

### 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.
- > 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.
- > 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.).



Part Ordering Number	Chip Technology / Color	Viewing Angle°	Luminous Intensity @ IF = 20mA IV (mcd)
<b>DDH-CJS-PQ2-1</b>	<b>AllnGaP</b>	<b>120</b>	<b>45.0 - 112.5</b>
• DDH-CJS-P1	Hyper-red, 640nm		45.0 - 56.0
• DDH-CJS-P2			56.0 - 71.5
• DDH-CJS-Q1			71.5 - 90.0
• DDH-CJS-Q2			90.0 - 112.5
<b>DDS-CJS-QR2-1</b>	<b>AllnGap</b>	<b>120</b>	<b>71.5 - 180.0</b>
• DDS-CJS-Q1	Super-red, 632nm		71.5 - 90.0
• DDS-CJS-Q2			90.0 - 112.5
• DDS-CJS-R1			112.5 - 140.0
• DDS-CJS-R2			140.0 - 180.0
<b>DDS-SJS-QR2-1</b>			<b>71.5 - 180.0</b>
• DDS-SJS-Q1			71.5 - 90.0
• DDS-SJS-Q2			90.0 - 112.5
• DDS-SJS-R1			112.5 - 140.0
• DDS-SJS-R2			140.0 - 180.0
<b>DDR-CJS-RS2-1</b>	<b>AllnGap</b>	<b>120</b>	<b>112.5 - 285.0</b>
• DDR-CJS-R1	Red, 625nm		112.5 - 140.0
• DDR-CJS-R2			140.0 - 180.0
• DDR-CJS-S1			180.0 - 224.0
• DDR-CJS-S2			224.0 - 285.0
<b>DDR-SJS-RS2-1</b>			<b>112.5 - 285.0</b>
• DDR-SJS-R1			112.5 - 140.0
• DDR-SJS-R2			140.0 - 180.0
• DDR-SJS-S1			180.0 - 224.0
• DDR-SJS-S2			224.0 - 285.0
<b>DDR-TJS-TU2-1</b>	<b>TS AllnGap</b>	<b>120</b>	<b>285.0 - 715.0</b>
• DDR-TJS-T1	Red, 625nm		285.0 - 335.0
• DDR-TJS-T2			335.0 - 450.0
• DDR-TJS-U1			450.0 - 560.0
• DDR-TJS-U2			560.0 - 715.0
<b>DDA-CJS-RS2-1</b>	<b>AllnGap</b>	<b>120</b>	<b>112.5 - 285.0</b>
• DDA-CJS-R1	Amber, 615nm		112.5 - 140.0
• DDA-CJS-R2			140.0 - 180.0
• DDA-CJS-S1			180.0 - 224.0
• DDA-CJS-S2			224.0 - 285.0
<b>DDA-SJS-ST2-1</b>			<b>180.0 - 450.0</b>
• DDA-SJS-S1			180.0 - 224.0
• DDA-SJS-S2			224.0 - 285.0
• DDA-SJS-T1			285.0 - 355.0
• DDA-SJS-T2			355.0 - 450.0

Part Ordering Number	Chip Technology / Color	Viewing Angle°	Luminous Intensity @ IF = 20mA IV (mcd)
<b>DDO-CJS-RS2-1</b>	<b>AllnGap</b>	<b>120</b>	<b>112.5 - 285.0</b>
• DDO-CJS-R1	Orange, 605nm		112.5 - 140.0
• DDO-CJS-R2			140.0 - 180.0
• DDO-CJS-S1			180.0 - 224.0
• DDO-CJS-S2			224.0 - 285.0
<b>DDO-SJS-ST2-1</b>			<b>180.0 - 450.0</b>
• DD0-SJS-S1			180.0 - 224.0
• DD0-SJS-S2			224.0 - 285.0
• DD0-SJS-T1			285.0 - 355.0
• DD0-SJS-T2			355.0 - 450.0
<b>DDY-CJS-RS2-1</b>	<b>AllnGap</b>	<b>120</b>	<b>112.5 - 285.0</b>
• DDY-CJS-R1	Yellow, 587nm		112.5 - 140.0
• DDY-CJS-R2			140.0 - 180.0
• DDY-CJS-S1			180.0 - 224.0
• DDY-CJS-S2			224.0 - 285.0
<b>DDY-SJS-ST2-1</b>			<b>180.0 - 450.0</b>
• DDY-SJS-S1			180.0 - 224.0
• DDY-SJS-S2			224.0 - 285.0
• DDY-SJS-T1			285.0 - 355.0
• DDY-SJS-T2			355.0 - 450.0
<b>DDY-TJS-TU2-1</b>	<b>TS AllnGaP</b>	<b>120</b>	<b>285.0 - 715.0</b>
• DDY-TJS-T1	Yellow, 590nm		285.0 - 355.0
• DDY-TJS-T2			355.0 - 450.0
• DDY-TJS-U1			450.0 - 560.0
• DDY-TJS-U2			560.0 - 715.0
<b>DDG-CJS-PQ2-1</b>	<b>AllnGap</b>	<b>120</b>	<b>45.0 - 112.5</b>
• DDG-CJS-P1	Green, 572nm		45.0 - 56.0
• DDG-CJS-P2			56.0 - 71.5
• DDG-CJS-Q1			71.5 - 90.0
• DDG-CJS-Q2			90.0 - 112.5
<b>DDG-SJS-QR2-1</b>			<b>71.5 - 180.0</b>
• DDG-SJS-Q1			71.5 - 90.0
• DDG-SJS-Q2			90.0 - 112.5
• DDG-SJS-R1			112.5 - 140.0
• DDG-SJS-R2			140.0 - 180.0
<b>DDP-SJS-LM2-1</b>	<b>AllnGap</b>	<b>120</b>	<b>11.2 - 28.5</b>
• DDP-SJS-L1	Pure Green, 560nm		11.2 - 14.0
• DDP-SJS-L2			14.0 - 18.0
• DDP-SJS-M1			18.0 - 22.4
• DDP-SJS-M2			22.4 - 28.5

Part Ordering Number	Chip Technology / Color	Viewing Angle°	Luminous Intensity @ IF = 20mA IV (mcd)
<b>DDP-SJS-MN2-1</b>	<b>AllnGap</b>	<b>120</b>	<b>18.0 - 45.0</b>
• DDP-SJS-M1	Pure Green, 560nm		18.0 - 22.4
• DDP-SJS-M2			22.4 - 28.5
• DDP-SJS-N1			28.5 - 35.5
• DDP-SJS-N2			35.5 - 45.0

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.

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## Wavelength Grouping

Color	Group	Wavelength distribution (nm)
DDH; Hyper-red	Full	636 - 646
DDS; Super-red	Full	625 - 640
DDR-CJ, -SJ; Red (AS)	Full	620 - 630
DDR-TJ; Red (TS)	Full	620 - 635
DDA; Amber	Full	610 - 621
	W	610 - 615
	X	615 - 621
DDO; Orange	Full	600 - 612
	W	600 - 603
	X	603 - 606
	Y	606 - 609
	Z	609 - 612
DDY; Yellow	Full	582 - 594
	W	582 - 585
	X	585 - 588
	Y	588 - 591
	Z	591 - 594
DDG; 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
DDP; 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  $\pm 1$  nm.

## Electrical Characteristics at Ta=25°C

Part Number	Vf @ If = 20mA		Vr @ Ir = 10uA
	Typ. (V)	Max. (V)	Min. (V)
DDH-CJS, DDS-CJS, DDR-CJS, DDA-CJS, DDO-CJS, DDY-CJS, DDG-CJS	1.9	2.3	12
DDS-SJS, DDR-SJS, DDA-SJS, DDO-SJS, DDY-SJS, DDG-SJS, DDP-SJS	1.8	2.3	12
DDR-TJS, DDY-TJS	2.1	2.6	12

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

## Vf Binning (Optional)

Vf Bin @ 20mA	Forward Voltage (V)
01	1.55 ... 1.85
02	1.85 ... 2.15
03	2.15 ... 2.45
04	2.45 ... 2.75

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

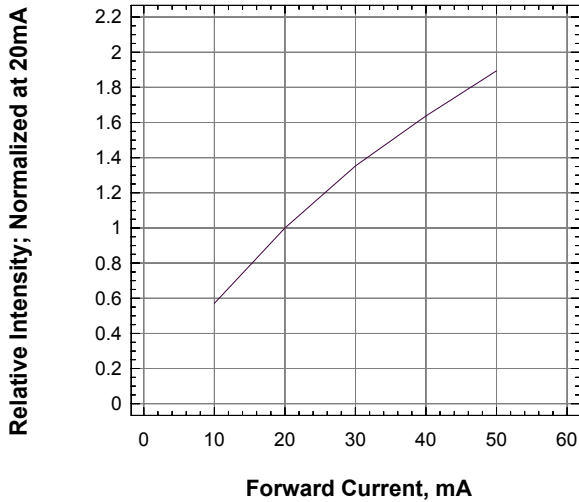
## Absolute Maximum Ratings

	Maximum Value	Unit
DC forward current	30	mA
Peak pulse current; (tp ≤ 10μs, Duty cycle = 0.005)	DDx-SJS/DDx-TJS : DDx-CJS :	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 <sub>th JA</sub>	500	K/W
- Junction / solder point, R <sub>th JS</sub>	280	K/W
(Mounting on FR4 PCB, pad size ≥ 16 mm <sup>2</sup> per pad)		

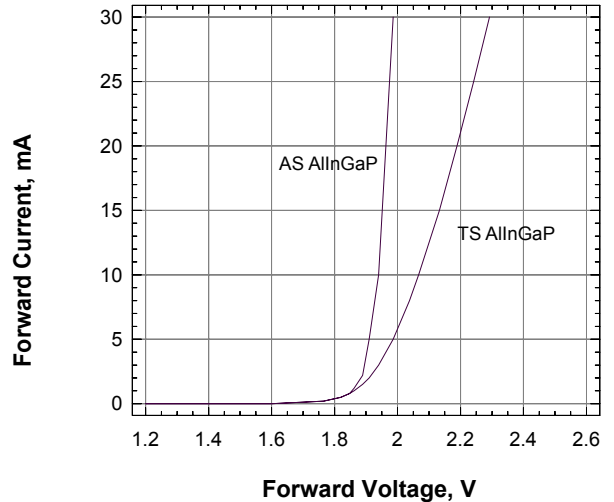
**Characteristics (Ta = 25 °C)**

	Symbol	Part Number	Value	Unit
Temperature coefficient of $\lambda_{dom}$ (typ) $I_F = 20\text{mA}; 0\text{ }^\circ\text{C} \leq T \leq 100\text{ }^\circ\text{C}$	$TC_{\lambda_{dom}}$ (typ)	DDR-CJS, DDR-SJS	0.03	nm / K
		DDS-CJS, DDS-SJS	0.01	
		DDO-CJS, DDO-SJS	0.04	
		DDY-CJS, DDY-SJS	0.09	
		DDA-CJS, DDA-SJS	0.05	
		DDG-CJS, DDG-SJS	0.10	
		DDH-CJS	0.01	
		DDR-TJS	0.02	
		DDY-TJS	0.09	
		DDP-SJS	0.10	
Temperature coefficient of $V_F$ (typ) $I_F = 20\text{mA}; 0\text{ }^\circ\text{C} \leq T \leq 100\text{ }^\circ\text{C}$	$TC_V$	DDR-CJS, DDR-SJS	-4.3	mV / K
		DDS-CJS, DDS-SJS	-2.3	
		DDO-CJS, DDO-SJS	-1.6	
		DDY-CJS, DDY-SJS	-3.3	
		DDA-CJS, DDA-SJS	-3.2	
		DDG-CJS, DDG-SJS	-0.2	
		DDH-CJS	-1.6	
		DDR-TJS	-2.0	
		DDY-TJS	-1.6	
		DDP-SJS	-0.2	
Temperature coefficient of $I_V$ (typ) $I_F = 20\text{mA}; 0\text{ }^\circ\text{C} \leq T \leq 100\text{ }^\circ\text{C}$	$TC_{I_V}$	DDR-CJS, DDR-SJS	-0.7	mcd / K
		DDS-CJS, DDS-SJS	-0.4	
		DDO-CJS, DDO-SJS	-1.5	
		DDY-CJS, DDY-SJS	-2.3	
		DDA-CJS, DDA-SJS	-1.1	
		DDG-CJS, DDG-SJS	-0.8	
		DDH-CJS	-0.3	
		DDR-TJS	-1.8	
		DDY-TJS	-5.1	
		DDP-SJS	-0.4	

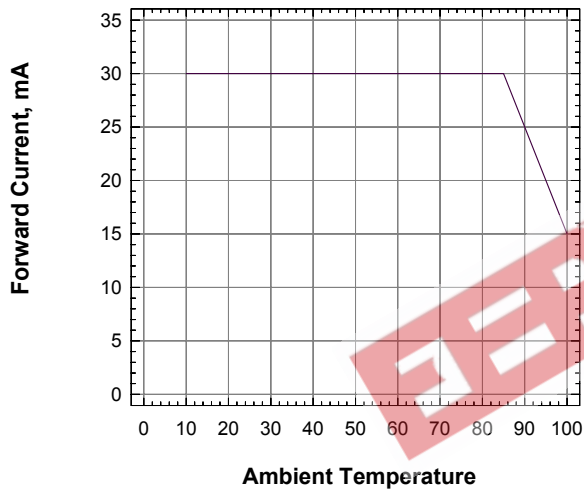
**Relative Luminous Intensity Vs Forward Current**



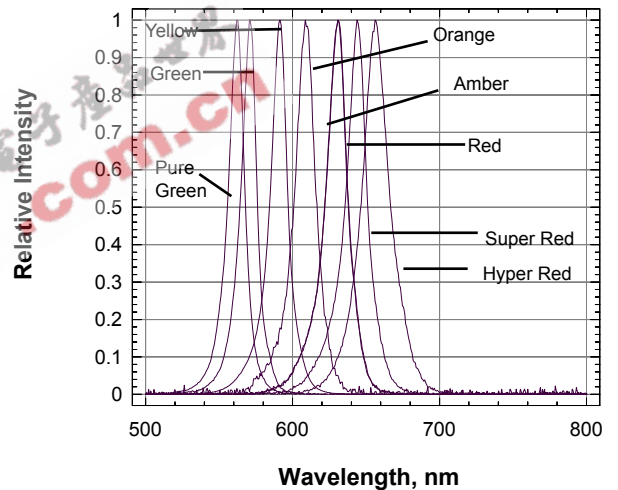
**Forward Current Vs Forward Voltage**



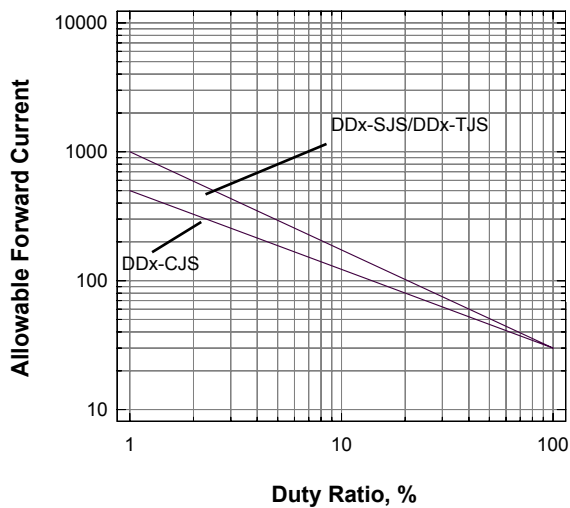
**Maximum Current Vs Temperature**



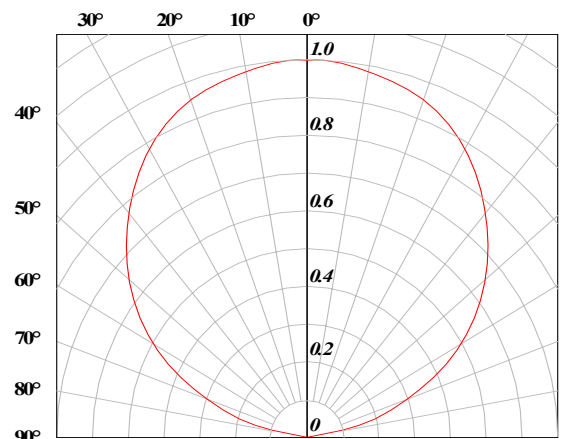
**Relative Intensity Vs Wavelength**



**Allowable Forward Current Vs Duty Ratio (Ta= 25 Deg C)**

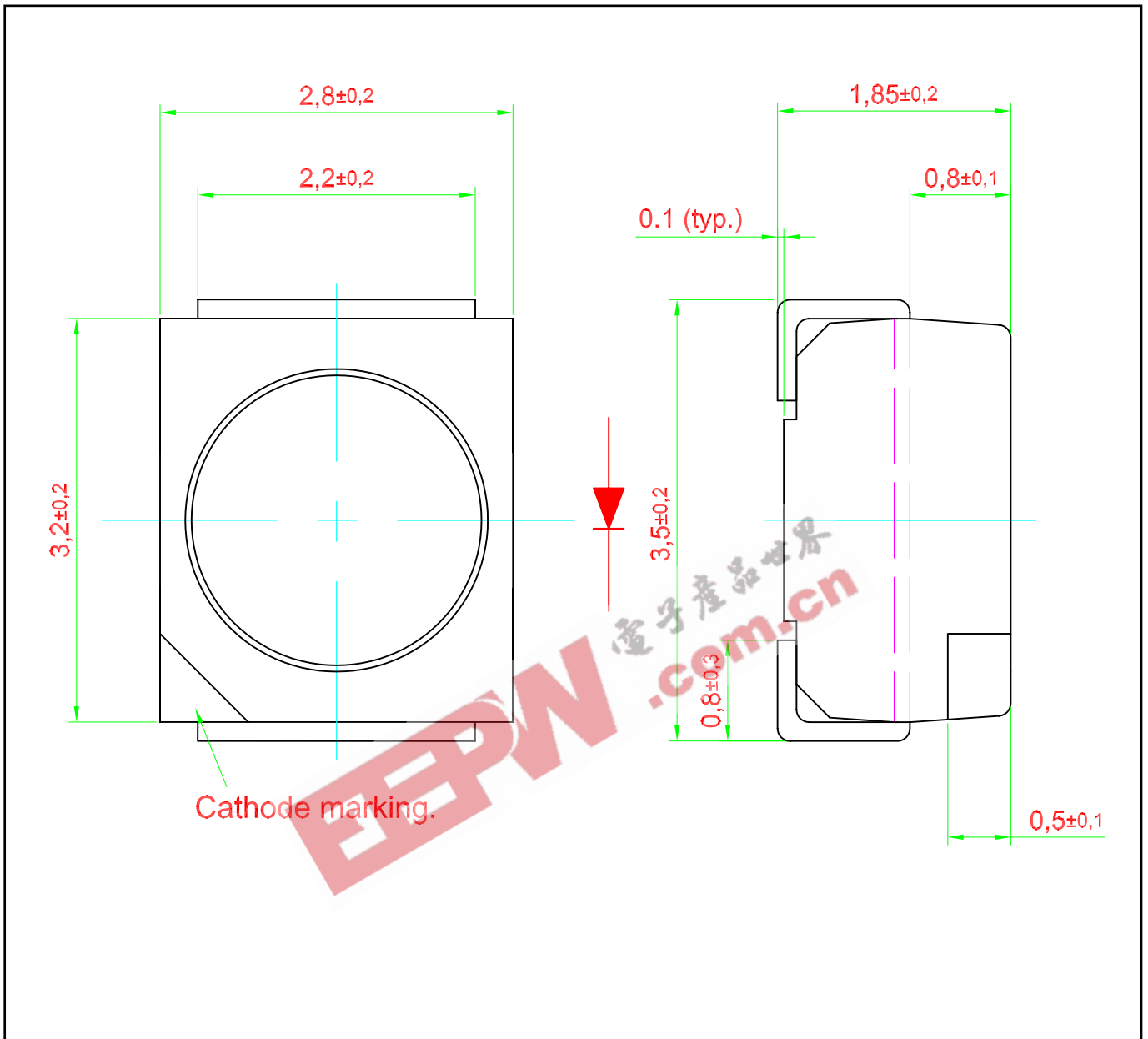


**Radiation Pattern**

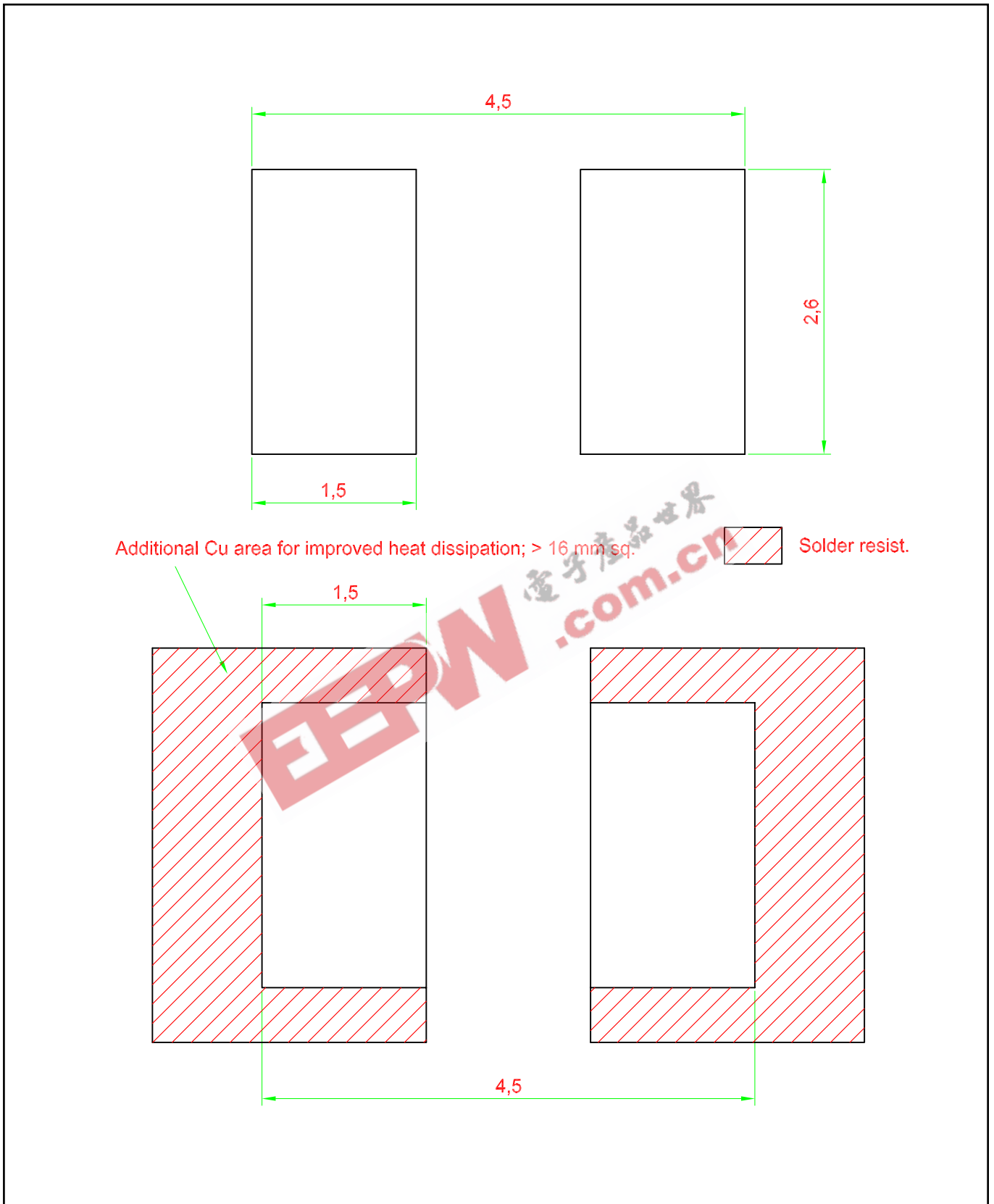




**DomiLED™ • AllnGap : DDx-xJS Package Outlines**

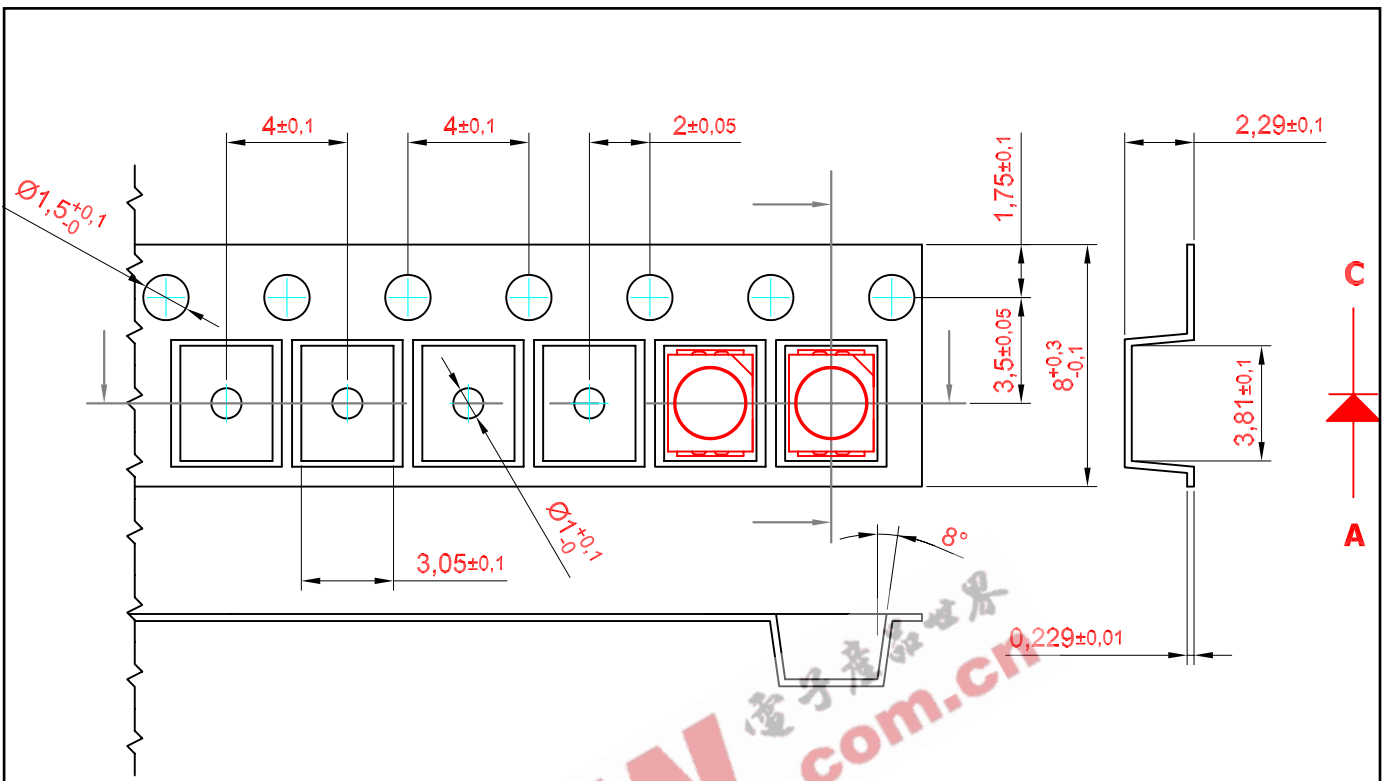


### Recommended Solder Pad



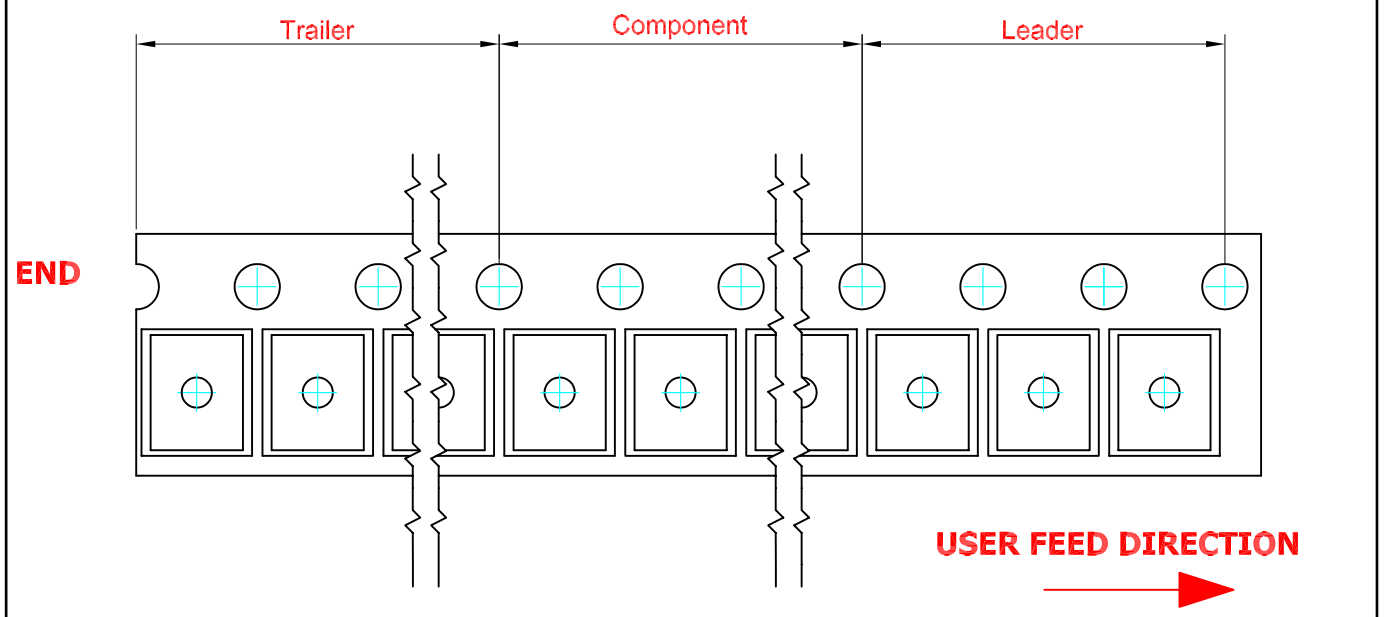
**Taping and orientation**

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

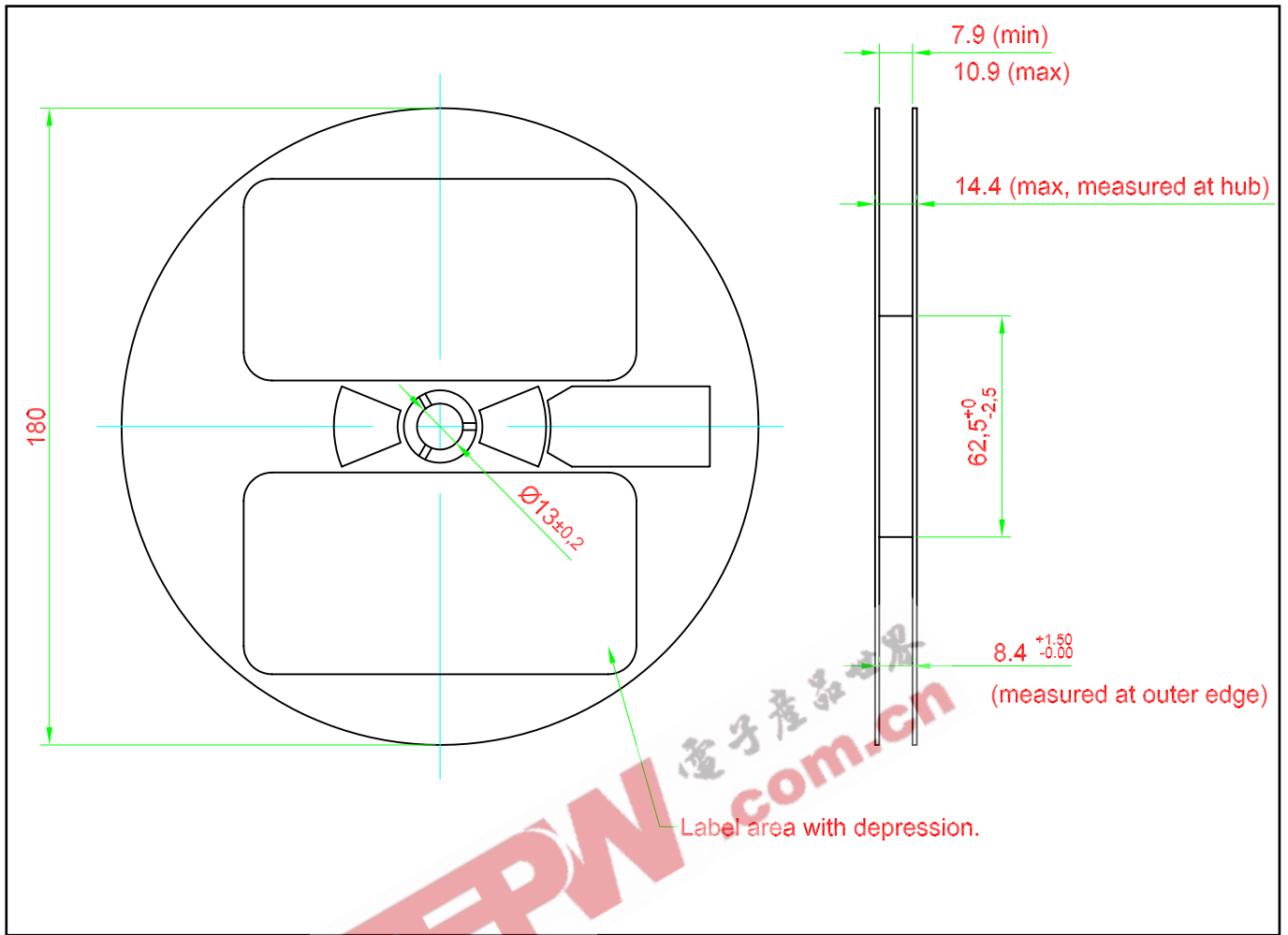


200 mm min. for  $\varnothing 180$  reel.  
200 mm min. for  $\varnothing 330$  reel.

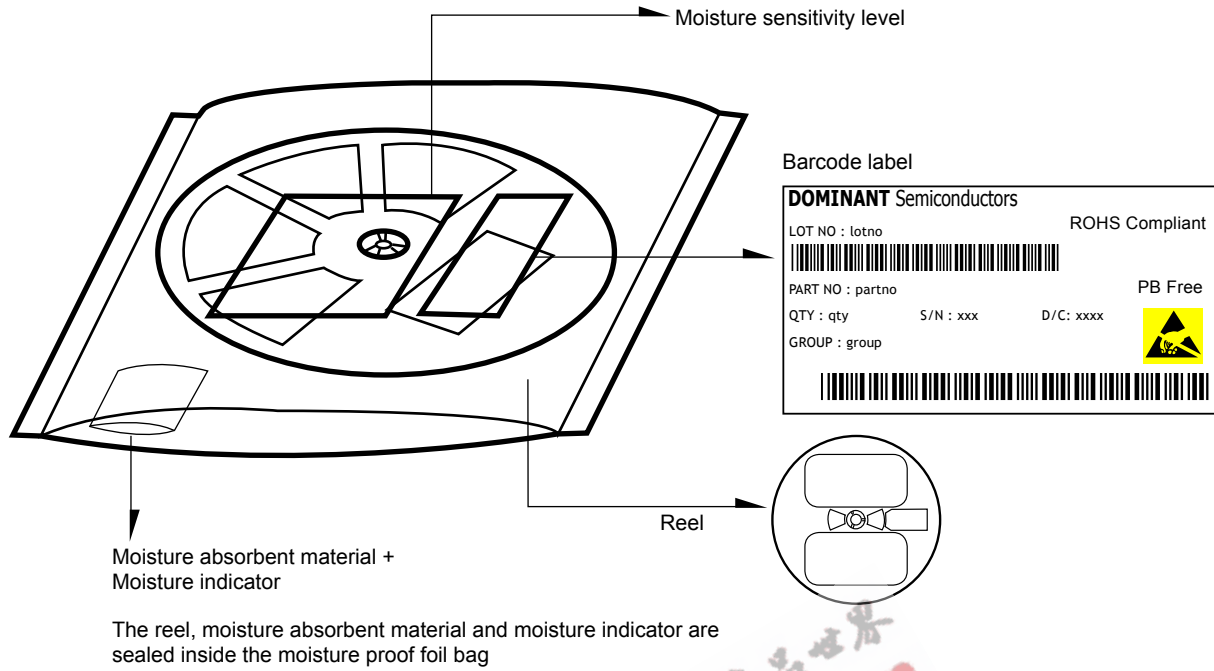
480 mm min. for  $\varnothing 180$  reel.  
960 mm min. for  $\varnothing 330$  reel.



**Packaging Specification**

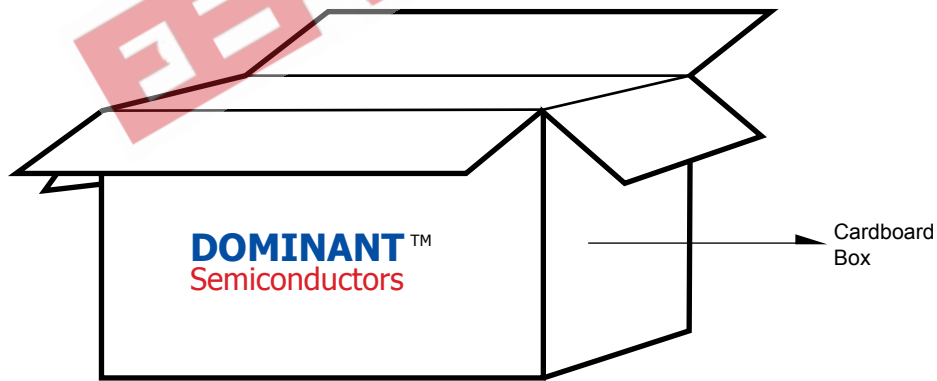


**Packaging Specification**



**Average 1pc DomiLED/Multi DomiLED 1 completed bag (2000pcs)**

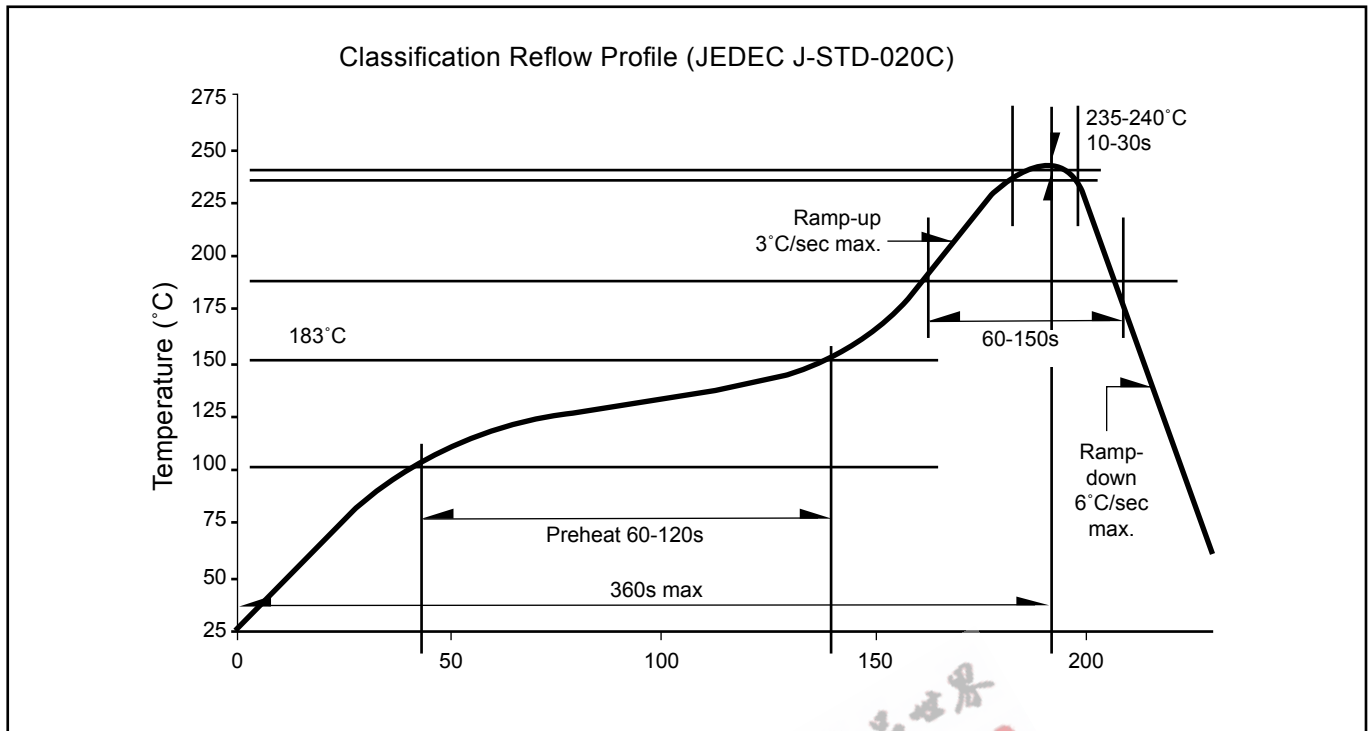
<b>Weight (gram)</b>	<b>0.034</b>	<b>190 ± 10</b>
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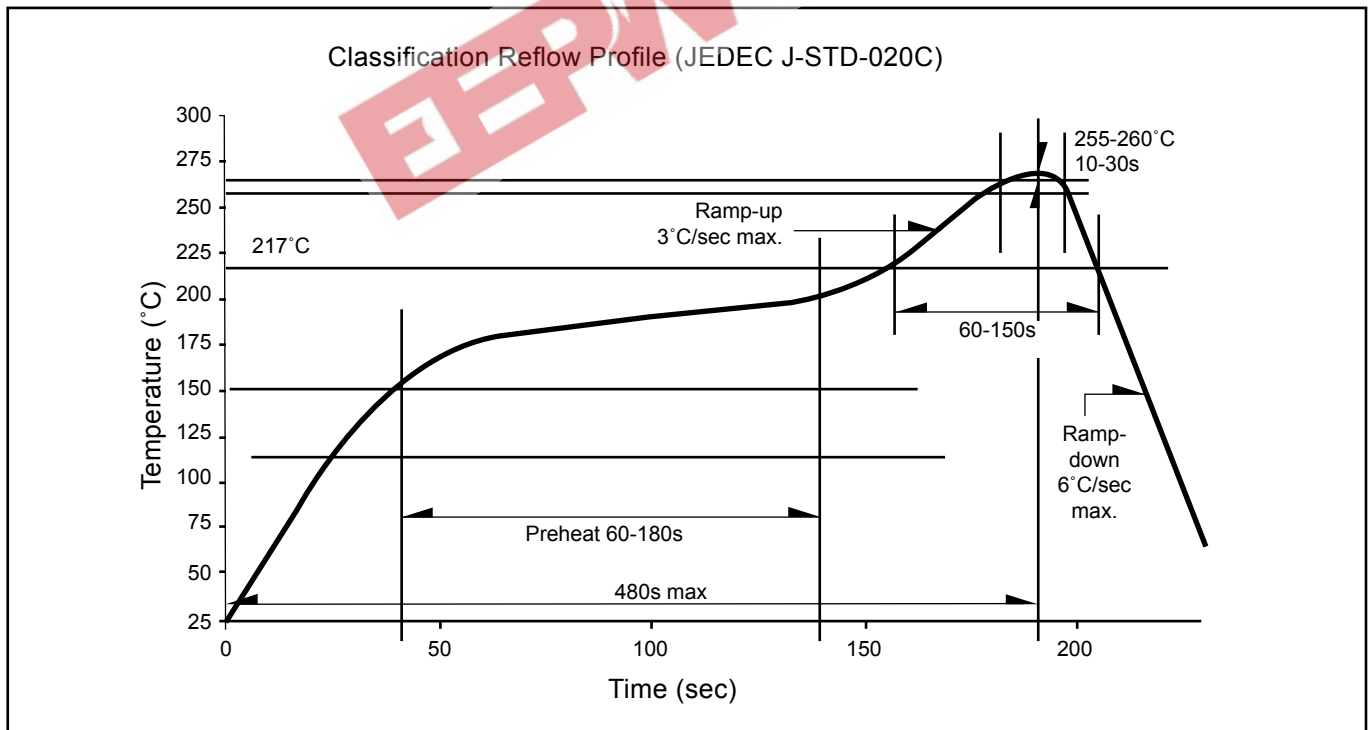
**For DomiLED™**

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
	New Format	06 Sept 2005
7	Graph: Maximum Current Vs Temperature. When Ambient Temperature=100°; Forward Current=15mA	06 Mar 2006
7	Add Characteristics table	07 June 2007
8	Add Allowable Forward Current Vs Duty Ratio Graph	07 June 2007

**NOTE**

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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.

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## 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>.

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