

### **DomiLED**<sup>™</sup>

Synonymous with function and performance, the DomiLED<sup>™</sup> 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 both IR reflow soldering and TTW soldering.

### **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.).



Part Ordering Number	Chip Technology / Color	Viewing Angle°	Luminous Intensity @ IF = 20mA IV (mcd)
<b>DSS-SSS-PQ2-1</b>	<b>AllnGaP</b>	<b>120</b>	<b>45.0 - 112.5</b>
• DSS-SSS-P1	Super red, 632nm		45.0 - 56.0
• DSS-SSS-P2			56.0 - 71.5
• DSS-SSS-Q1			71.5 - 90.0
• DSS-SSS-Q2			90.0 - 112.5
<b>DSR-CSS-PQ2-1 *</b>	<b>AllnGaP</b>	<b>120</b>	<b>45.0 - 112.5</b>
• DSR-CSS-P1	Red, 625nm		45.0 - 56.0
• DSR-CSS-P2			56.0 - 71.5
• DSR-CSS-Q1			71.5 - 90.0
• DSR-CSS-Q2			90.0 - 112.5
<b>DSR-CSS-QR2-1</b>			<b>71.5 - 180.0</b>
• DSR-CSS-Q1			71.5 - 90.0
• DSR-CSS-Q2			90.0 - 112.5
• DSR-CSS-R1			112.5 - 140.0
• DSR-CSS-R2			140.0 - 180.0
<b>DSR-SSS-QR2-1 *</b>			<b>71.5 - 180.0</b>
• DSR-SSS-Q1			71.5 - 90.0
• DSR-SSS-Q2			90.0 - 112.5
• DSR-SSS-R1			112.5 - 140.0
• DSR-SSS-R2			140.0 - 180.0
<b>DSR-TSS-ST2-1</b>	<b>TS AllnGaP</b>	<b>120</b>	<b>180.0 - 450.0</b>
• DSR-TSS-S1	Red, 625nm		180.0 - 224.0
• DSR-TSS-S2			224.0 - 285.0
• DSR-TSS-T1			285.0 - 355.0
• DSR-TSS-T2			355.0 - 450.0
<b>DSA-CSS-QR2-1</b>	<b>AllnGaP</b>	<b>120</b>	<b>71.5 - 180.0</b>
• DSA-CSS-Q1	Amber, 615nm		71.5 - 90.0
• DSA-CSS-Q2			90.0 - 112.5
• DSA-CSS-R1			112.5 - 140.0
• DSA-CSS-R2			140.0 - 180.0
<b>DSA-SSS-RS2-1</b>			<b>112.5 - 285.0</b>
• DSA-CSS-R1			112.5 - 140.0
• DSA-CSS-R2			140.0 - 180.0
• DSA-CSS-S1			180.0 - 224.0
• DSA-CSS-S2			224.0 - 285.0
<b>DSO-CSS-QR2-1</b>	<b>AllnGaP</b>		<b>71.5 - 180.0</b>
• DSO-CSS-Q1	Orange, 605nm		71.5 - 90.0
• DSO-CSS-Q2			90.0 - 112.5
• DSO-CSS-R1			112.5 - 140.0
• DSO-CSS-R2			140.0 - 180.0

\* Not for new design

Part Ordering Number	Chip Technology / Color	Viewing Angle°	Luminous Intensity @ IF = 20mA IV (mcd)
<b>DSO-SSS-RS2-1</b>	<b>AllnGap</b>	<b>120</b>	<b>112.5 - 285.0</b>
• DSO-SSS-R1	Orange, 605nm		112.5 - 140.0
• DSO-SSS-R2			140.0 - 180.0
• DSO-SSS-S1			180.0 - 224.0
• DSO-SSS-S2			224.0 - 285.0
<b>DSY-CSS-QR2-1</b>	<b>AllnGap</b>	<b>120</b>	<b>71.5 - 180.0</b>
• DSY-CSS-Q1	Yellow, 587nm		71.5 - 90.0
• DSY-CSS-Q2			90.0 - 112.5
• DSY-CSS-R1			112.5 - 140.0
• DD0-CSS-R2			140.0 - 180.0
<b>DSY-SSS-RS2-1</b>			<b>112.5 - 285.0</b>
• DSY-SSS-R1			112.5 - 140.0
• DSY-SSS-R2			140.0 - 180.0
• DSY-SSS-S1			180.0 - 224.0
• DSY-SSS-S2			224.0 - 285.0
<b>DSG-SSS-PQ2-1</b>	<b>AllnGaP</b>	<b>120</b>	<b>45.0 - 90.0</b>
• DSG-SSS-P1	Green, 572nm		45.0 - 56.0
• DSG-SSS-P2			56.0 - 71.5
• DSG-SSS-Q1			71.5 - 90.0
• DSG-SSS-Q2			90.0 - 112.5

**NOTE**

1. All part number above comes in a quantity of 2500 units per reel.
2. Other luminous intensity groups are also available upon request.
3. Luminous intensity is measured with an accuracy of  $\pm 11\%$ .
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. Please contact marketing for special part number

## Wavelength Grouping

Color	Group	Wavelength distribution (nm)
DSS; Super red	Full	625 - 640
DSR-CS, -SS; Red (AS) DSR-TS; Red (TS)	Full	620 - 630
	Full	620 - 635
DSA; Amber	Full	610 - 621
	W	610 - 615
	X	615 - 621
DSO; Orange	Full	600 - 612
	W	600 - 603
	X	603 - 606
	Y	606 - 609
	Z	609 - 612
DSY; Yellow	Full	582 - 594
	W	582 - 585
	X	585 - 588
	Y	588 - 591
	Z	591 - 594
DSG; Green	Full	564.5 - 567.5
	W	564.5 - 567.5
	X	567.5 - 570.5
	Y	570.5 - 573.5
	Z	573.5 - 576.5

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)
DSR-CSS, DSA-CSS, DSO-CSS, DSY-CSS	1.9	2.3	12
DSS-SSS, DSR-SSS, DSA-SSS, DSO-SSS, DSY-SSS, DSG-SSS	1.8	2.3	12
DSR-TSS	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

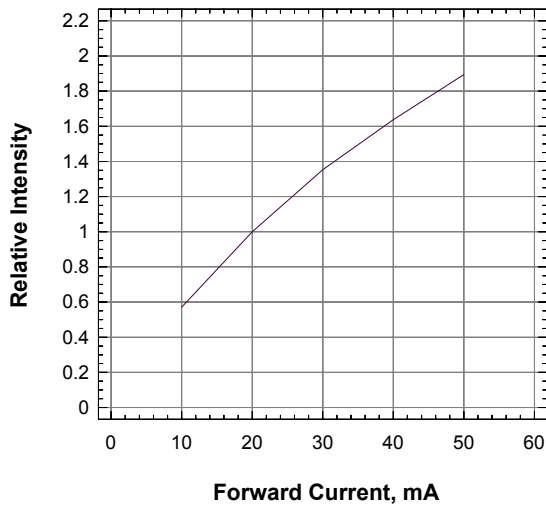
Forward voltage, Vf is measured with an accuracy of ± 0.1 V.

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

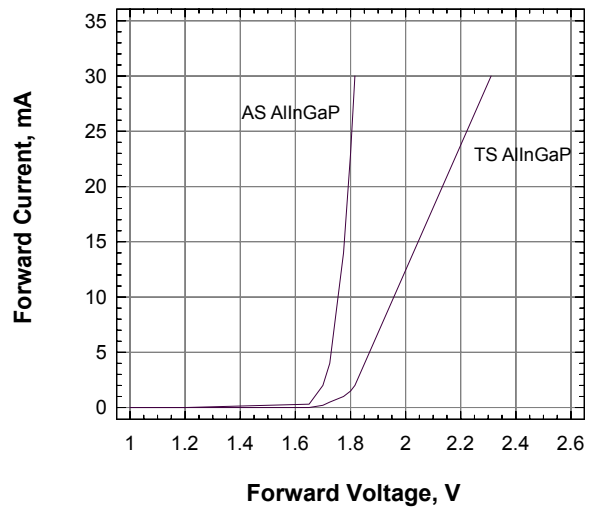
## Absolute Maximum Ratings

	Maximum Value	Unit
DC forward current	20	mA
Peak pulse current; (tp ≤ 10μs, Duty cycle = 0.005)	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)	50	mW

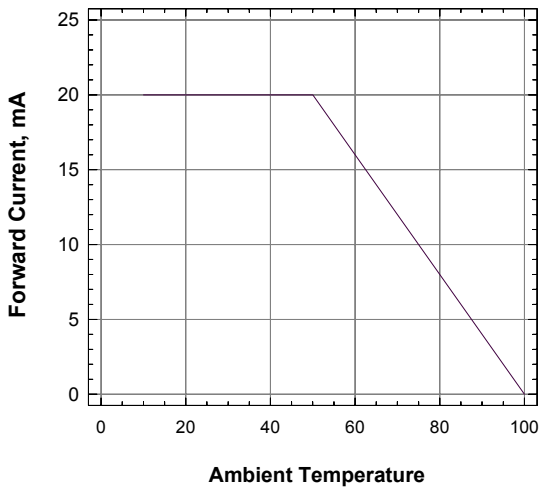
**Relative Luminous Intensity Vs Forward Current**



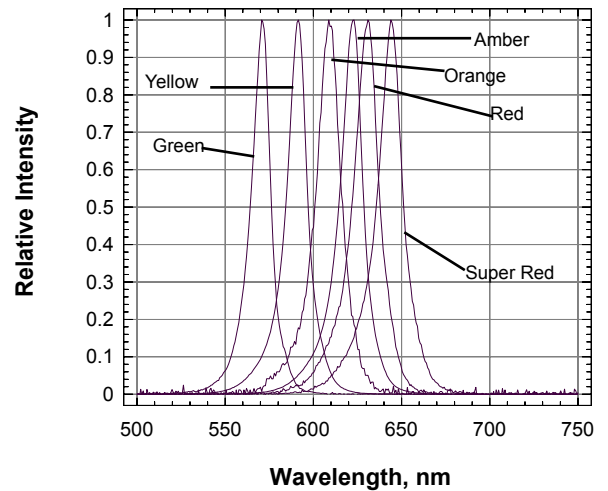
**Forward Current Vs Forward Voltage**



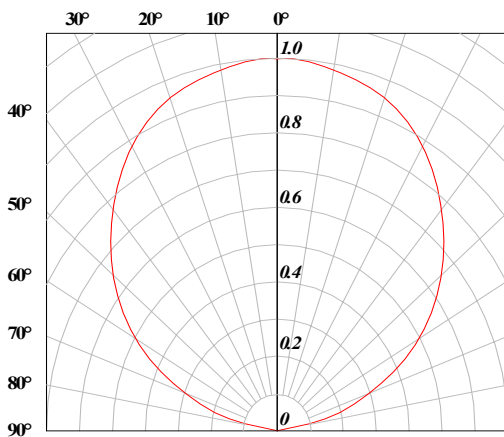
**Maximum Current Vs Temperature**



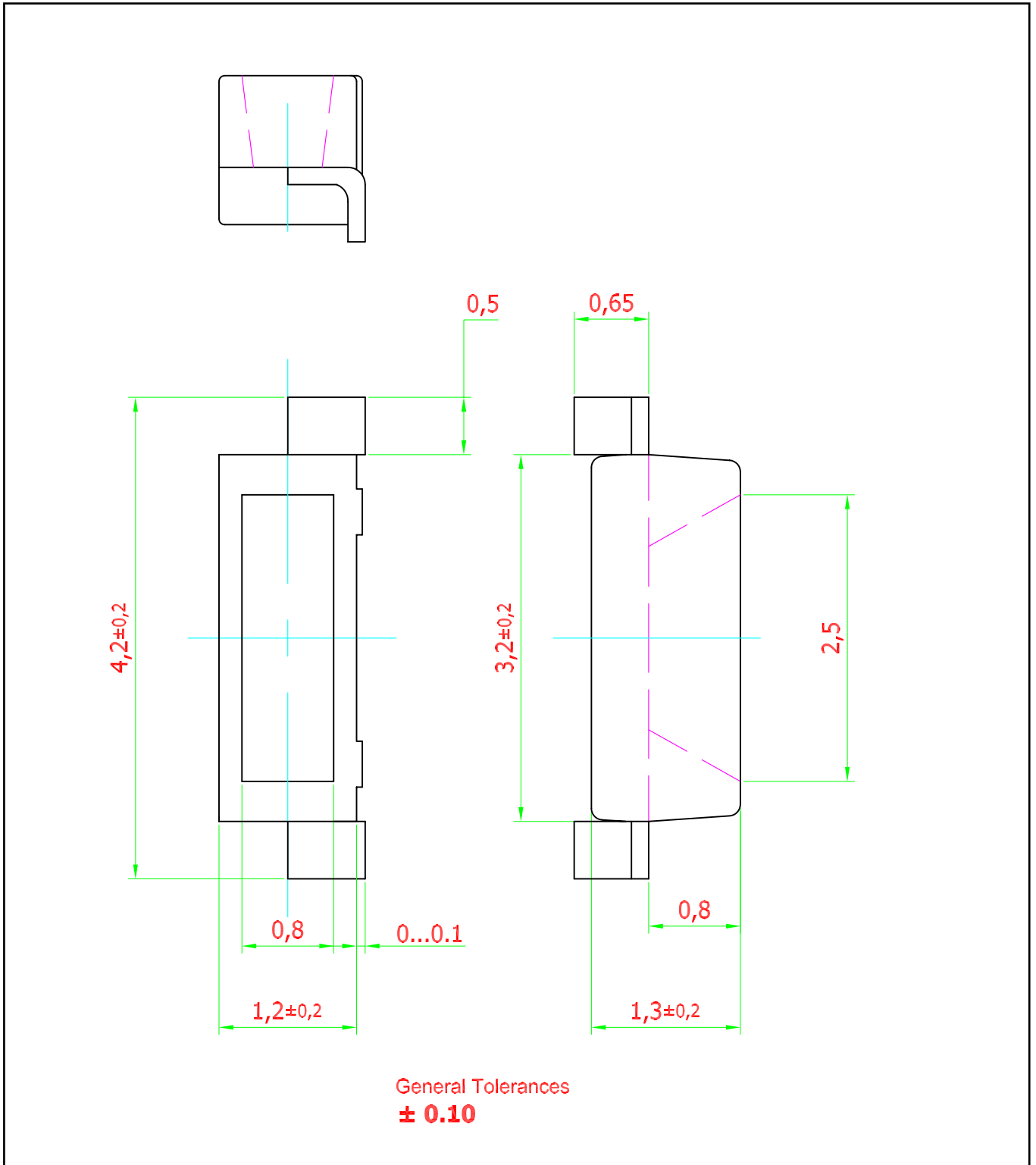
**Relative Intensity Vs Wavelength**



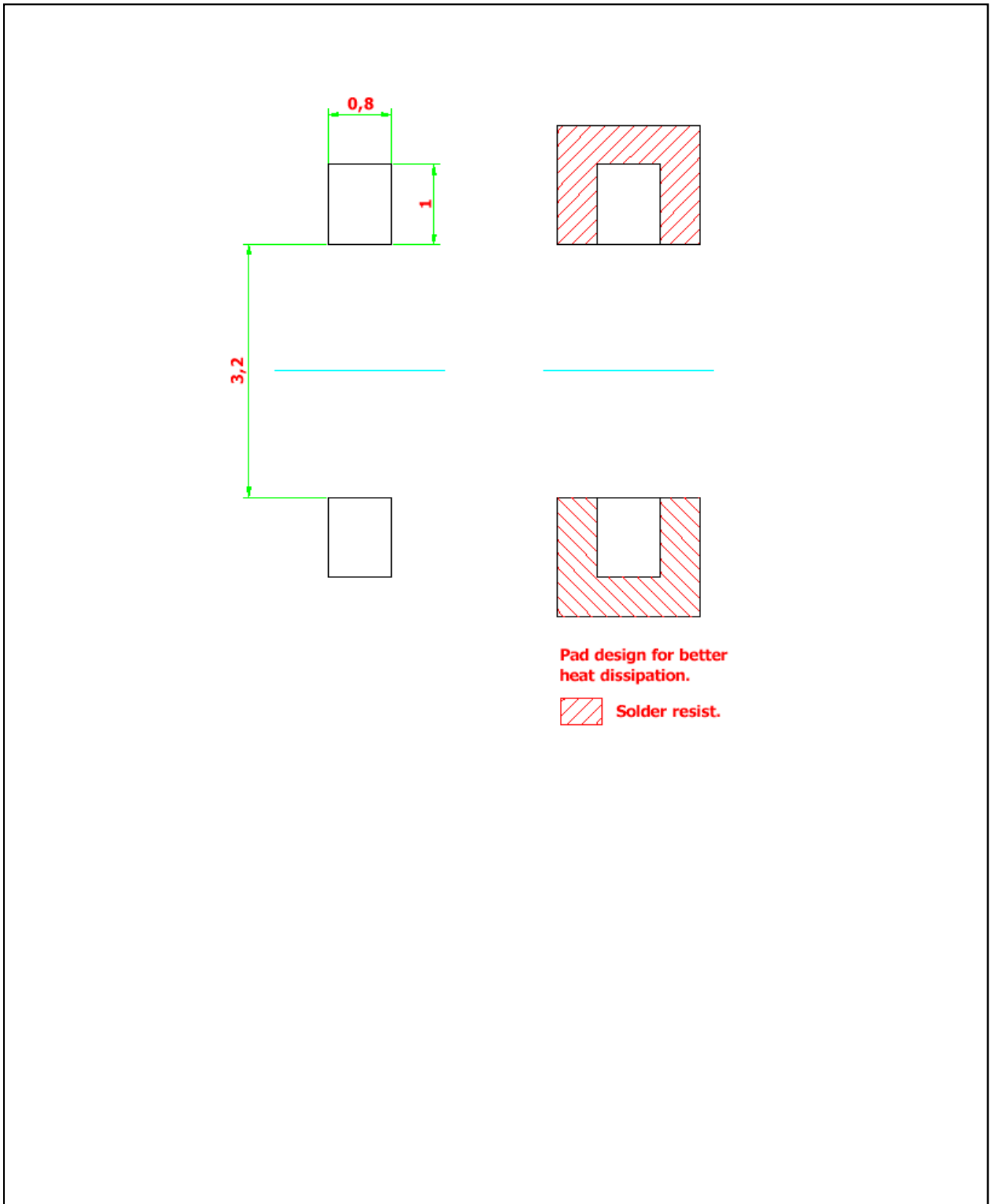
**Radiation Pattern**



**DomiLED™ • AllnGap : DSx-xSS Package Outlines**



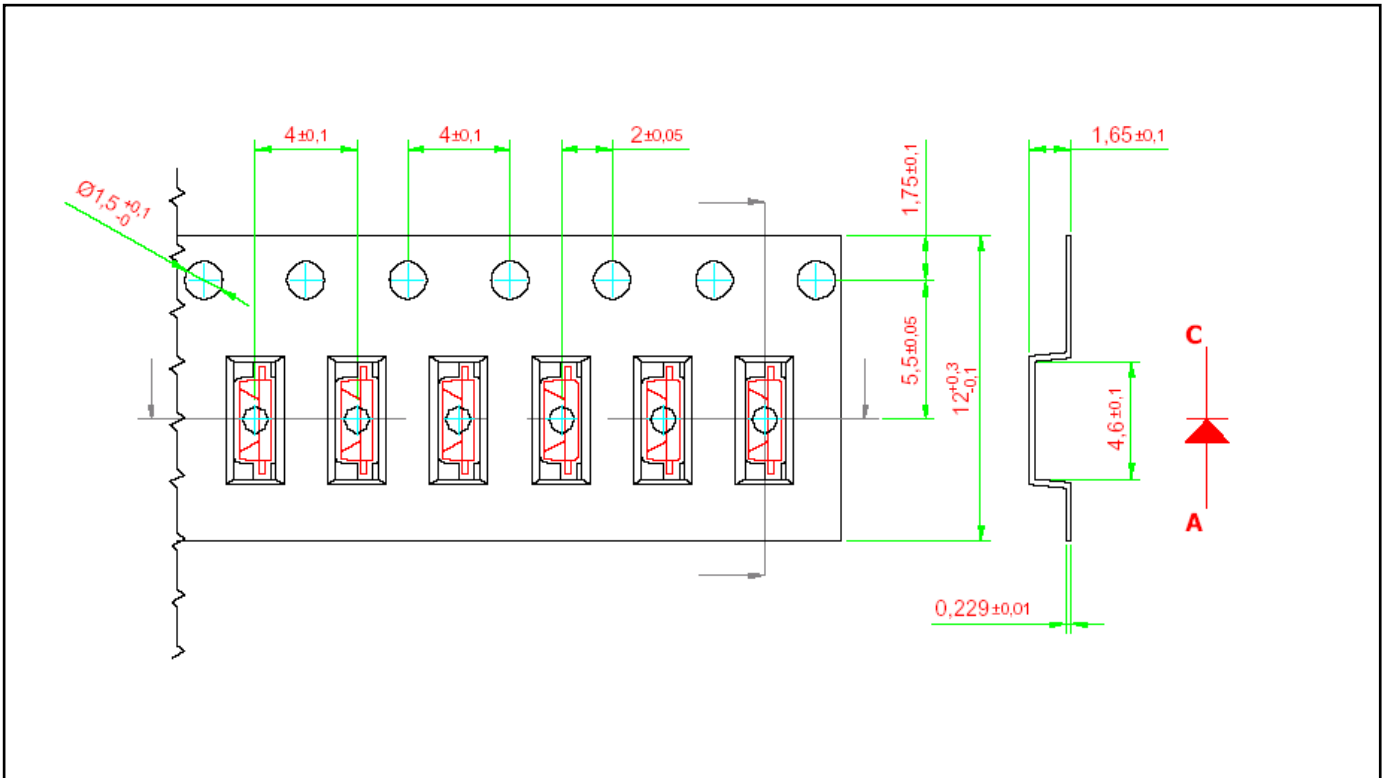
### Recommended Solder Pad



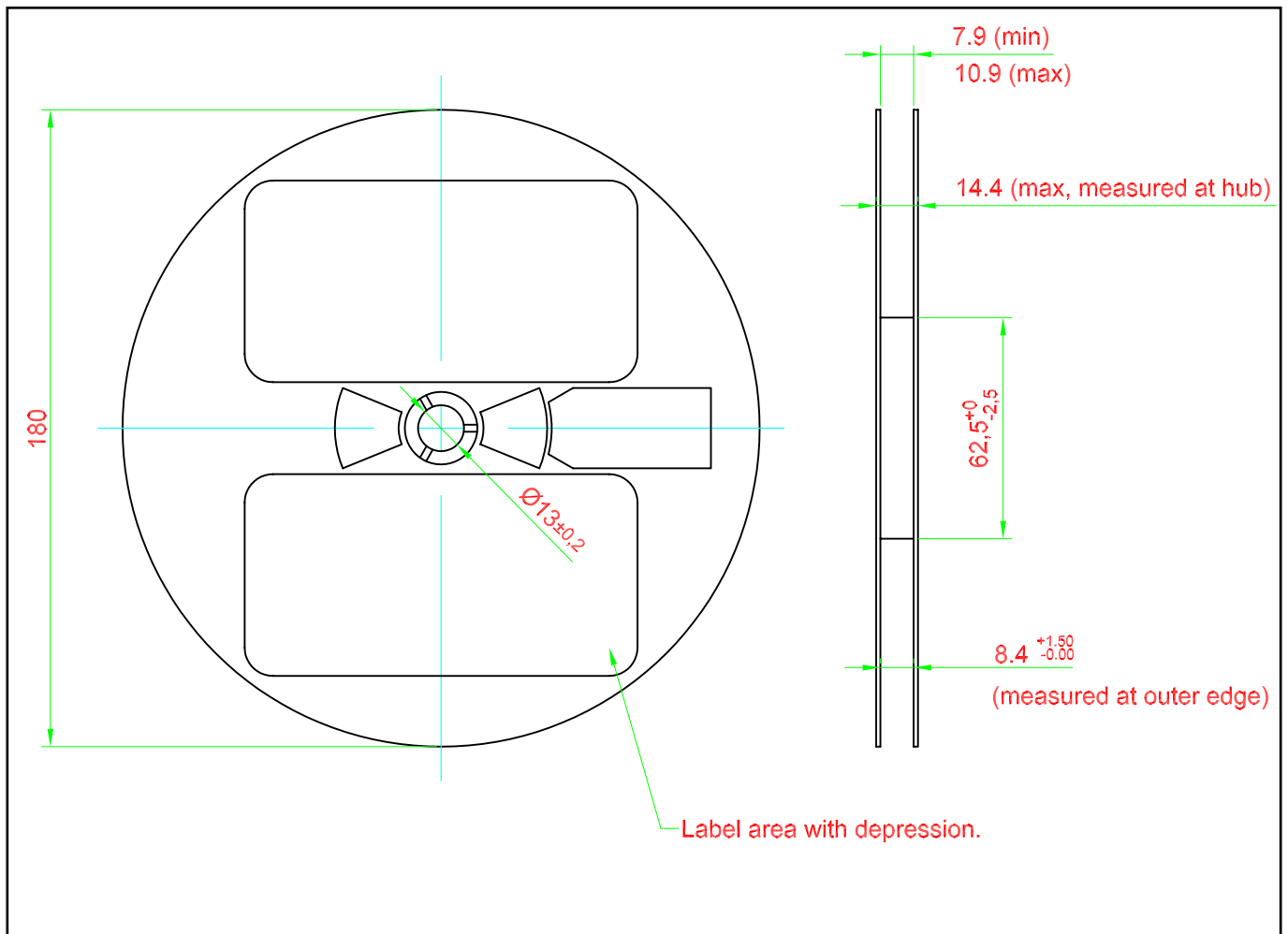


### Taping and orientation

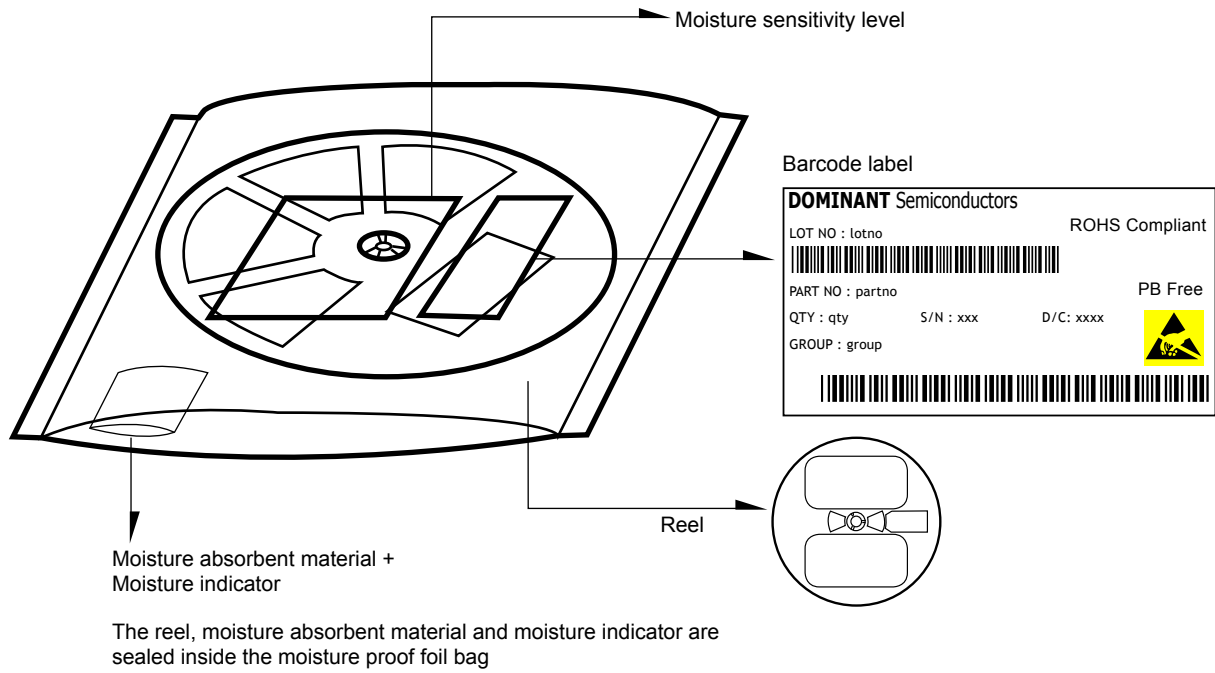
- Reels come in quantity of 2500 units.
- Reel diameter is 180 mm.



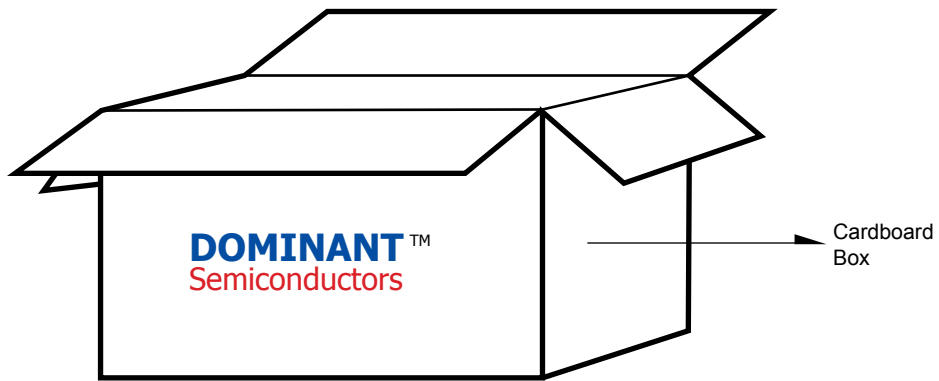
**Packaging Specification**



**Packaging Specification**



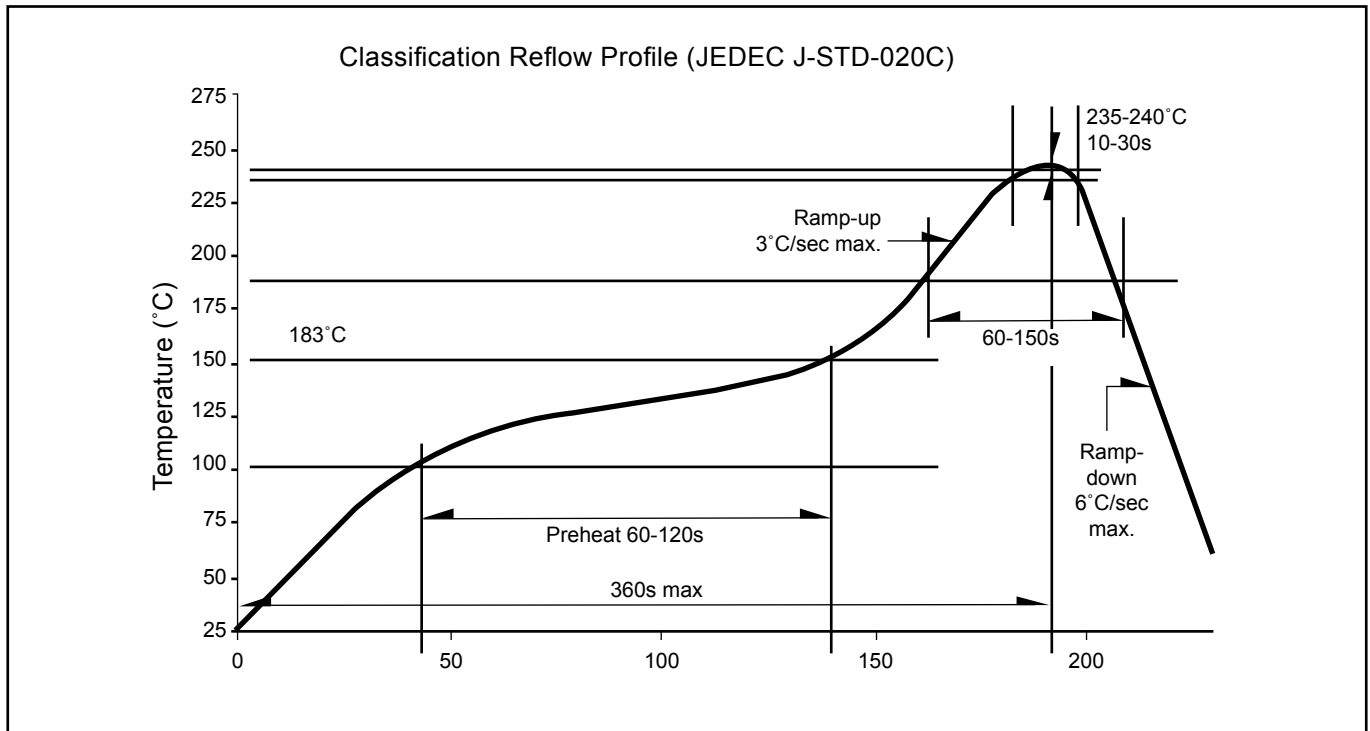
	Average 1pc Right Angle DomiLED	1 completed bag (2500pcs)
Weight (gram)	0.034	190 ± 10



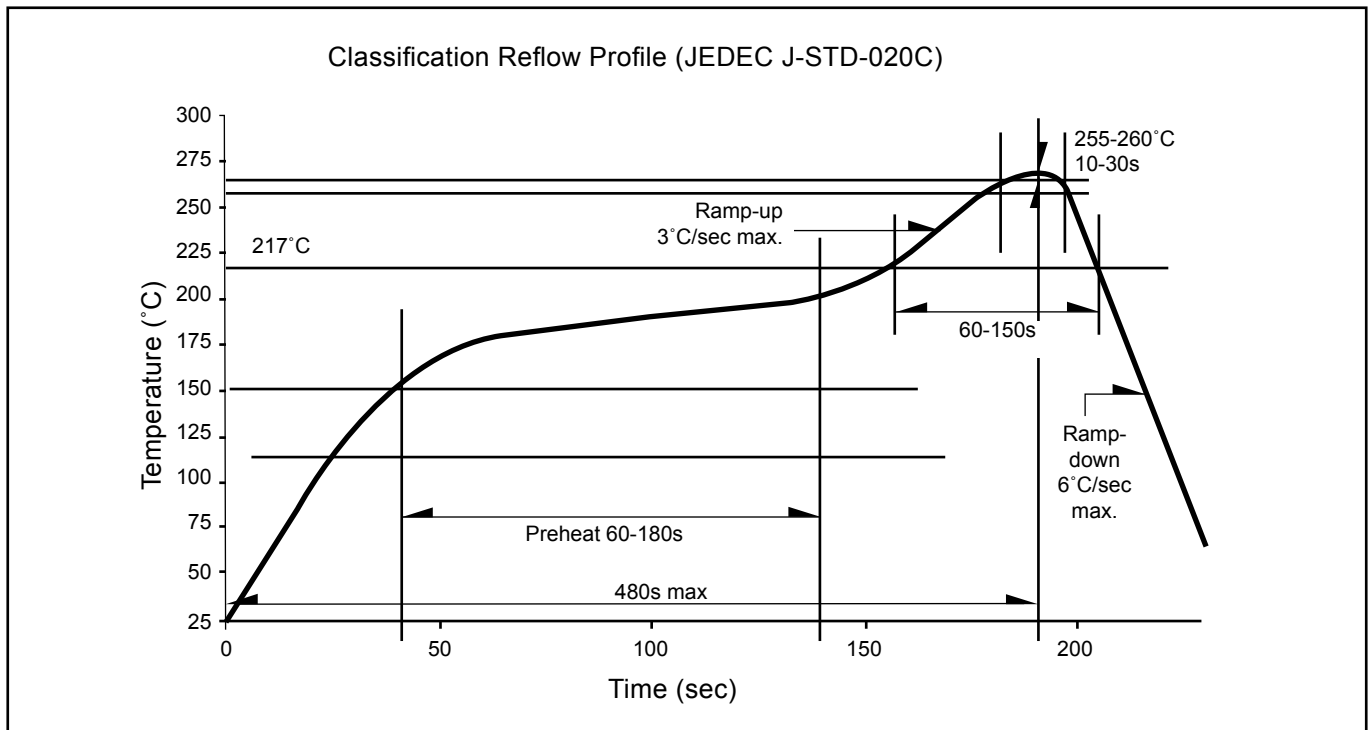
**For Right Angle DomiLED™**

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	37,500 MAX
Large	416 x 516 x 476	1.74	55 reels MAX	137,500 MAX

**Recommended Sn-Pb IR-Reflow Soldering Profile**



**Recommended Pb-free Soldering Profile**



**Revision History**

Page	Subjects	Date of Modification
-	New Format	03 April 2006

**NOTE**

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