ... 2.9
54	2.9 ... 3.2

Forward voltage, Vf is measured with an accuracy of ± 0.1V.
Please consult sales and marketing for special part number to incorporate Vf binning.

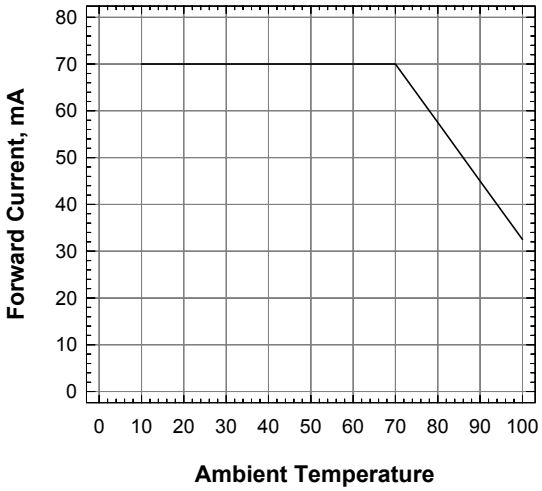
Relative Luminous Intensity Vs Forward Current



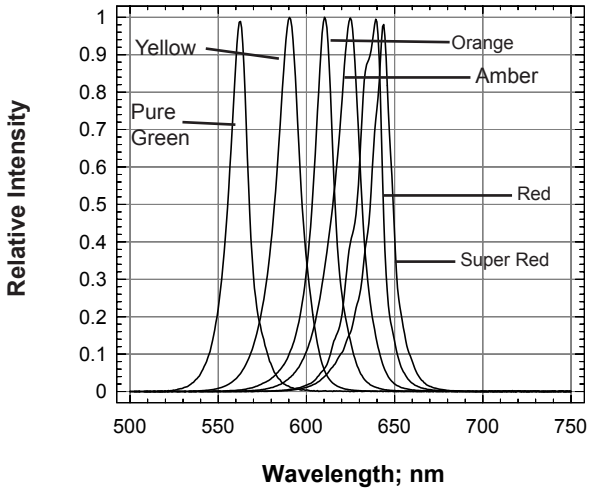
Forward Current Vs Forward Voltage



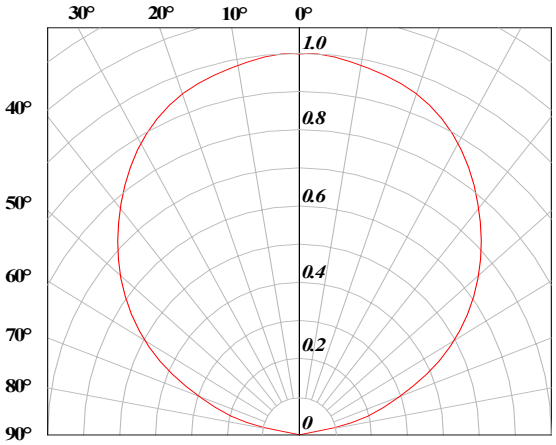
Maximum Current Vs Ambient Temperature



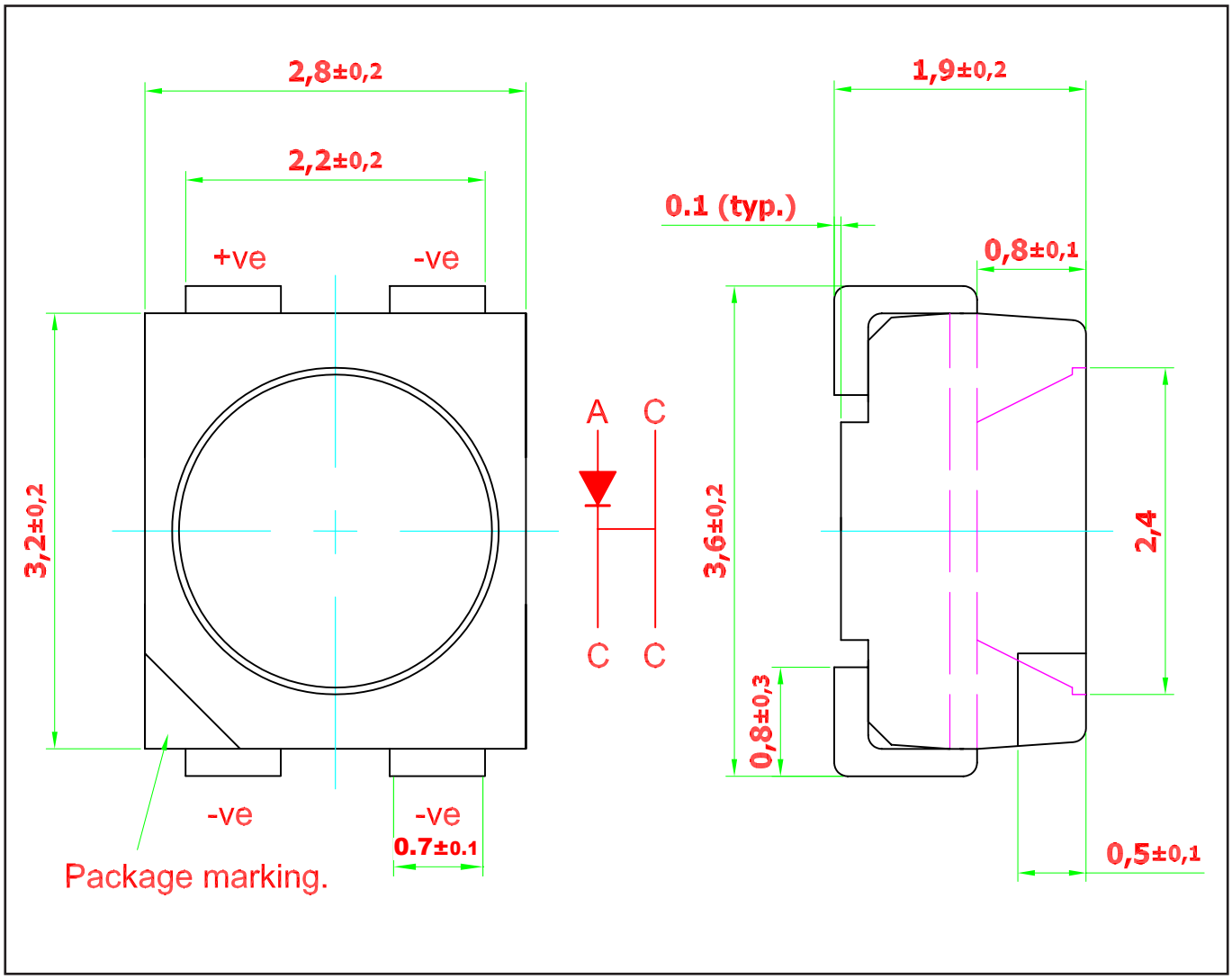
Relative Intensity Vs Wavelength



Radiation Pattern



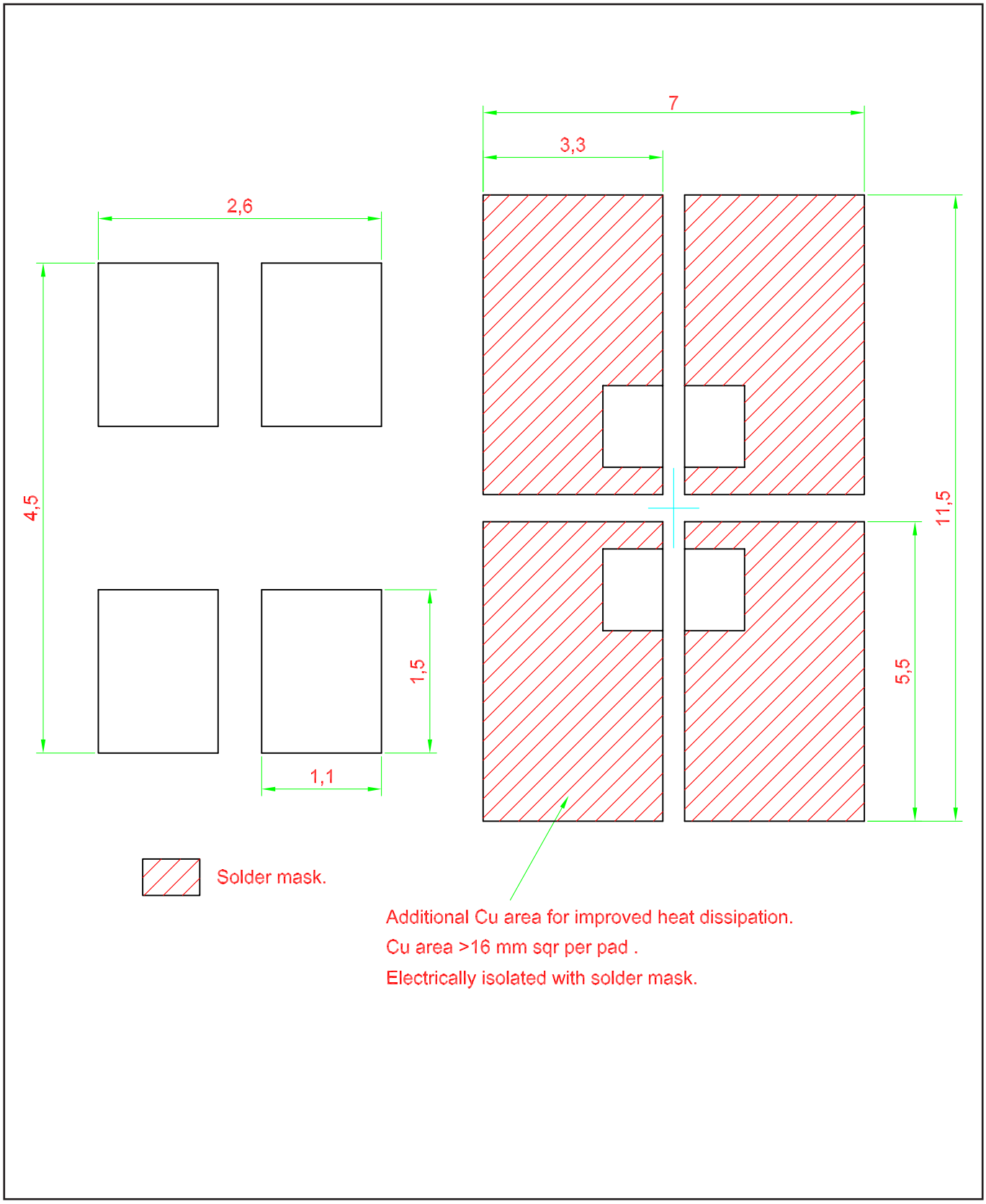
Power DomiLED™ • AlInGaP : DWx Package Outlines



Material

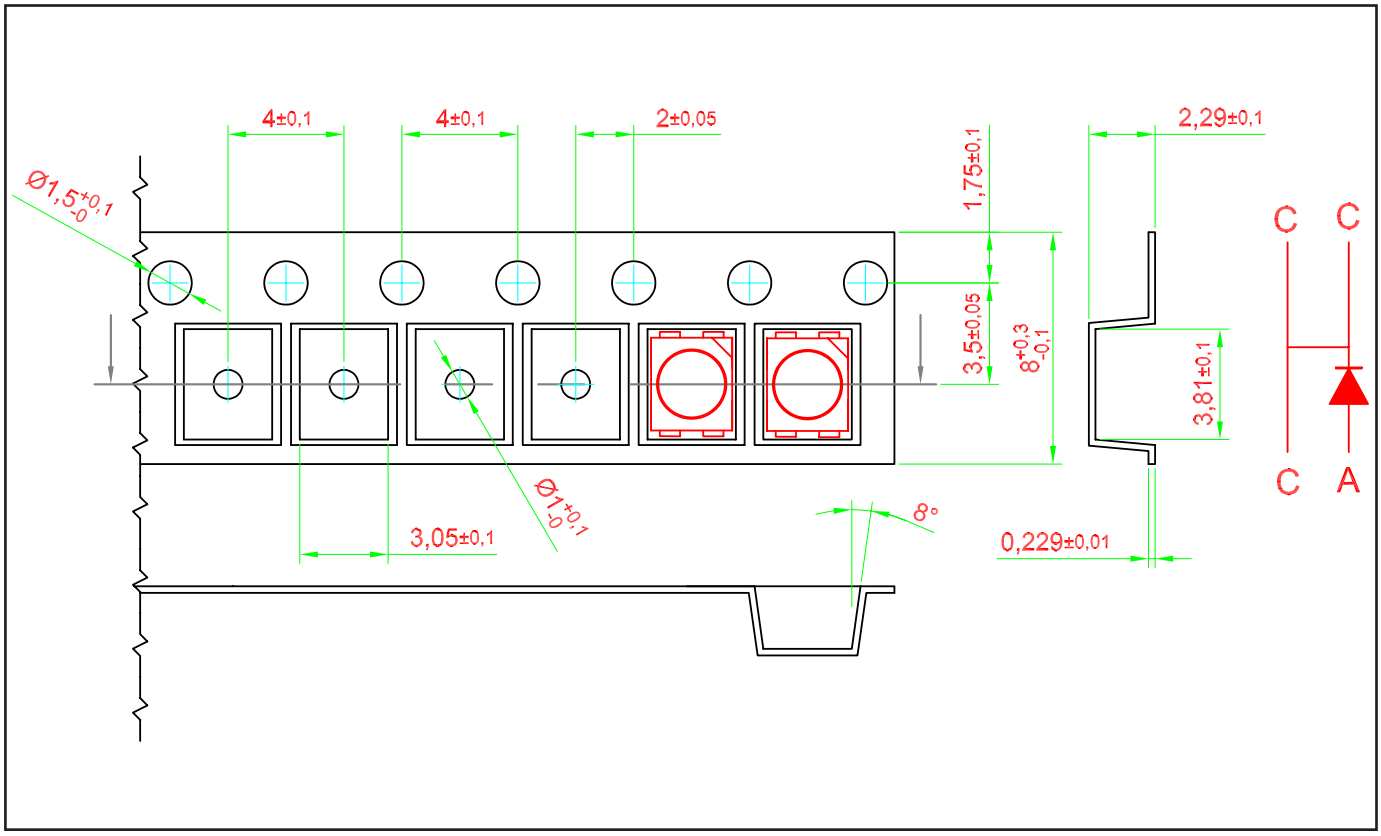
	Material
Lead-frame	Cu Alloy With Ag Plating
Package	High Temperature Resistant Plastic, PPA
Encapsulant	Epoxy
Soldering Leads	Sn Plating

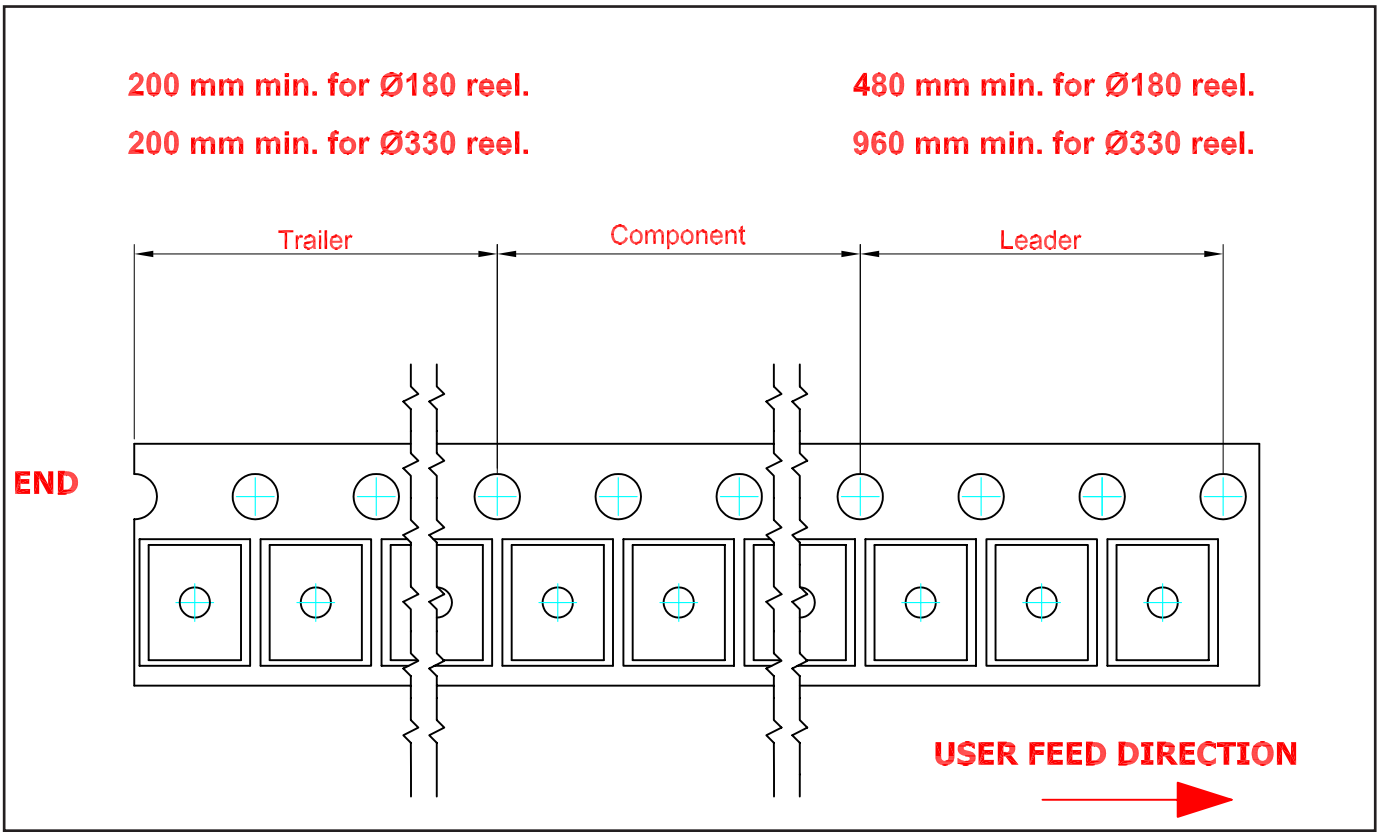
Recommended Solder Pad



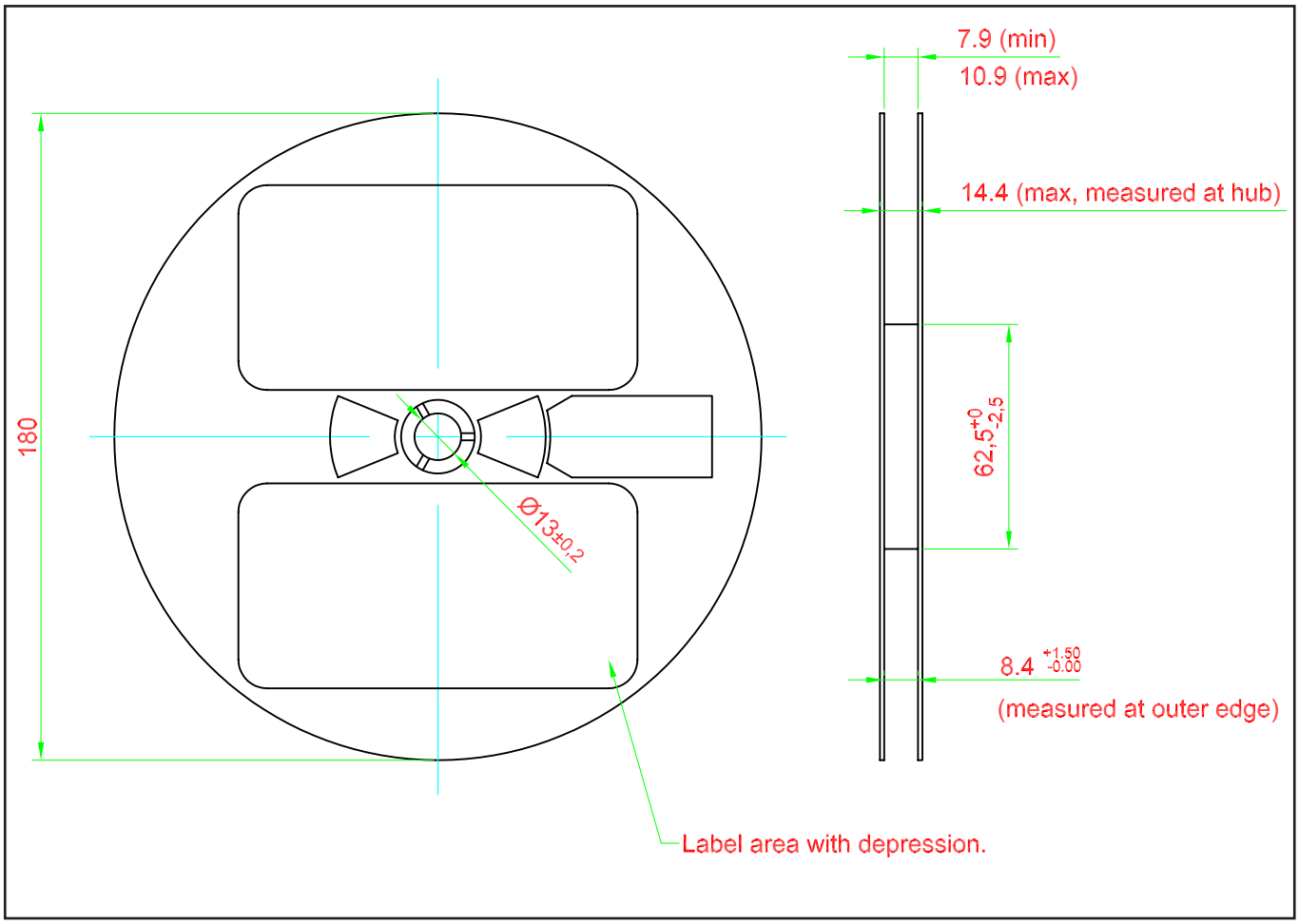
Taping and orientation

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

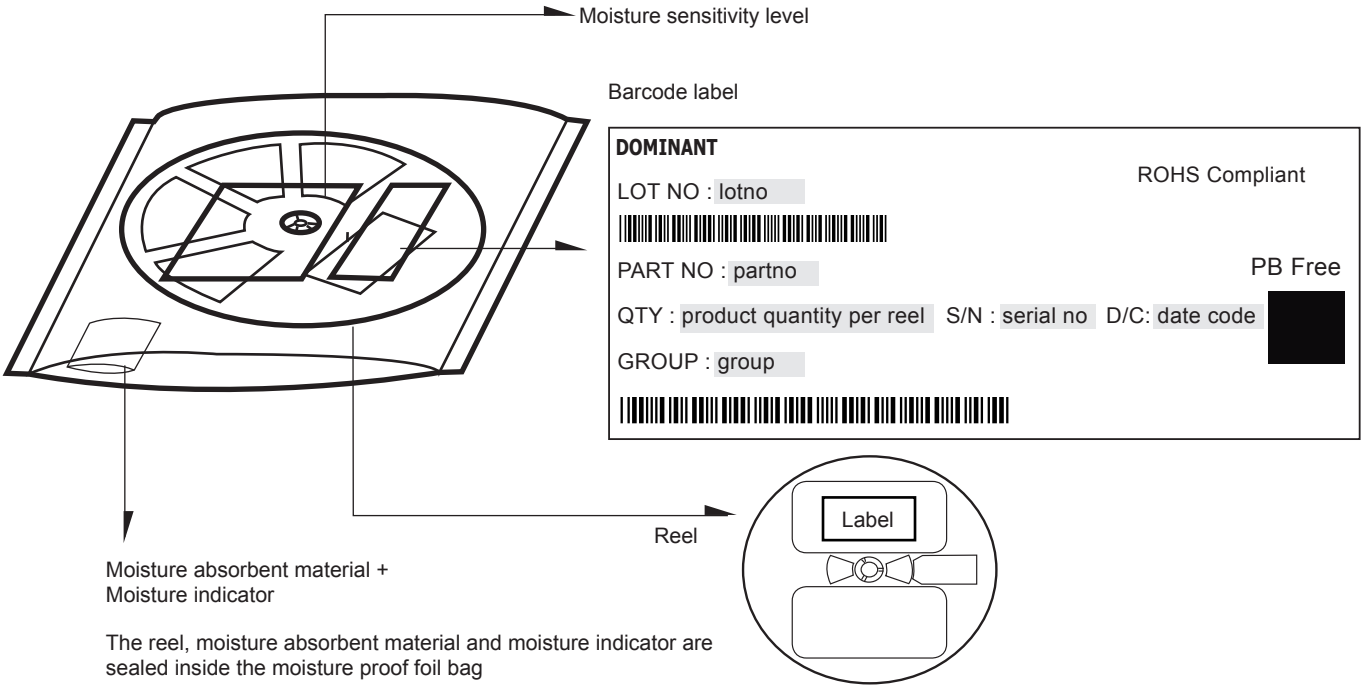




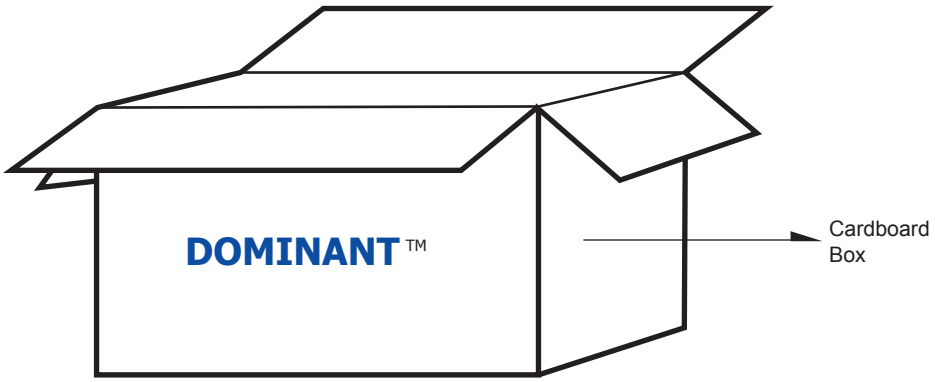
Packaging Specification



Packaging Specification



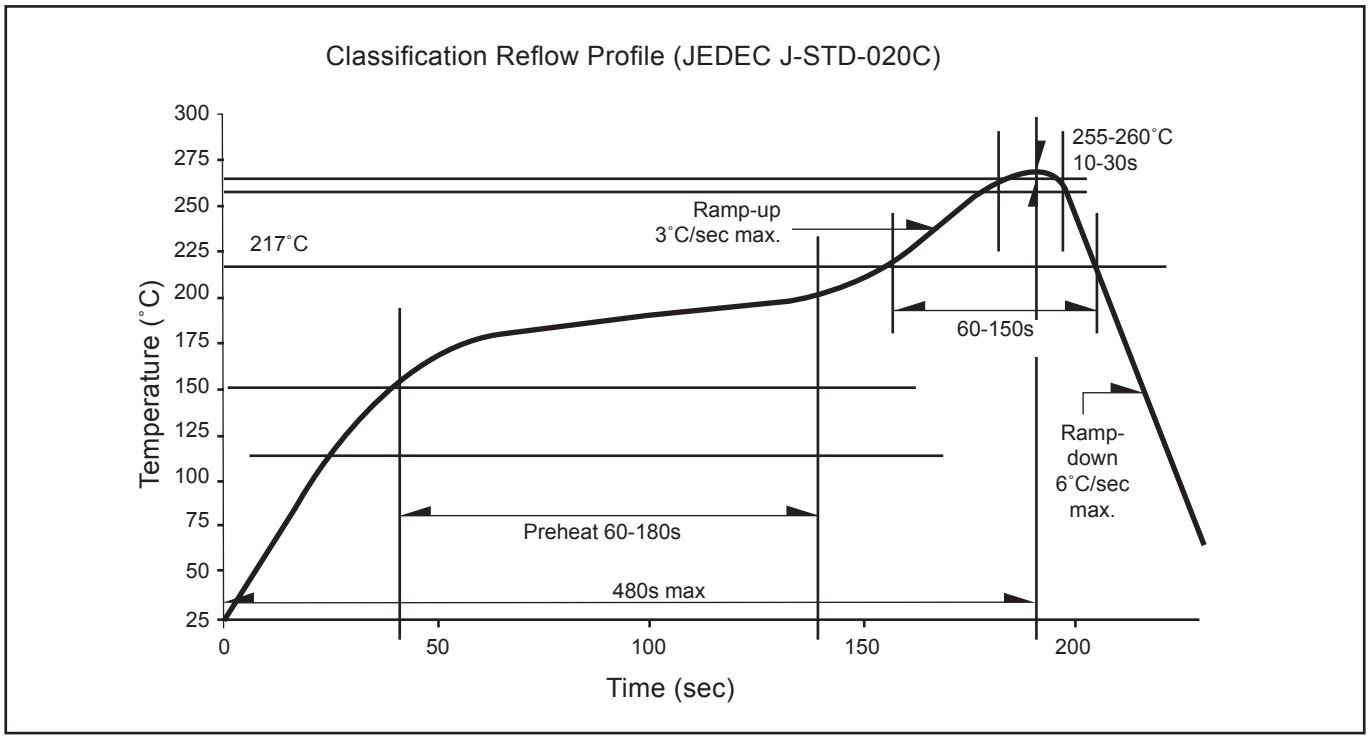
	Average 1pc Power DomiLED	1 completed bag (2000pcs)
Weight (gram)	**0.034**	**190 ± 10**



For Power 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	96 reels MAX	192,000 MAX

Recommended Pb-free Soldering Profile



Revision History

Page	Subjects	Date of Modification
2	Add new partno: DWS-SJS-T2V1-1	09 Dec 2008
2	Add new partno: DWA-SJS-VW1-1	19 Jan 2009
2	Add new partno: DWY-SJS-U2V-1	09 Sep 2009
-	Update company name	15 Mar 2010
2	Add Vf min value	01 Dec 2010
2	Add new partno: DWP-SJS-P2R1-1	28 Feb 2011
2	Not for new design : DWA-SJS-VW1-1	26 Apr 2011
2	Add new partno: DWP-SJS-Q2R-1	10 Aug 2011
5	Update Graph: Relative Luminous Intensity Vs Forward Current	29 Dec 2011
6	Update Package Outline	04 Sep 2014

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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