

Mini DomiLEDTM

Synonymous with function and performance, the Mini DomiLEDTM 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.
- > 120° viewing angle.
- > Small package outline (LxWxH) of 2.0 x 1.4 x 1.3mm.
- > 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.
- > Backlighting: button, LCD display



Optical Characteristics at Tj=25°C

Part Ordering Number	Color	Viewing Angle°	Luminous Intensity @ 20mA IV (mcd)		
			Min.	Typ.	Max.
DNH-CJS-N2Q1-1	Hyper-red, 640nm	120	35.50	56.00	90.00
DNS-CJS-PQ2-1	Super-red, 632nm	120	45.00	71.50	112.50
DNS-CJS-Q2S1-1	Super-red, 632nm	120	90.00	140.00	224.00
DNS-CJS-QR1-1	Super-red 632nm	120	71.50	105.00	140.00
DNR-CJS-RS2-1	Red, 625nm	120	112.50	180.00	285.00
DNA-CJS-RS2-1	Amber, 615nm	120	112.50	180.00	285.00
DNO-CJS-RS2-1	Orange, 605nm	120	112.50	180.00	285.00
DNY-CJS-RS2-1	Yellow, 587nm	120	112.50	180.00	285.00
DNG-CJS-PQ2-1	Green, 570nm	120	45.00	71.50	112.50
DNP-CJS-LM2-1	Pure Green, 560nm	120	11.20	18.00	28.50

NOTE

1. All part number above comes in a quantity of 3000 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.

Electrical Characteristics at Tj=25°C

Part Number	Vf @ If = 20mA			Vr @ Ir = 10uA
	Min. (V)	Typ. (V)	Max. (V)	Min. (V)
DNH-CJS, DNS-CJS, DNR-CJS, DNA-CJS, DNO-CJS, DNY-CJS, DNG-CJS, DNP-CJS	1.7	1.95	2.4	12

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

Absolute Maximum Ratings

	Maximum Value	Unit
DC forward current	30	mA
Peak pulse current; ($t_p \leq 10\mu s$, Duty cycle = 0.005)	DNH, DNS, DNR, DNA, DNO 800 DNY, DNG, DNP 200	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)	75	mW
Thermal resistance		
- Junction / ambient, $R_{th JA}$	580	K/W
- Junction / solder point, $R_{th JS}$	330	K/W
(Mounting on FR4 PCB, pad size $\geq 16 \text{ mm}^2$ per pad)		

Characteristics

	Symbol	Part Number	Value	Unit
Temperature coefficient of λ_{dom} (typ) $I_F = 20\text{mA}; 0\text{ }^\circ\text{C} \leq T \leq 100\text{ }^\circ\text{C}$	$TC_{\lambda_{dom}}$ (typ)	DNH-CJS	0.04	nm / K
		DNS-CJS	0.04	
		DNR-CJS	0.04	
		DNA-CJS	0.06	
		DNO-CJS	0.07	
		DNY-CJS	0.09	
		DNG-CJS	0.11	
		DNP-CJS	0.11	
Temperature coefficient of V_F (typ) $I_F = 20\text{mA}; 0\text{ }^\circ\text{C} \leq T \leq 100\text{ }^\circ\text{C}$	TC_V	DNH-CJS	-2.6	mV / K
		DNS-CJS	-2.7	
		DNR-CJS	-2.6	
		DNA-CJS	-2.6	
		DNO-CJS	-1.9	
		DNY-CJS	-1.9	
		DNG-CJS	-1.8	
		DNP-CJS	-1.8	
Temperature coefficient of I_V (typ) $I_F = 20\text{mA}; 0\text{ }^\circ\text{C} \leq T \leq 100\text{ }^\circ\text{C}$	TC_{I_V}	DNH-CJS	-0.45	mcd / K
		DNS-CJS	-0.73	
		DNR-CJS	-0.80	
		DNA-CJS	-0.96	
		DNO-CJS	-1.16	
		DNY-CJS	-2.00	
		DNG-CJS	-0.77	
		DNP-CJS	-0.19	

Luminous Intensity Group at $T_j=25^\circ\text{C}$

Brightness Group	Luminous Intensity IV (mcd)
L1	11.2...14.0
L2	14.0...18.0
M1	18.0...22.4
M2	22.4...28.5
N2	35.5...45.0
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

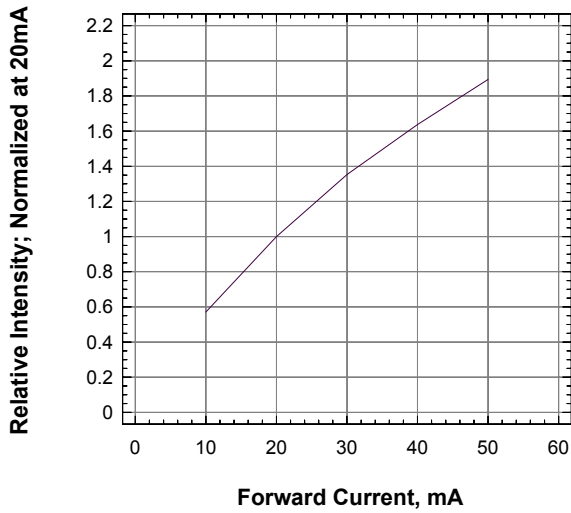
Luminous intensity is measured with an accuracy of $\pm 11\%$.

Wavelength Grouping at Tj=25°C

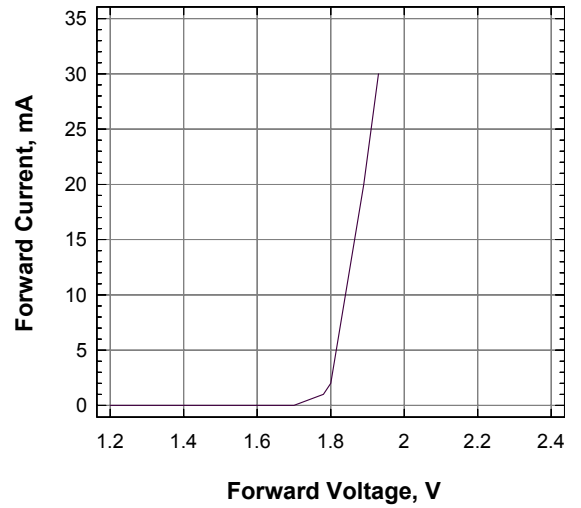
Color	Group	Wavelength distribution (nm)
DNH; Hyper-red	Full	636 - 646
DNS; Super-red	Full	625 - 640
DNR; Red	Full	620 - 630
DNA; Amber	Full	610 - 621
	W	610 - 615
	X	615 - 621
DNO; Orange	Full	600 - 612
	W	600 - 603
	X	603 - 606
	Y	606 - 609
	Z	609 - 612
DNY; Yellow	Full	582 - 594
	W	582 - 585
	X	585 - 588
	Y	588 - 591
	Z	591 - 594
DNG; Green	Full	564.5 - 576.5
	W	564.5 - 567.5
	X	567.5 - 570.5
	Y	570.5 - 573.5
	Z	573.5 - 576.5
DNP; 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.

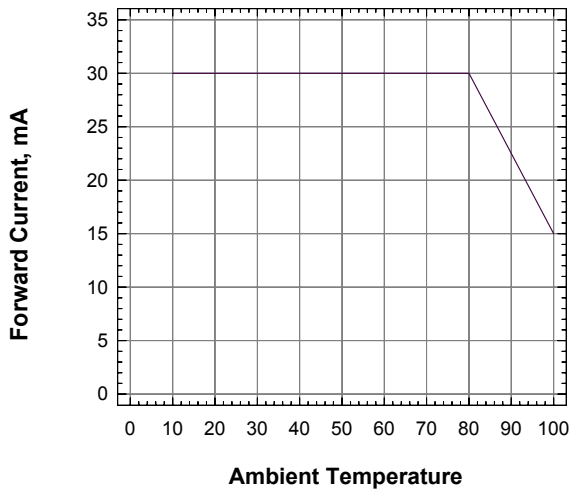
Relative Luminous Intensity Vs Forward Current



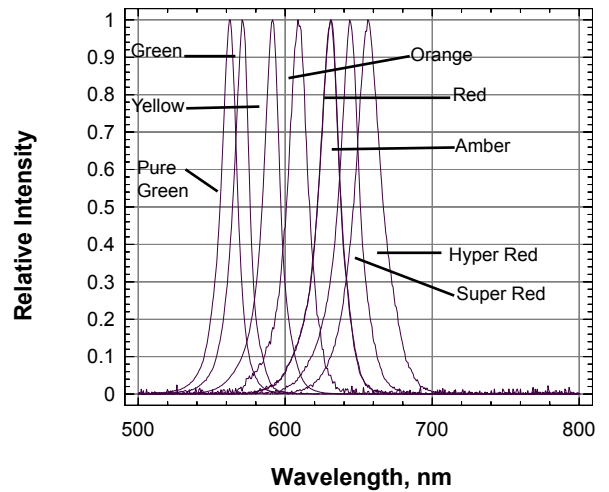
Forward Current Vs Forward Voltage



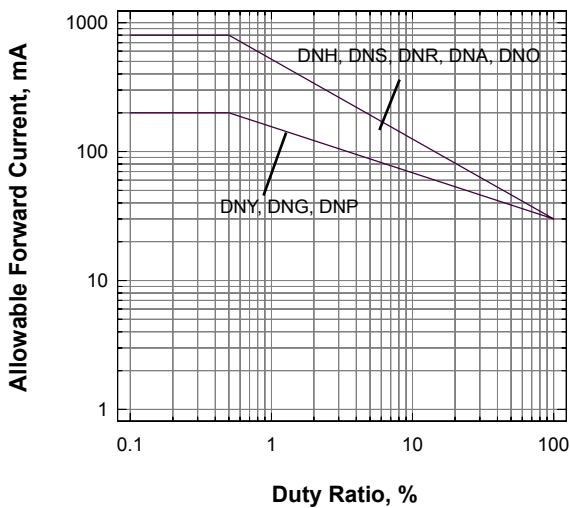
Maximum Current Vs Temperature



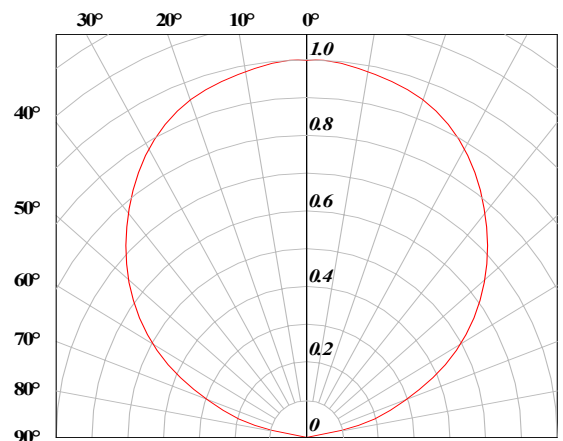
Relative Intensity Vs Wavelength



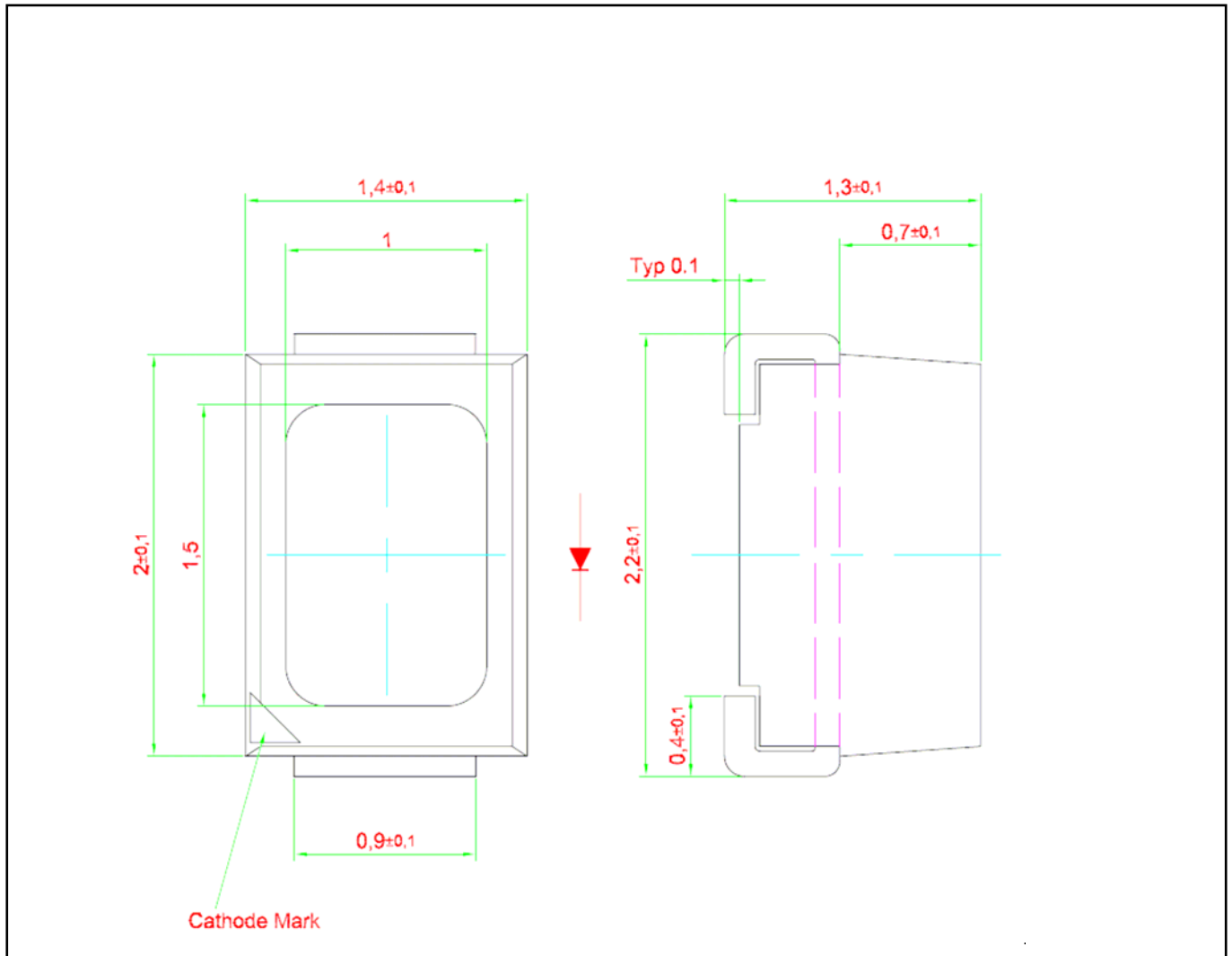
Allowable Forward Current Vs Duty Ratio (Ta=25 Deg C, tp<10us)



Radiation Pattern



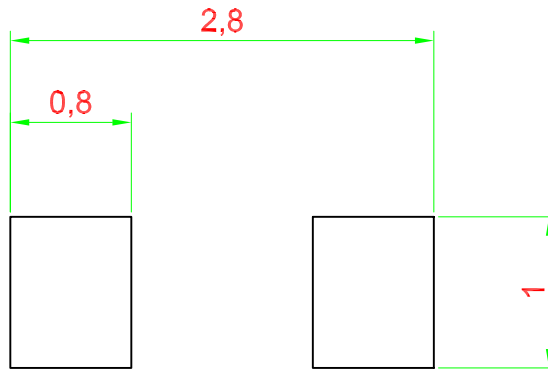
Mini DomiLED™ • AllnGap : DNx-CJS Package Outlines



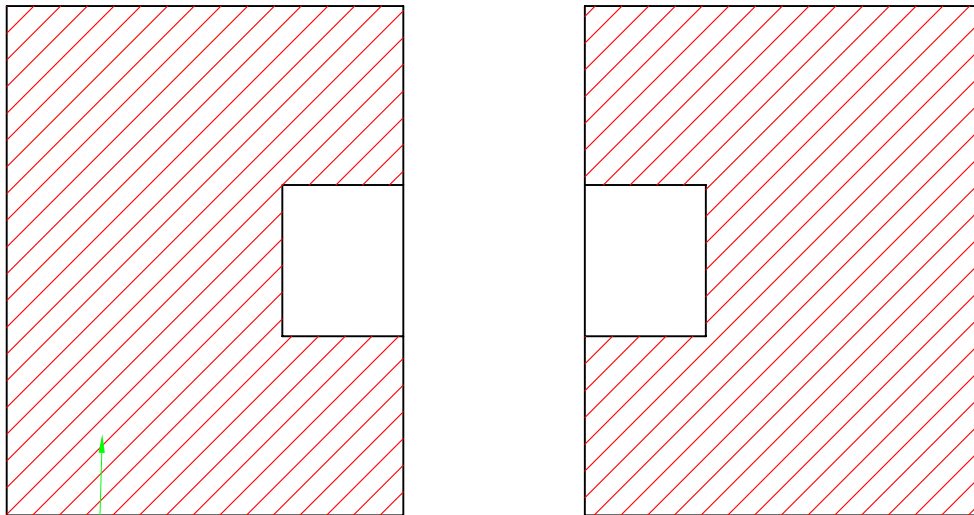
Material

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

Recommended Solder Pad



Improved Design For Better Heat Dissipation

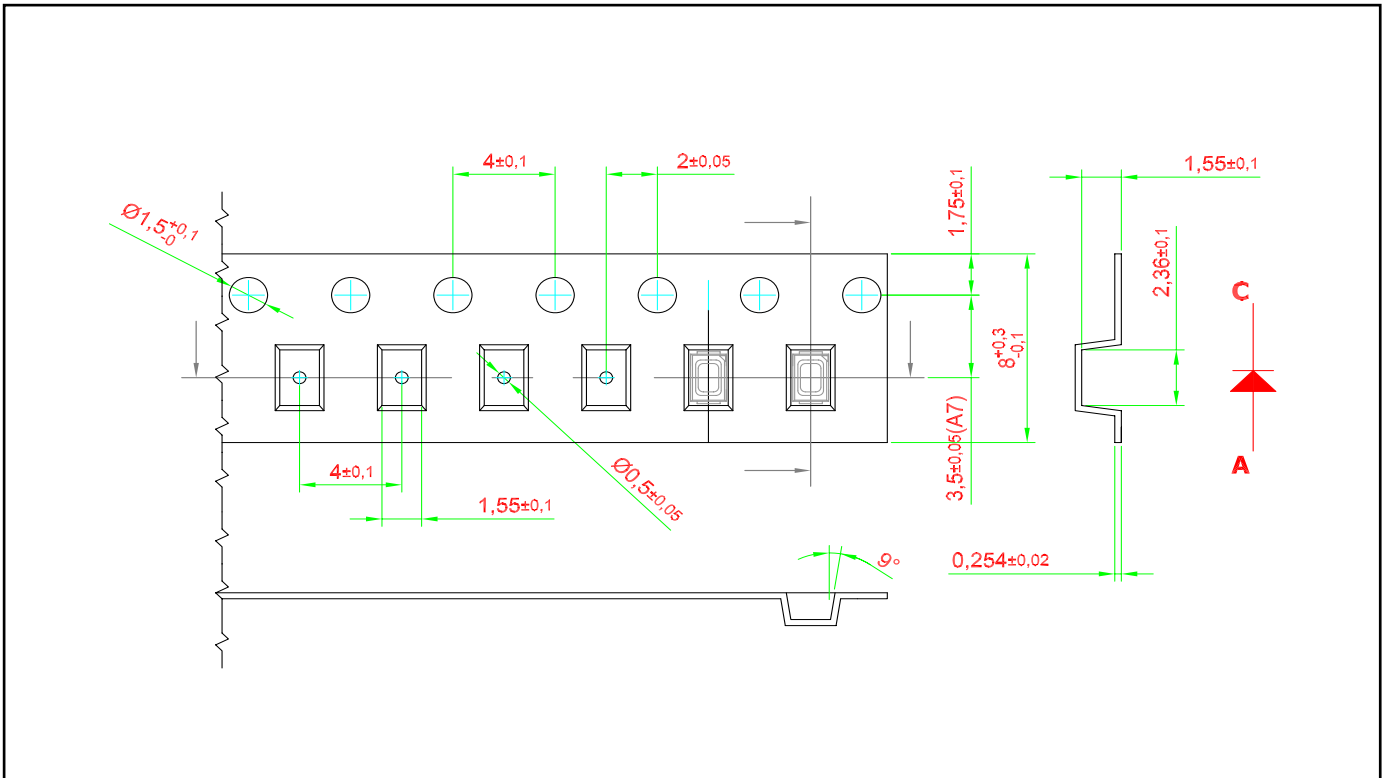


Additional Cu area for improved heat dissipation, > 16mm sq.

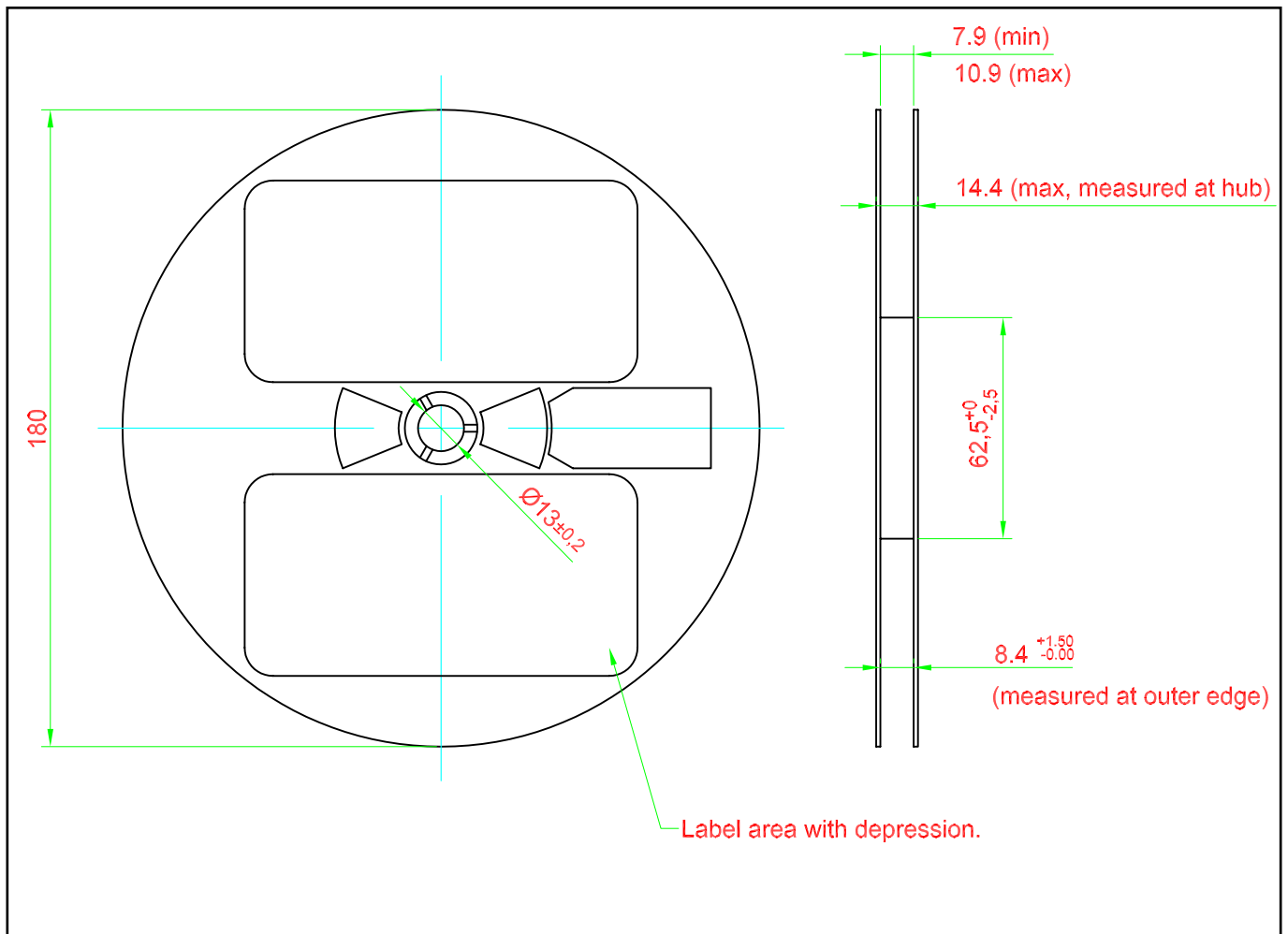
 Solder resist.

Taping and orientation

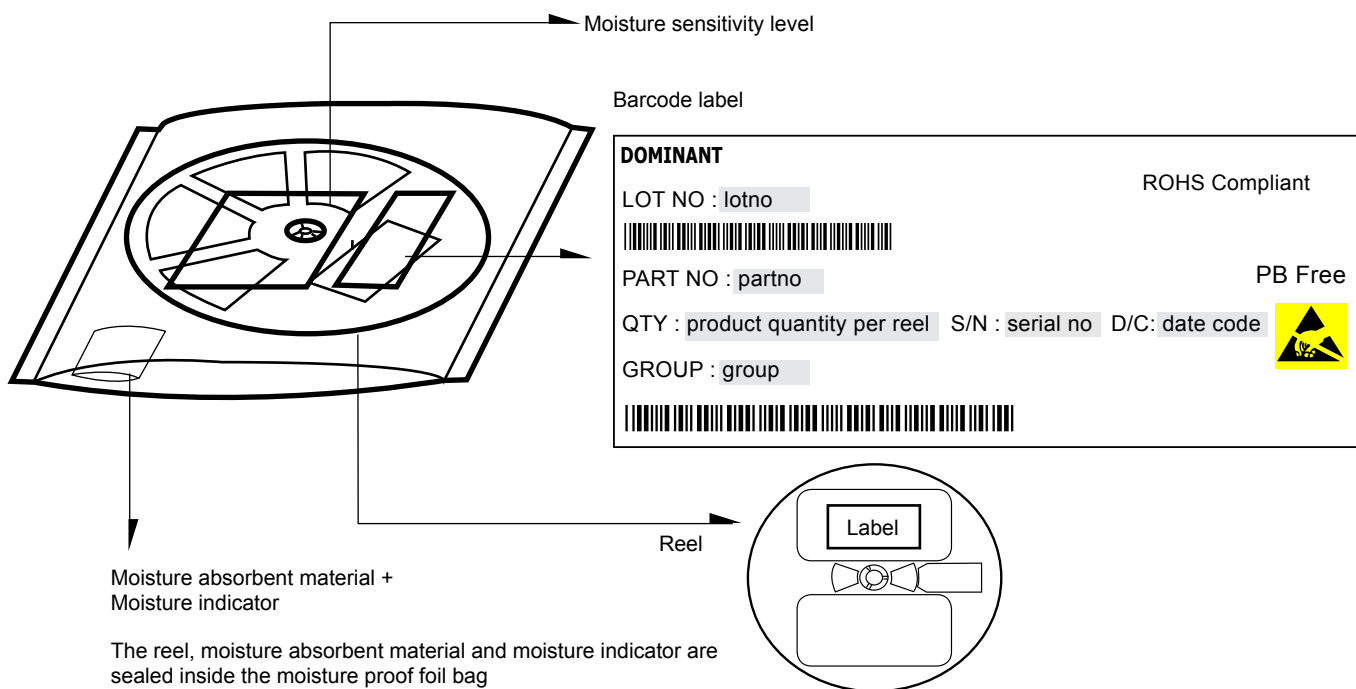
- Reels come in quantity of 3000 units.
- Reel diameter is 180 mm.



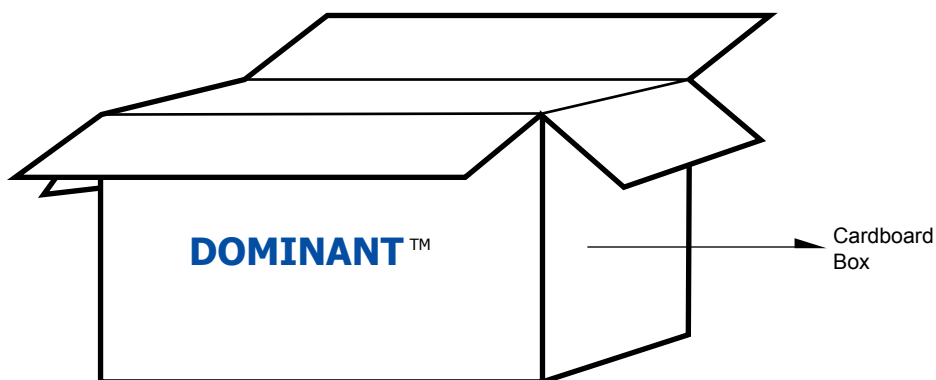
Packaging Specification



Packaging Specification



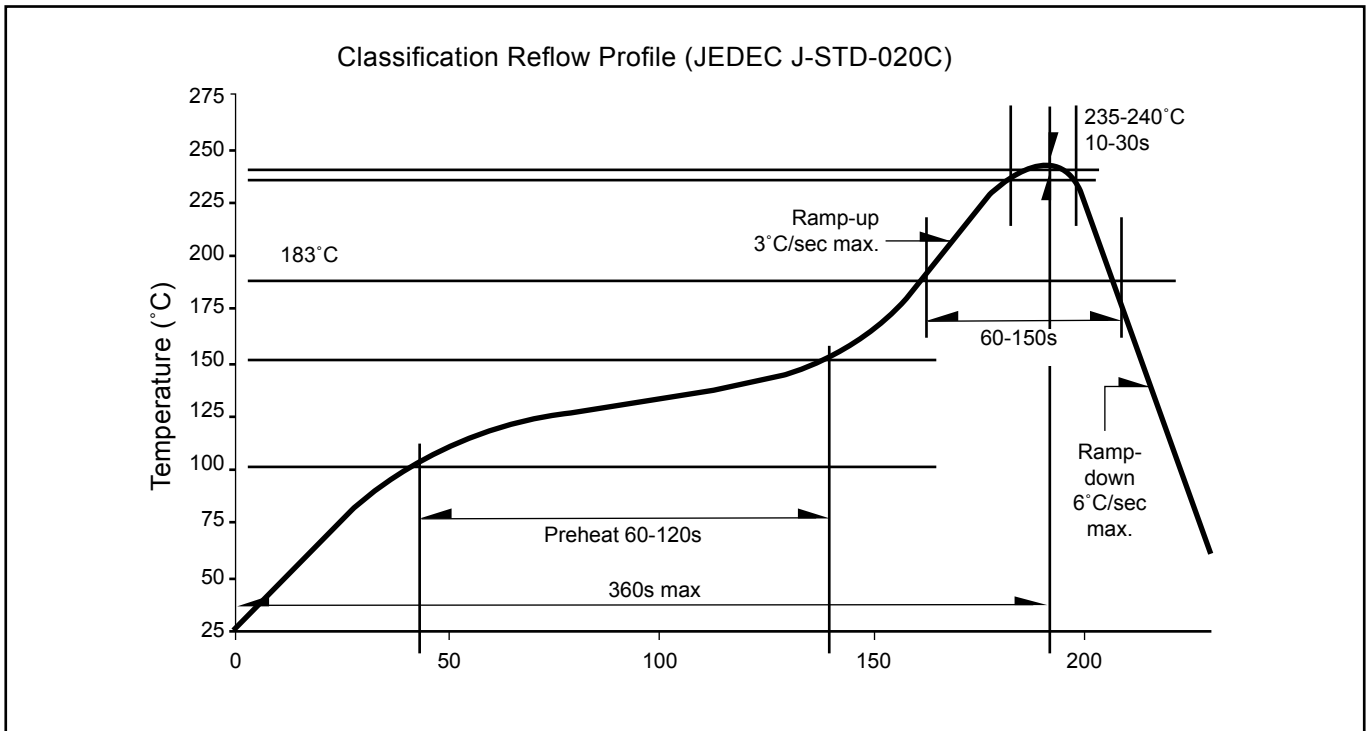
	Average 1pc Mini DomiLED	1 completed bag (3000pcs)
Weight (gram)	0.007	140 ± 10



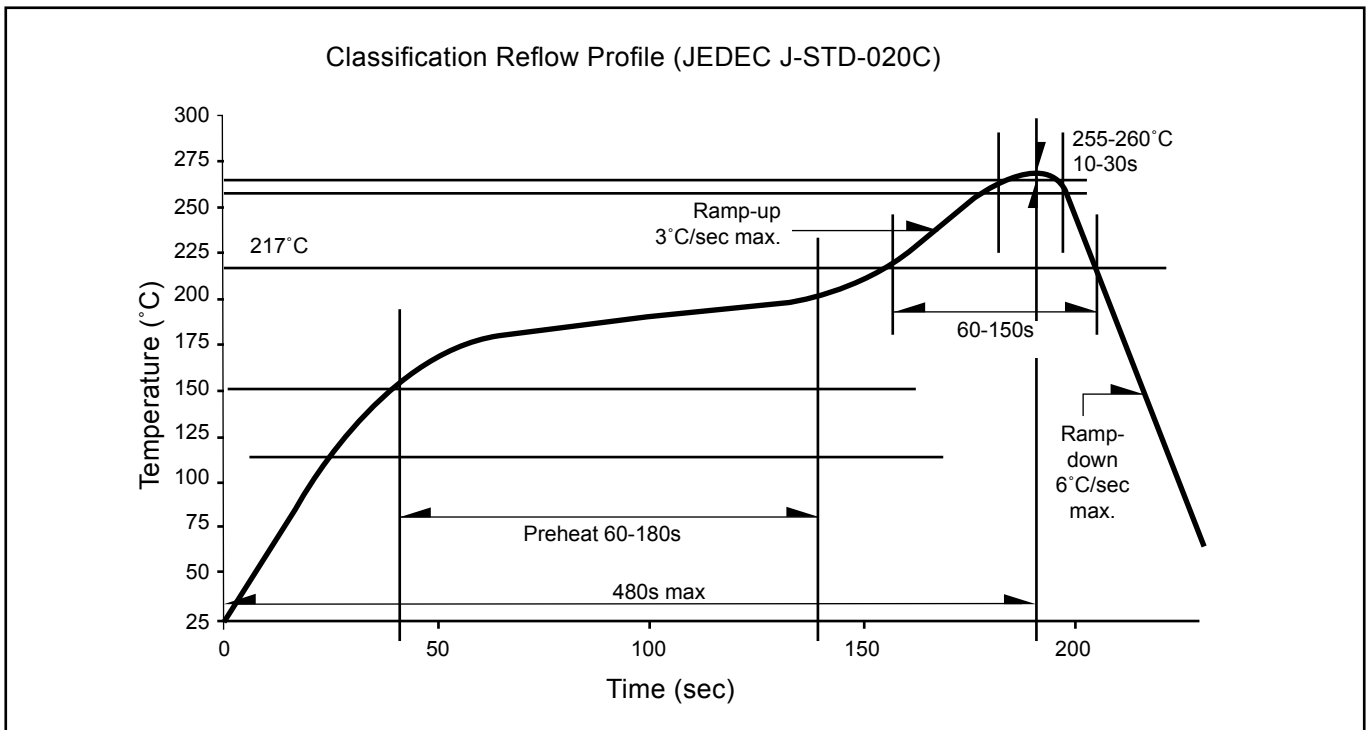
For Mini DomiLED™

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	45,000 MAX
Large	416 x 516 x 476	1.74	96 reels MAX	288,000 MAX

Recommended Sn-Pb IR-Reflow Soldering Profile



Recommended Pb-free Soldering Profile



Revision History

Page	Subjects	Date of Modification
-	Initial Release	04 Feb 2008
2	Add new partno: DNS-CJS-Q2S1-1	01 Apr 2009
9	Update carrier tape drawing	10 Aug 2010
2	Add new partno: DNS-CJS-QR1-1	11 Feb 2011

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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