

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 both IR reflow soldering and TTW 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),
- > Display: full color display video notice board.
- > Industry: white goods (eg: Oven, microwave, etc.).
- > Lighting: architecture lighting, general lighting, garden light, etc



Part Ordering Number	Chip Technology / Color	Viewing Angle°	Total Flux @ IF=50mA, mlm (typ)	Luminous Intensity @ IF = 50mA IV (mcd)
DWS-SJS-ST2-1	AS AlIGaP	120	750	180.0 - 450.0
• DWS-SJS-S1	Super Red, 632nm			180.0 - 224.0
• DWS-SJS-S2				224.0 - 285.0
• DWS-SJS-T1				285.0 - 355.0
• DWS-SJS-T2				355.0 - 450.0
DWR-SJS-TU2-1	AS AlIGaP	120	900	285.0 - 715.0
• DWR-SJS-T1	Red, 625nm			285.0 - 355.0
• DWR-SJS-T2				355.0 - 450.0
• DWR-SJS-U1				450.0 - 560.0
• DWR-SJS-U2				560.0 - 715.0
DWR-TJS-UV2-1	TS AlIGaP	120	2000	450.0 - 1125.0
• DWR-TJS-U1	Red, 625nm			450.0 - 560.0
• DWR-TJS-U2				560.0 - 715.0
• DWR-TJS-V1				715.0 - 900.0
• DWR-TJS-V2				900.0 - 1125.0
DWR-TJS-VW2-1	TS AlIGaP	120	3200	715.0 - 1800.0
• DWR-TJS-V1	Red, 625nm			715.0 - 900.0
• DWR-TJS-V2				900.0 - 1125.0
• DWR-TJS-W1				1125.0 - 1400.0
• DWR-TJS-W2				1400.0 - 1800.0
DWA-SJS-UV2-1	AS AlIGaP	120	1400	450.0 - 1125.0
• DWA-SJS-U1	Amber, 615nm			450.0 - 560.0
• DWA-SJS-U2				560.0 - 715.0
• DWA-SJS-V1				715.0 - 900.0
• DWA-SJS-V2				900.0 - 1125.0
DWO-SJS-UV2-1	AS AlIGaP	120	1400	450.0 - 1125.0
• DWO-SJS-U1	Orange, 605nm			450.0 - 560.0
• DWO-SJS-U2				560.0 - 715.0
• DWO-SJS-V1				715.0 - 900.0
• DWO-SJS-V2				900.0 - 1125.0
DWY-SJS-UV1-1	AS AlIGaP	120	1000	450.0 - 900.0
• DWY-SJS-U1	Yellow, 587nm			450.0 - 560.0
• DWY-SJS-U2				560.0 - 715.0
• DWY-SJS-V1				715.0 - 900.0
DWY-TJS-UV2-1	TS AlIGaP	120	1600	450.0 - 1125.0
• DWY-TJS-U1	Yellow, 587nm			450.0 - 560.0
• DWY-TJS-U2				560.0 - 715.0
• DWY-TJS-V1				715.0 - 900.0
• DWY-TJS-V2				900.0 - 1125.0

Part Ordering Number	Chip Technology / Color	Viewing Angle°	Total Flux @ IF=50mA, mlm (typ)	Luminous Intensity @ IF = 50mA IV (mcd)
DWP-SJS-PQ1-1	AS AlInGaP	120	150	45.0 - 90.0
• DWP-SJS-P1	Pure Green, 560nm			45.0 - 56.0
• DWP-SJS-P2				56.0 - 71.5
• DWP-SJS-Q1				71.5 - 90.0

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.
2. Luminous intensity is measured with an accuracy of $\pm 11\%$.
3. Wavelength binning is carried for all units as per the wavelength-binning table. Only one wavelength group is allowed for each reel.
4. An optional Vf binning is also available upon request. Binning scheme is as per following table.

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.

Electrical Characteristics at Ta=25°C

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

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

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

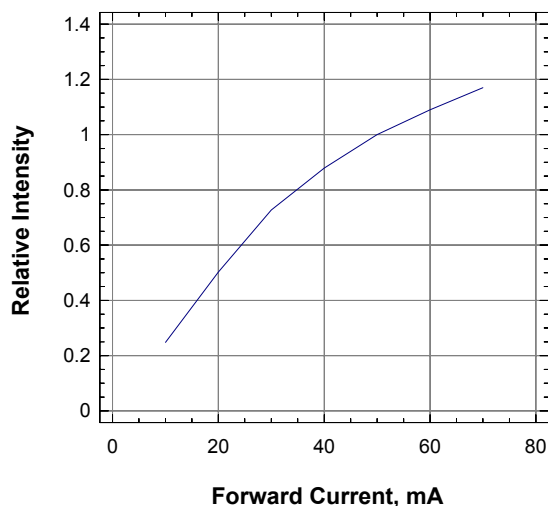
Forward voltage, Vf is measured with an accuracy of $\pm 0.1V$.

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

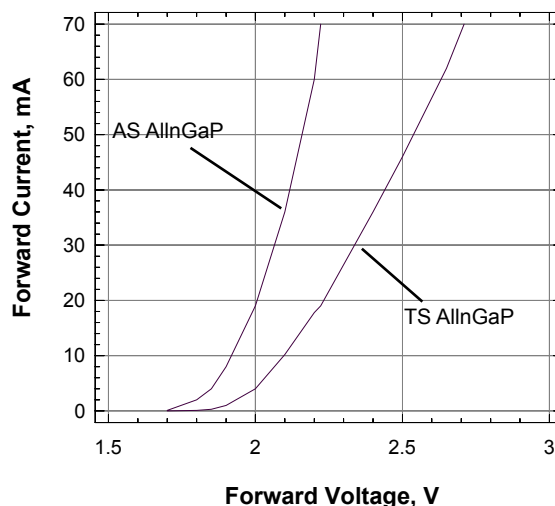
Absolute Maximum Ratings

	Maximum Value	Unit
DC forward current	70	mA
Peak pulse current; (tp $\leq$ 10 μ s, Duty cycle = 0.1)	100	mA
Reverse voltage	12	V
ESD Thershold (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

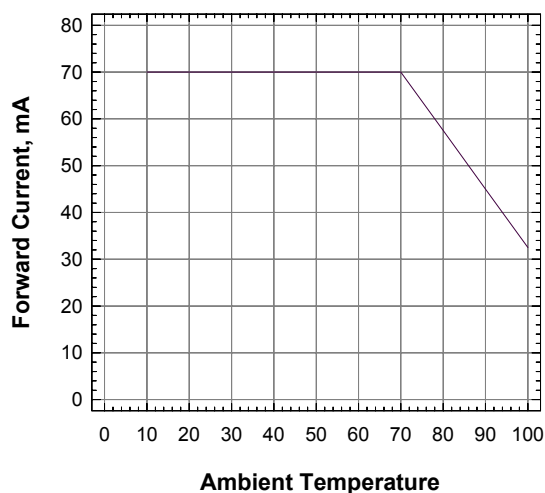
Relative Intensity Vs Forward Current



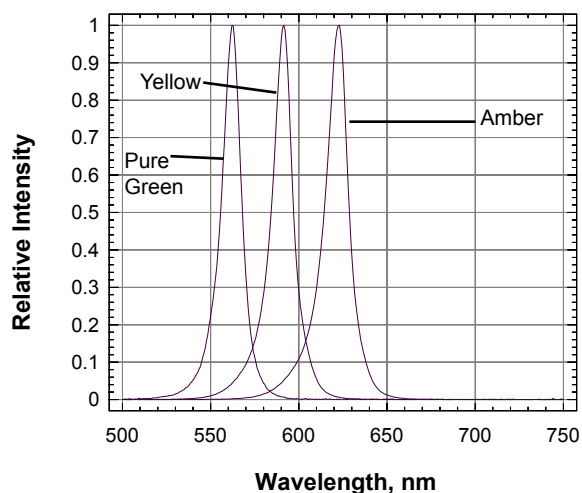
Forward Current Vs Forward Voltage



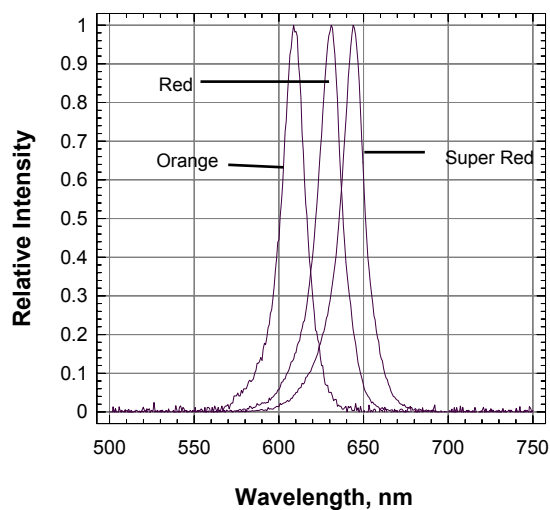
Maximum Current Vs Ambient Temperature



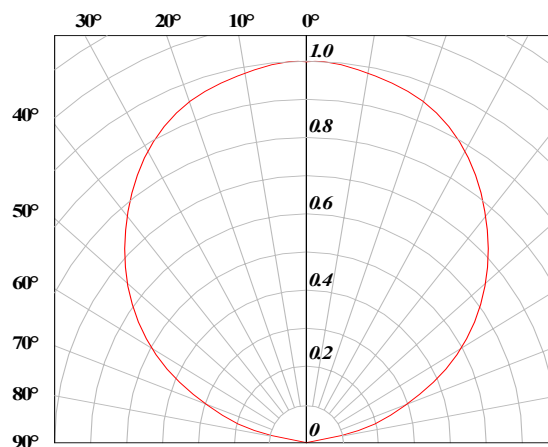
Relative Intensity Vs Wavelength



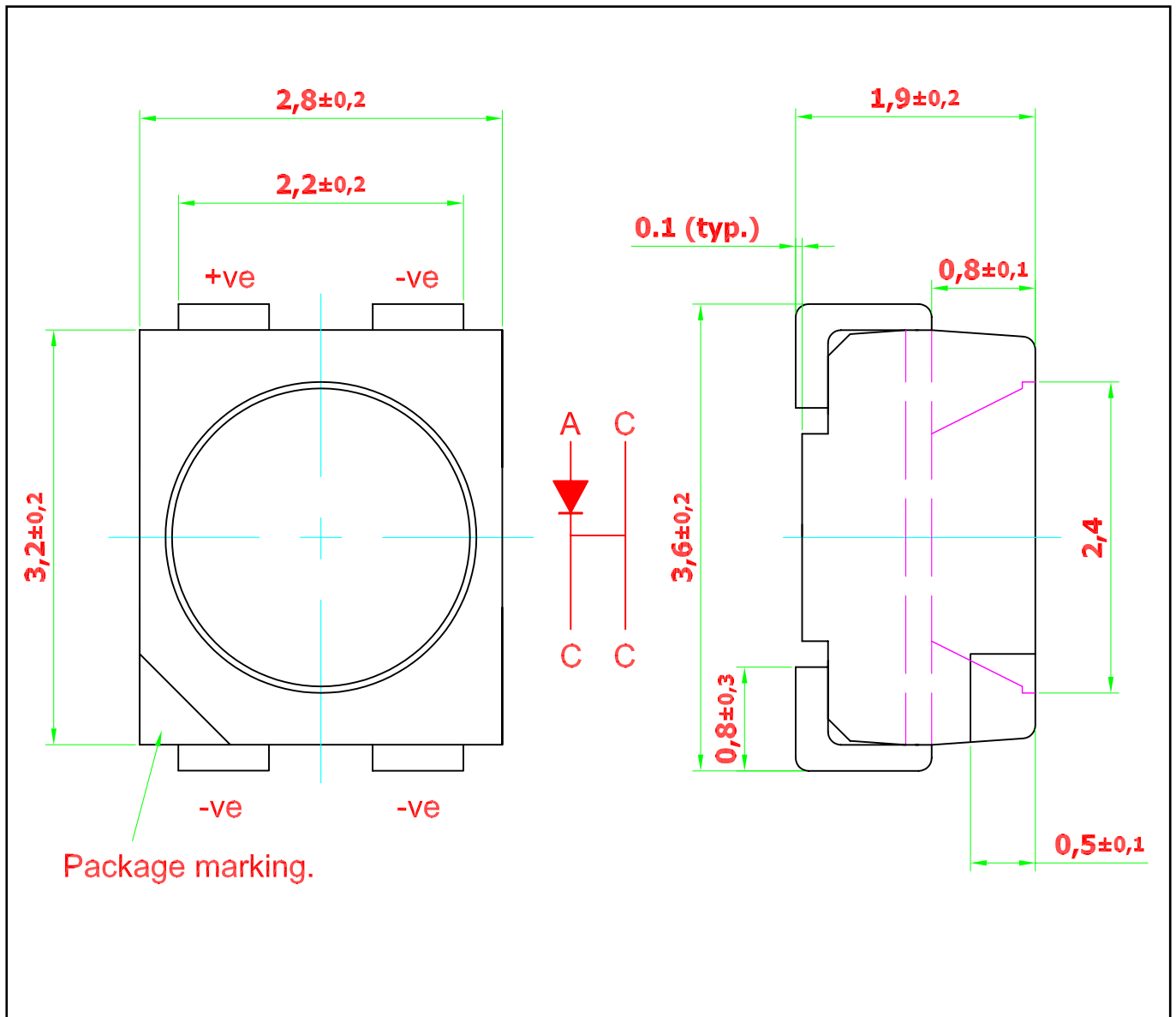
Relative Intensity vs Wavelength



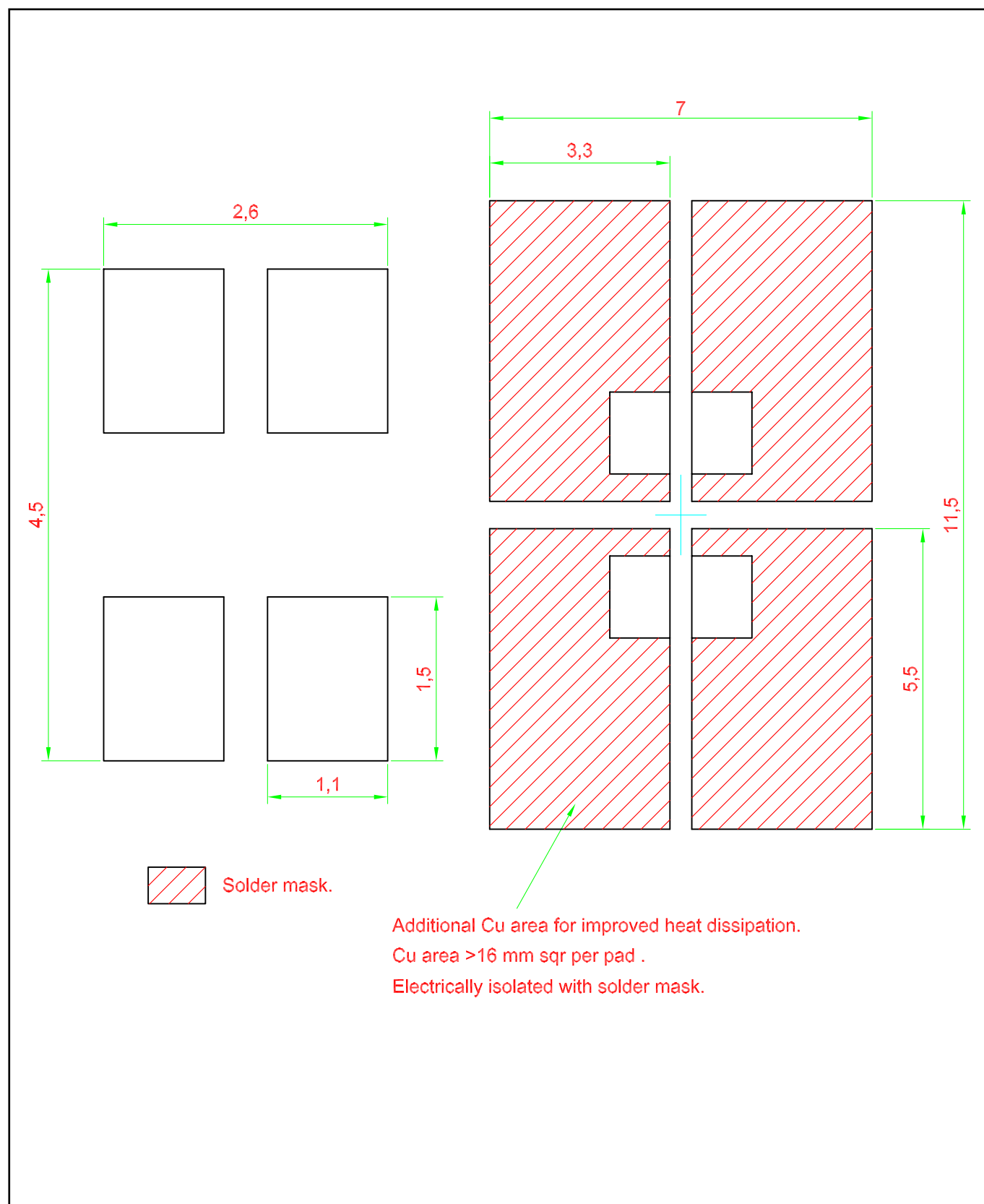
Radiation Pattern



DomiLED™ • AllnGaP : DWx Package Outlines

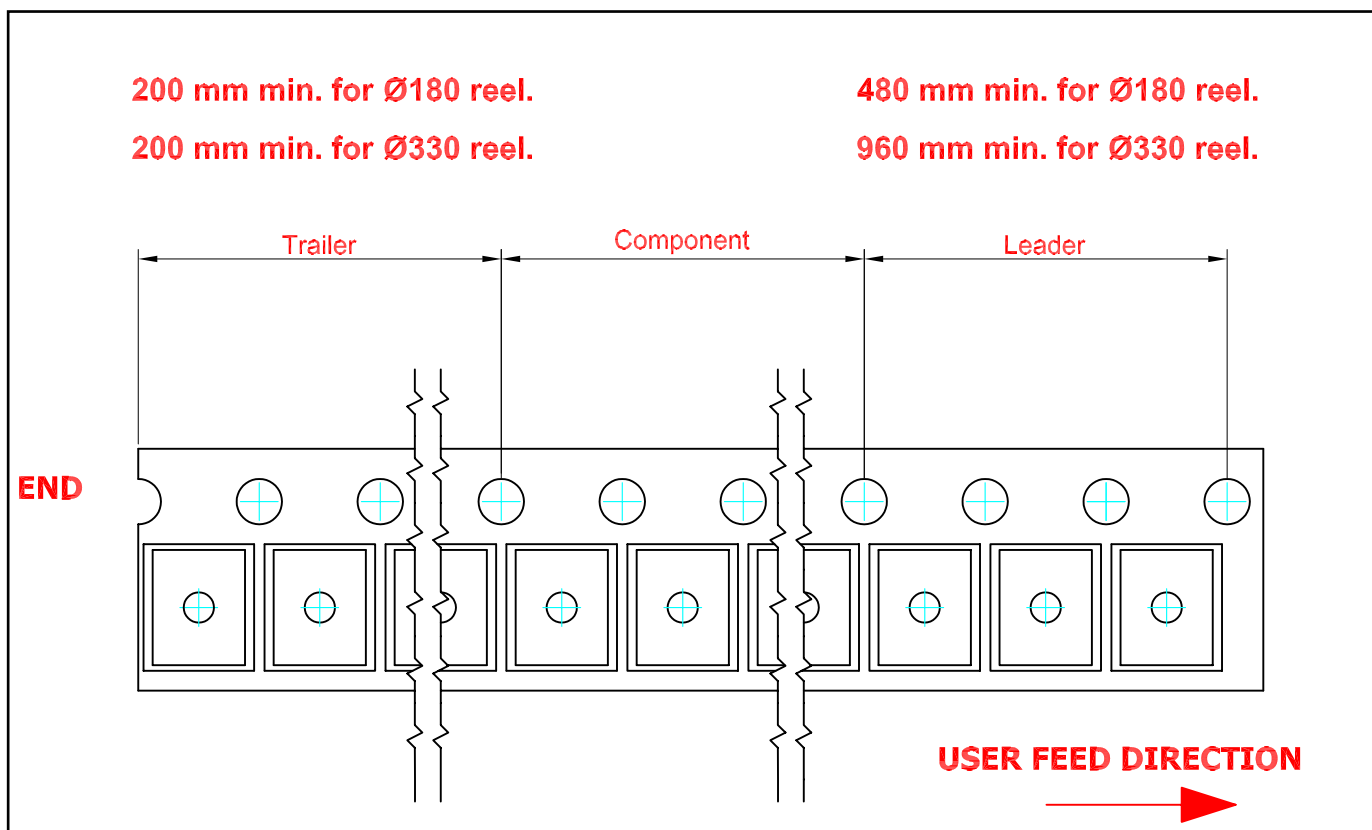
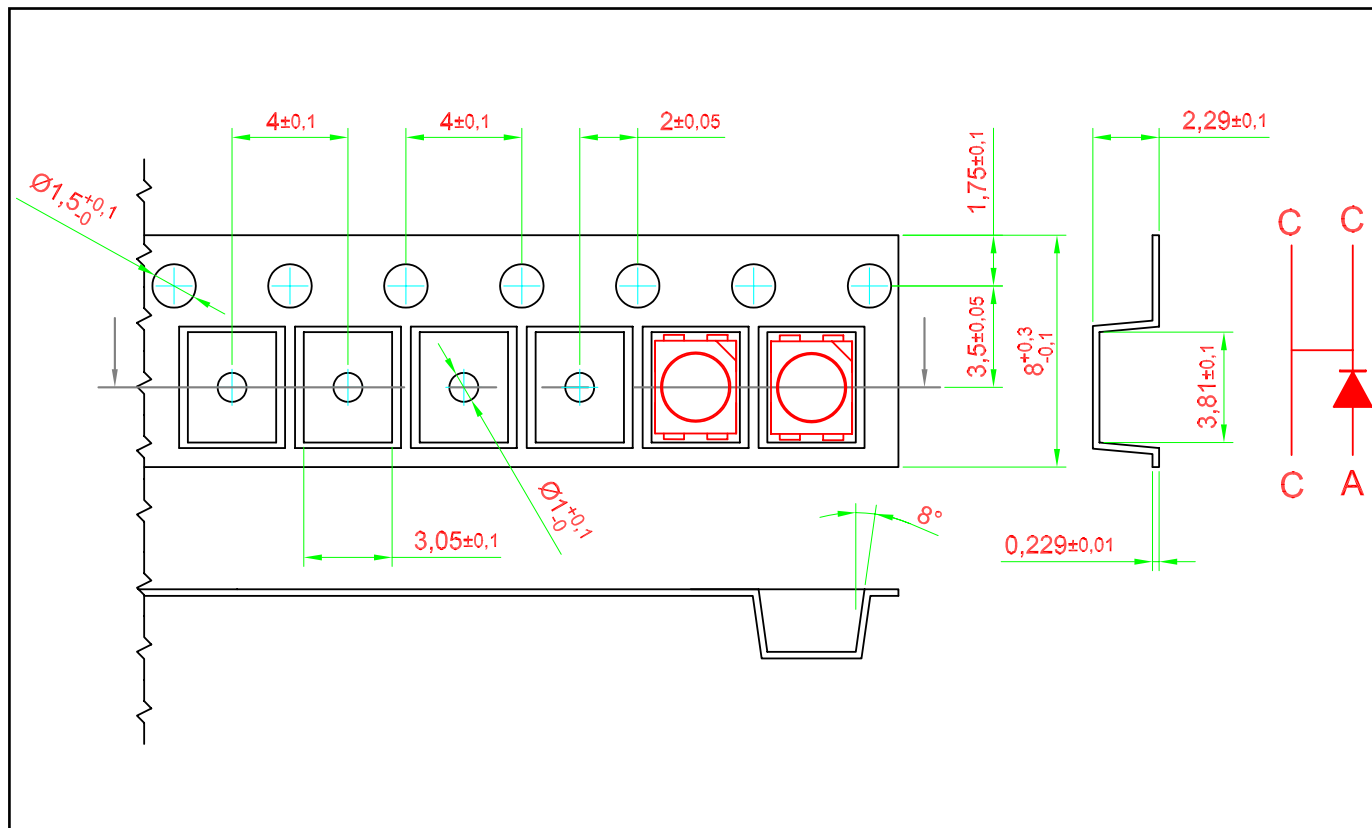


Recommended Solder Pad

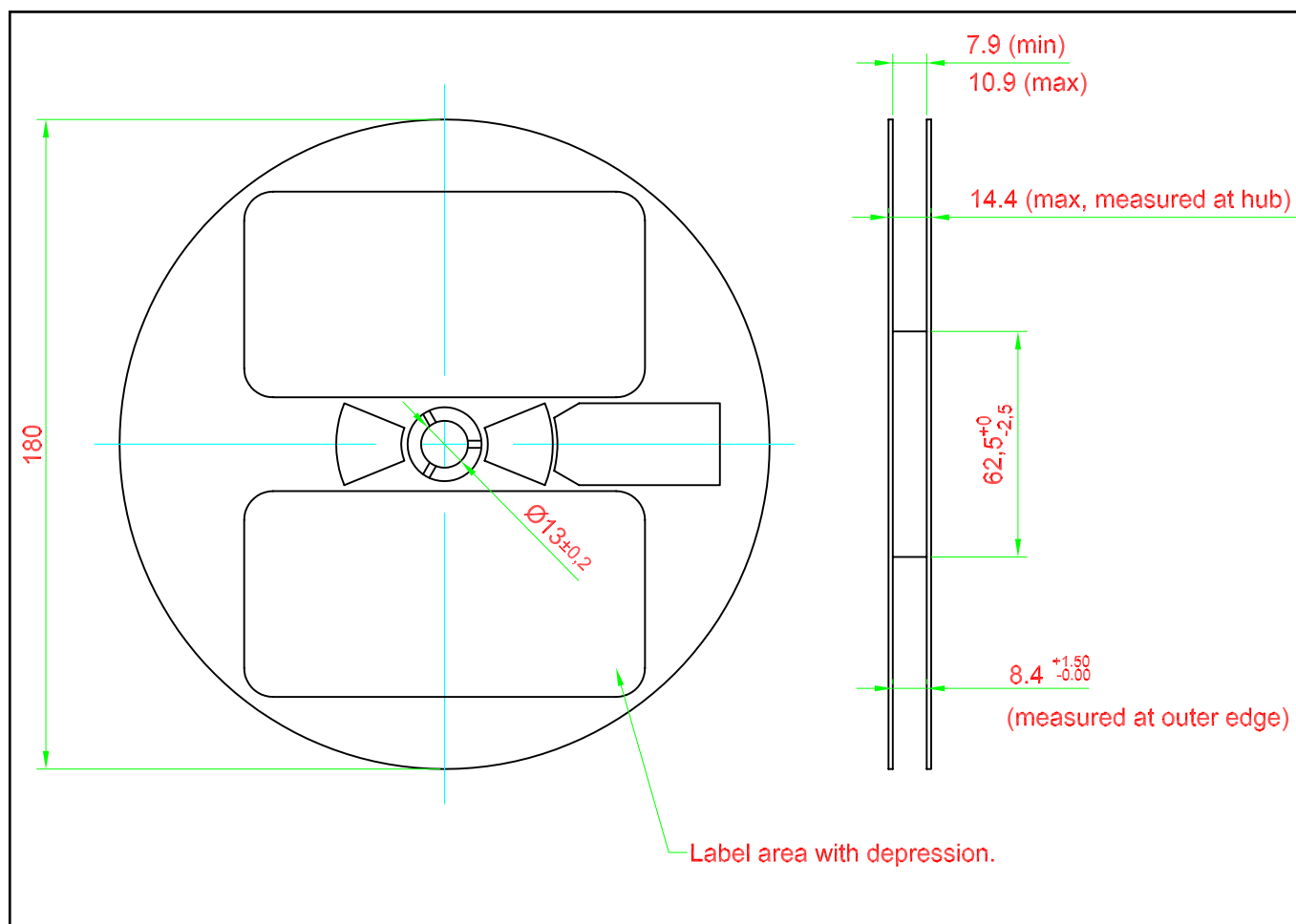


Taping and orientation

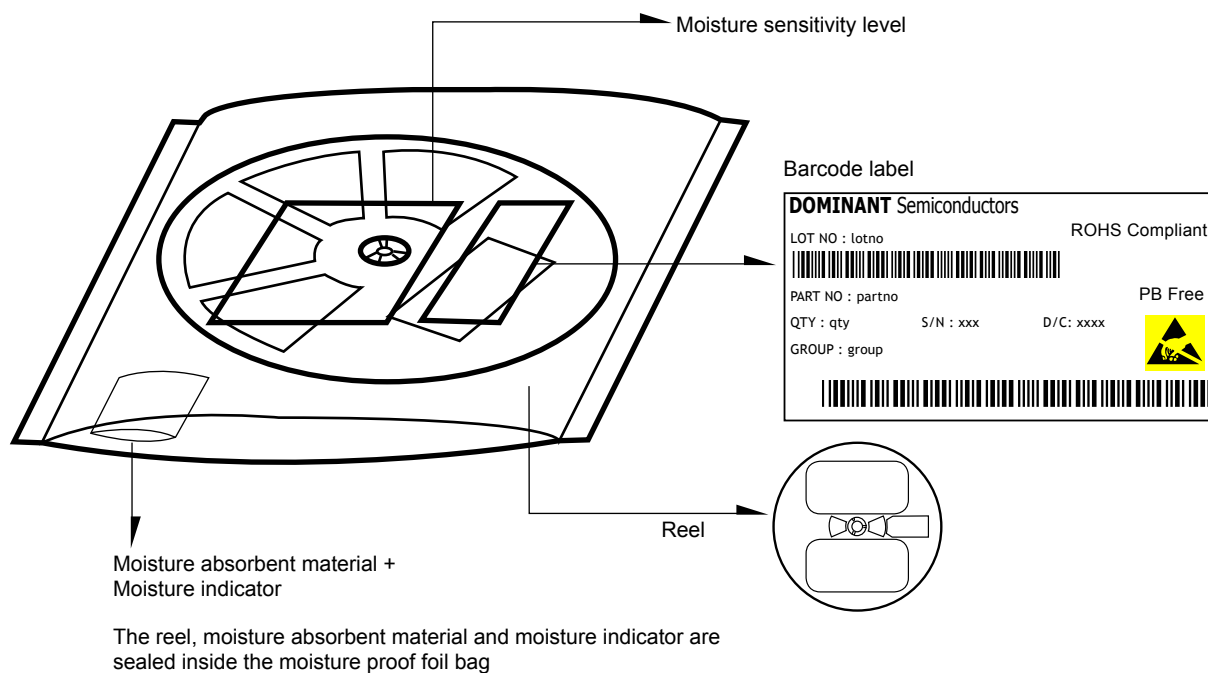
- Reels come in quantity of 2000 units.
- Reel diameter is 180 mm.



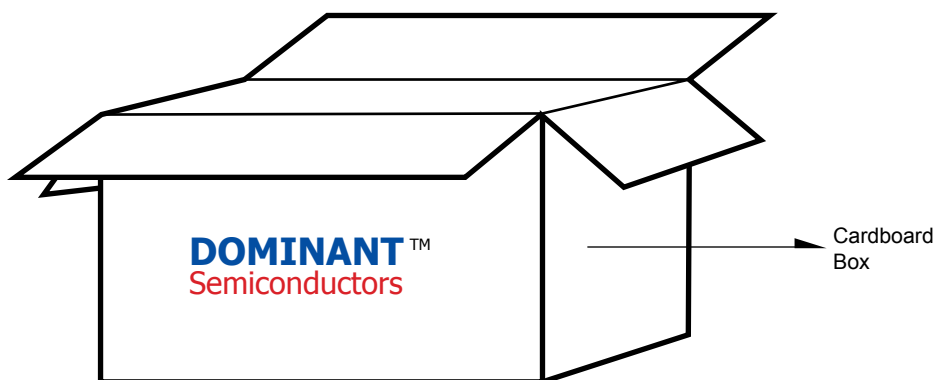
Packaging Specification



Packaging Specification



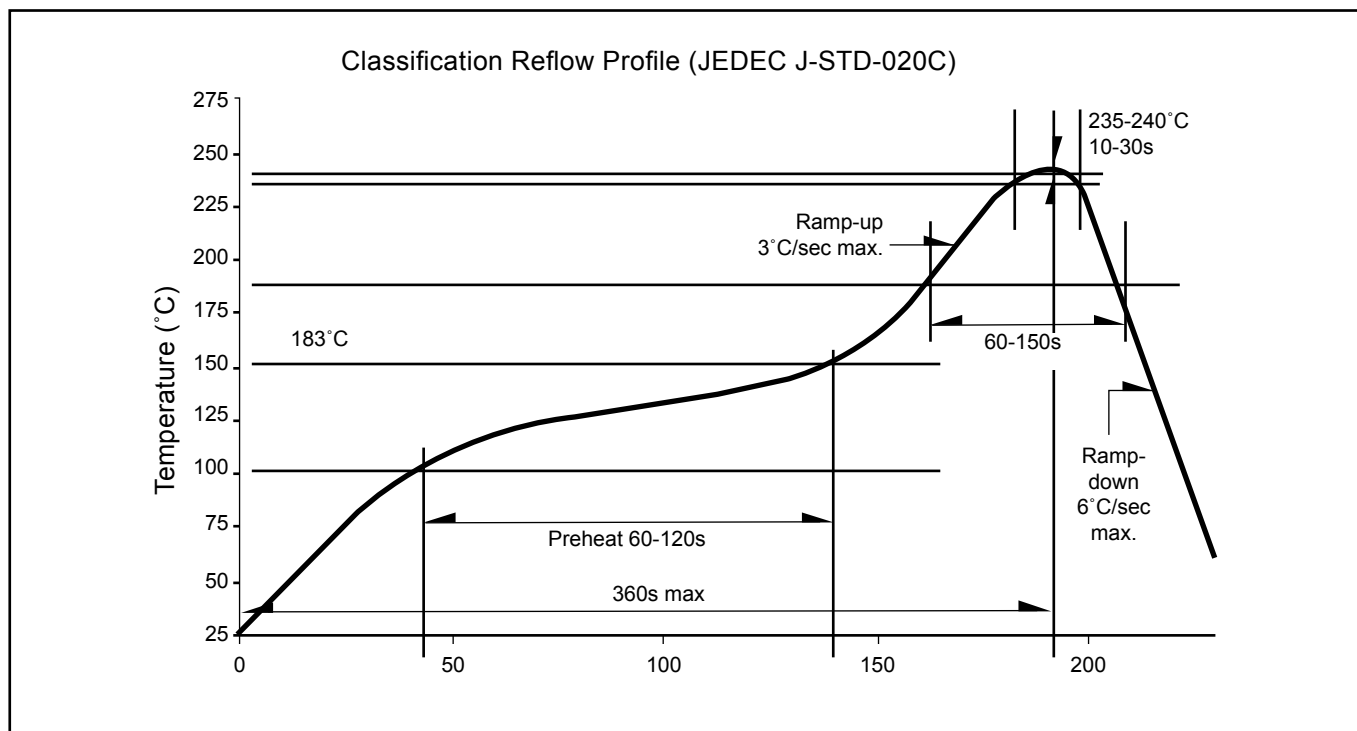
Average 1pc Power DomiLED		1 completed bag (2000pcs)
Weight (gram)	0.034	190 ± 10



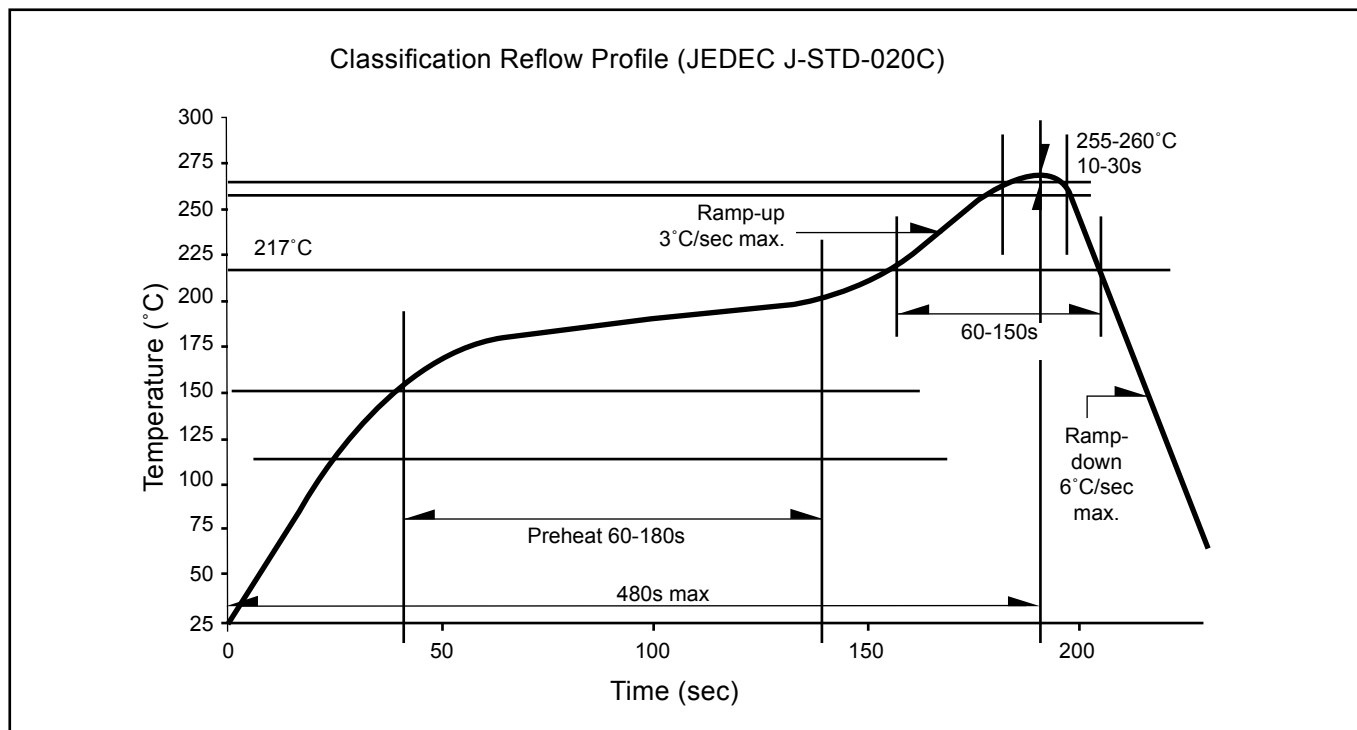
For Power DomiLED™

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	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
-	New Format	29 Sept 2005

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 China Sales Office

DOMINANT Semiconductors (Shenzhen) Co. Ltd.
24BC Newbaohui Building, No. 1007 West Nanhai Blvd., Nanshan, Shenzhen, China P.C. 518054
Tel: +86 (755) 86031785 / +86 (755) 86031786 Fax: +86 (755) 86031789
E-mail: sales_china@dominant-semi.com

DOMINANT Korea Sales Office

DOMINANT Semiconductors Korea Inc.
902 Sunil Technopia, 440 Sangdaewon-dong, Jungwon-gu, Sunghnam-si, Kyunggi-do, Korea 462726
Tel: 82-31-777-3978 Fax: 82-31-777-3976
E-mail: sales_korea@dominant-semi.com

