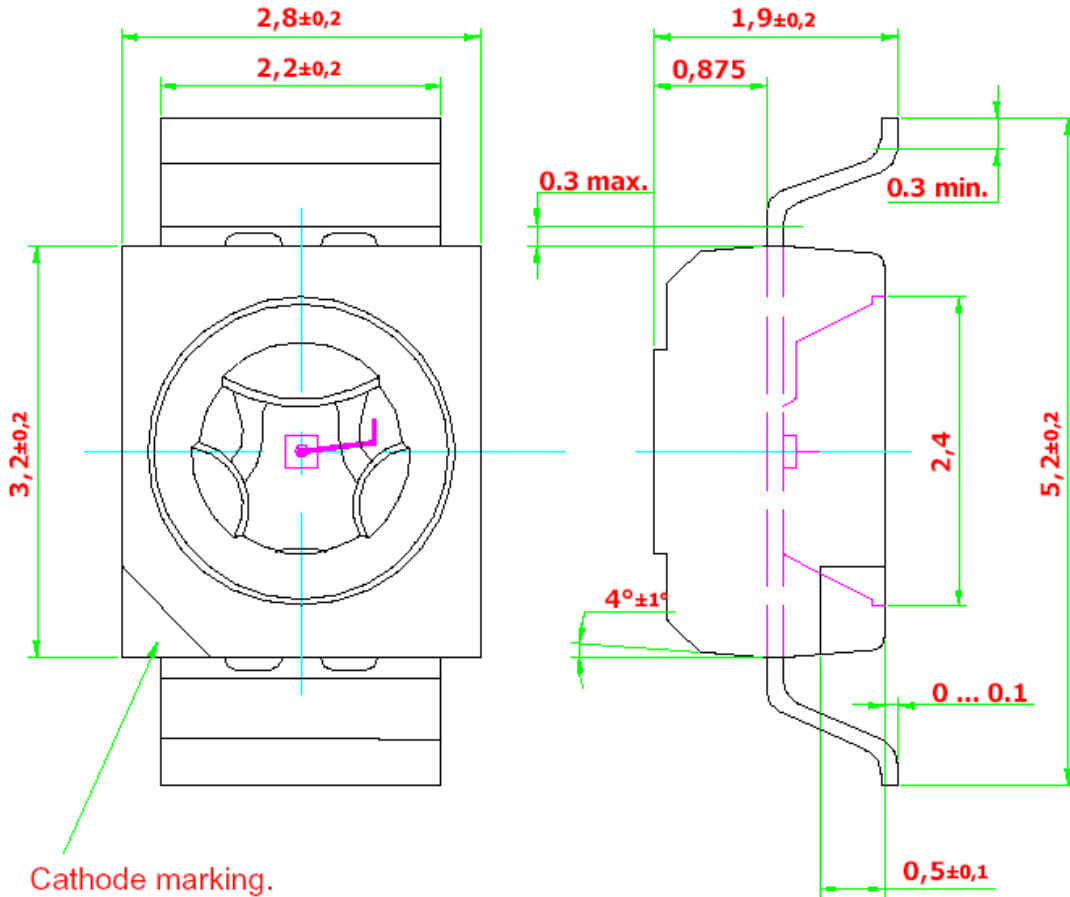


**DomiLED – AlInGaP : DDx-xRS**



- High brightness surface mount LED.
- $120^\circ$  viewing angle.
- Small package outline (LxWxH) of 2.8 x 3.2 x 1.8 mm.
- Qualified according to JEDEC moisture sensitivity Level 2.
- Compatible to both IR reflow soldering and TTW soldering.

Part Ordering Number	Chip Technology / Color	Viewing Angle °	Luminous Intensity @ IF=20mA Iv (mcd)
<b>DDH-CRS-PQ2-1</b> <ul style="list-style-type: none"> <li>• DDH-CRS-P1</li> <li>• DDH-CRS-P2</li> <li>• DDH-CRS-Q1</li> <li>• DDH-CRS-Q2</li> </ul> <b>DDH-SRS-QR2-1</b> <ul style="list-style-type: none"> <li>• DDH-SRS-Q1</li> <li>• DDH-SRS-Q2</li> <li>• DDH-SRS-R1</li> <li>• DDH-SRS-R2</li> </ul>	<b>AllnGaP</b> Hyper-red, 640nm	<b>120</b>	<b>45.0 – 112.5</b> 45.0 – 56.0 56.0 – 71.5 71.5 – 90.0 90.0 – 112.5  <b>71.5 – 180.0</b> 71.5 – 90.0 90.0 – 112.5 112.5 – 140.0 140.0 – 180.0
<b>DDS-CRS-PQ2-1</b> <ul style="list-style-type: none"> <li>• DDS-CRS-P1</li> <li>• DDS-CRS-P2</li> <li>• DDS-CRS-Q1</li> <li>• DDS-CRS-Q2</li> </ul> ** Not for new design.	<b>AllnGaP</b> Super-red, 632nm	<b>120</b>	<b>45.0 – 112.5</b> 45.0 – 56.0 56.0 – 71.5 71.5 – 90.0 90.0 – 112.5  <b>71.5 – 180.0</b> 71.5 – 90.0 90.0 – 112.5 112.5 – 140.0 140.0 – 180.0  <b>71.5 – 180.0</b> 71.5 – 90.0 90.0 – 112.5 112.5 – 140.0 140.0 – 180.0
<b>DDR-CRS-QR2-1</b> <ul style="list-style-type: none"> <li>• DDR-CRS-Q1</li> <li>• DDR-CRS-Q2</li> <li>• DDR-CRS-R1</li> <li>• DDR-CRS-R2</li> </ul> ** Not for new design.	<b>AllnGaP</b> Red, 625nm	<b>120</b>	<b>71.5 – 180.0</b> 71.5 – 90.0 90.0 – 112.5 112.5 – 140.0 140.0 – 180.0  <b>112.5 – 285.0</b> 112.5 – 140.0 140.0 – 180.0 180.0 – 224.0 224.0 – 285.0  <b>112.5 – 285.0</b> 112.5 – 140.0 140.0 – 180.0 180.0 – 224.0 224.0 – 285.0
<b>DDR-CRS-RS2-1</b> <ul style="list-style-type: none"> <li>• DDR-CRS-R1</li> <li>• DDR-CRS-R2</li> <li>• DDR-CRS-S1</li> <li>• DDR-CRS-S2</li> </ul> <b>DDR-SRS-RS2-1</b> <ul style="list-style-type: none"> <li>• DDR-SRS-R1</li> <li>• DDR-SRS-R2</li> <li>• DDR-SRS-S1</li> <li>• DDR-SRS-S2</li> </ul>			

Part Ordering Number	Chip Technology / Color	Viewing Angle	Luminous Intensity @ IF=20mA Iv (mcd)
<b>DDR-TRS-TU2-1</b> <ul style="list-style-type: none"> <li>• DDR-TRS-T1</li> <li>• DDR-TRS-T2</li> <li>• DDR-TRS-U1</li> <li>• DDR-TRS-U2</li> </ul>	<b>Ts AllnGaP</b> Red, 625nm	<b>120</b>	<b>285.0 – 715.0</b> 285.0 – 355.0 355.0 – 450.0 450.0 – 560.0 560.0 – 715.0
<b>DDA-CRS-RS2-1</b> <ul style="list-style-type: none"> <li>• DDA-CRS-R1</li> <li>• DDA-CRS-R2</li> <li>• DDA-CRS-S1</li> <li>• DDA-CRS-S2</li> </ul> <b>DDA-SRS-ST2-1</b> <ul style="list-style-type: none"> <li>• DDA-SJS-S1</li> <li>• DDA-SJS-S2</li> <li>• DDA-SJS-T1</li> <li>• DDA-SJS-T2</li> </ul>	<b>As AllnGaP</b> Amber, 615nm	<b>120</b>	<b>112.5 – 285.0</b> 112.5 – 140.0 140.0 – 180.0 180.0 – 224.0 224.0 – 285.0  <b>180.0 – 450.0</b> 180.0 – 224.0 224.0 – 285.0 285.0 – 355.0 355.0 – 450.0
<b>DDO-CRS-RS2-1</b> <ul style="list-style-type: none"> <li>• DDO-CRS-R1</li> <li>• DDO-CRS-R2</li> <li>• DDO-CRS-S1</li> <li>• DDO-CRS-S2</li> </ul> <b>DDO-SRS-ST2-1</b> <ul style="list-style-type: none"> <li>• DDO-SRS-S1</li> <li>• DDO-SRS-S2</li> <li>• DDO-SRS-T1</li> <li>• DDO-SRS-T2</li> </ul>	<b>As AllnGaP</b> Orange, 605nm	<b>120</b>	<b>112.5 – 285.0</b> 112.5 – 140.0 140.0 – 180.0 180.0 – 224.0 224.0 – 285.0  <b>180.0 – 450.0</b> 180.0 – 224.0 224.0 – 285.0 285.0 – 355.0 355.0 – 450.0
<b>DDY-CRS-QR2-1</b> <ul style="list-style-type: none"> <li>• DDY-CRS-Q1</li> <li>• DDY-CRS-Q2</li> <li>• DDY-CRS-R1</li> <li>• DDY-CRS-R2</li> </ul> <i>** Not for new design</i>	<b>As AllnGaP</b> Yellow, 587nm	<b>120</b>	<b>71.5 – 180.0</b> 71.5 – 90.0 90.0 – 112.5 112.5 – 140.0 140.0 – 180.0
<b>DDY-CRS-RS2-1</b> <ul style="list-style-type: none"> <li>• DDY-CRS-R1</li> <li>• DDY-CRS-R2</li> <li>• DDY-CRS-S1</li> <li>• DDY-CRS-S2</li> </ul> <b>DDY-SRS-ST2-1</b> <ul style="list-style-type: none"> <li>• DDY-SRS-S1</li> <li>• DDY-SRS-S2</li> <li>• DDY-SRS-T1</li> <li>• DDY-SRS-T2</li> </ul>			<b>112.5 – 285.0</b> 112.5 – 140.0 140.0 – 180.0 180.0 – 224.0 224.0 – 285.0  <b>180.0 – 450.0</b> 180.0 – 224.0 224.0 – 285.0 285.0 – 355.0 355.0 – 450.0

## DOMINANT Semiconductors

Part Ordering Number	Chip Technology / Color	Viewing Angle	Luminous Intensity @ IF=20mA Iv (mcd)
<b>DDY-TRS-TU2-1</b> <ul style="list-style-type: none"> <li>• DDY-TRS-T1</li> <li>• DDY-TRS-T2</li> <li>• DDY-TRS-U1</li> <li>• DDY-TRS-U2</li> </ul>	<b>Ts AlInGaP</b> Yellow, 590nm	<b>120</b>	<b>285.0 – 715.0</b> 285.0 – 355.0 355.0 – 450.0 450.0 – 560.0 560.0 – 715.0
<b>DDG-CRS-PQ2-1</b> <ul style="list-style-type: none"> <li>• DDG-CRS-P1</li> <li>• DDG-CRS-P2</li> <li>• DDG-CRS-Q1</li> <li>• DDG-CRS-Q2</li> </ul> <b>DDG-SRS-QR2-1</b> <ul style="list-style-type: none"> <li>• DDG-SRS-Q1</li> <li>• DDG-SRS-Q2</li> <li>• DDG-SRS-R1</li> <li>• DDG-SRS-R2</li> </ul>	<b>As AlInGaP</b> Green, 572nm	<b>120</b>	<b>45.0 – 112.5</b> 45.0 – 56.0 56.0 – 71.5 71.5 – 90.0 90.0 – 112.5  <b>71.5 – 180.0</b> 71.5 – 90.0 90.0 – 112.5 112.5 – 140.0 140.0 – 180.0

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  $\pm 11\%$ .
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.

## DOMINANT Semiconductors

### 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

Dominant wavelength is measured with an accuracy of  $\pm 1$  nm.

### Electrical Characteristics at Ta=25°C.

Part Number	Vf @ If = 20mA		Vr @ Ir = 100uA
	Typ. (V)	Max. (V)	Min.(V)
DDA, DDS, DDR-CJS, DDR-SJS, DDG	2.1	2.3	12
DDH, DDO, DDY-CJS, DDY-SJS			
DDR-TJS, DDY-TJS	2.2	2.6	12

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

## DOMINANT Semiconductors

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### Vf Binning.

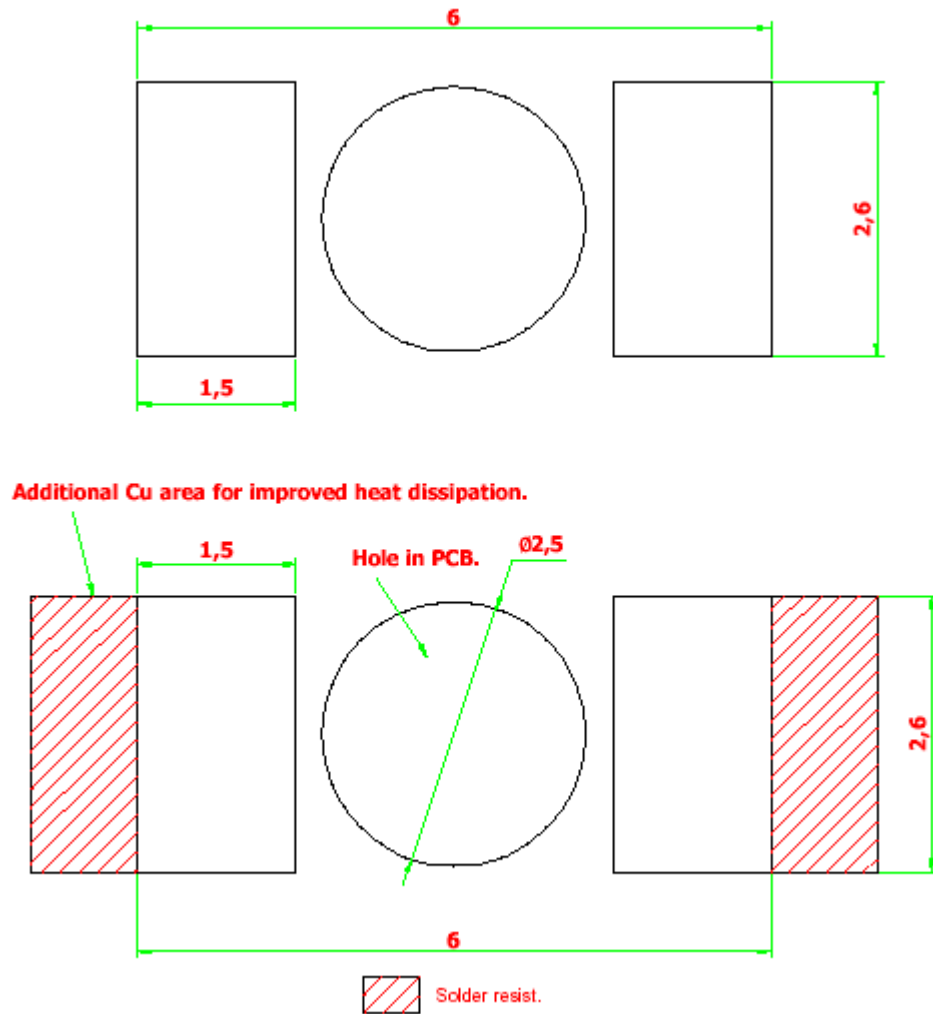
Vf Bin @ 20mA	Forward Voltage (V)
01	1.55 ... 1.85
02	1.85 ... 2.15
03	2.15 ... 2.45
04	2.45 ... 2.75

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

### Absolute Maximum Ratings.

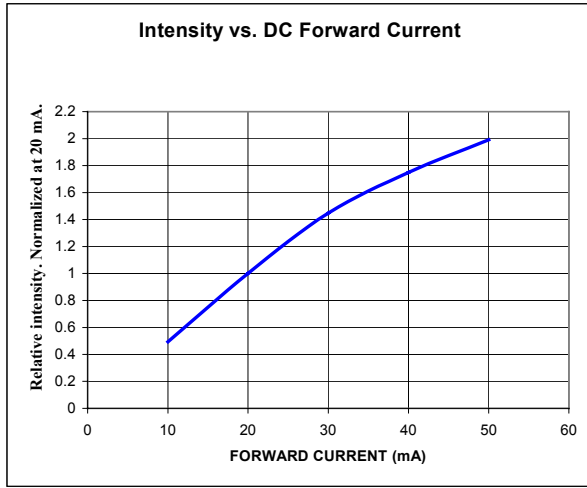
	Maximum Value	Unit
DC forward current.	30	mA
Peak pulse current; ( $t_p \leq 10 \mu\text{s}$ , Duty cycle = 0.005)	1000	mA
Reverse voltage.	5	V
LED junction temperature.	125	°C
Operating temperature.	-40 ... +100	°C
Storage temperature.	-40 ... +100	°C
Power dissipation ( at room temperature )	75	mW

**Recommended Solder Pad**

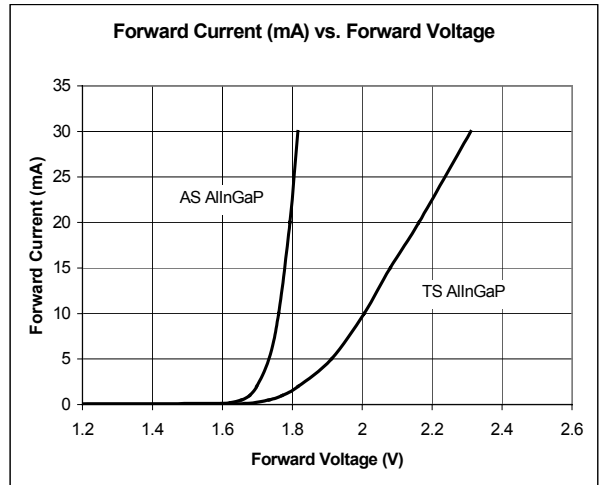


# DOMINANT Semiconductors

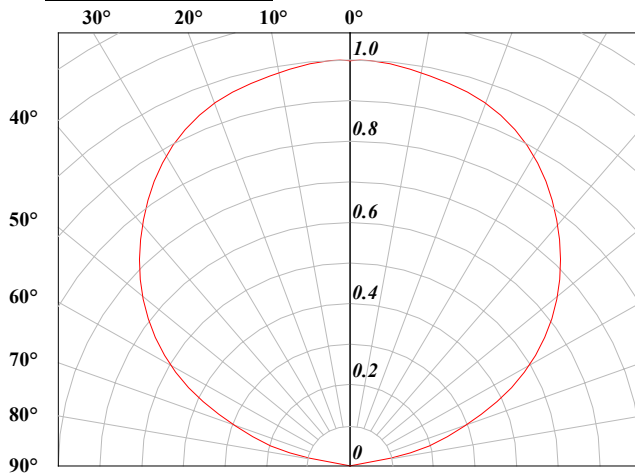
**Relative intensity vs. forward current.**



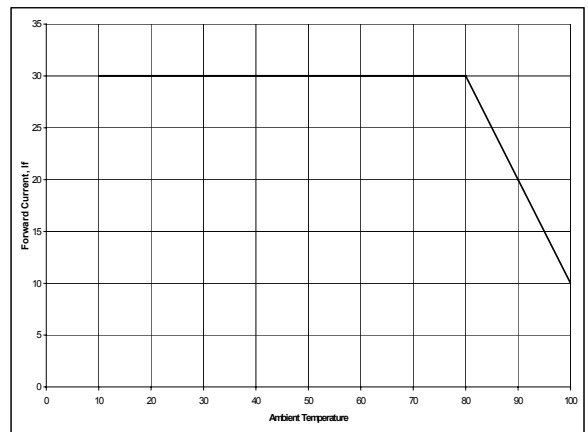
**Forward current vs. forward voltage.**



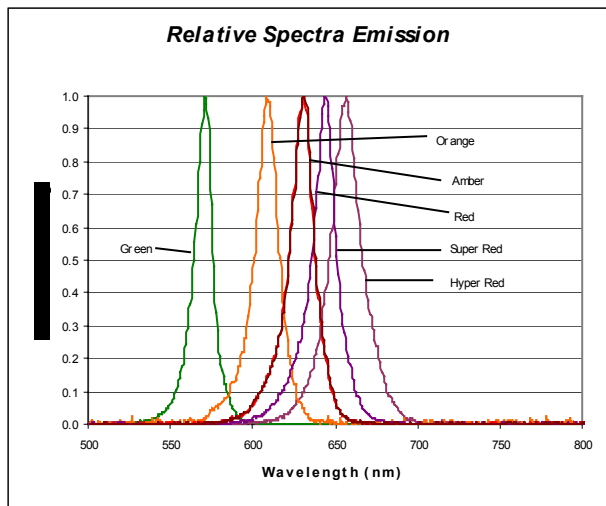
**Radiation pattern.**



**Maximum forward current vs. temperature.**



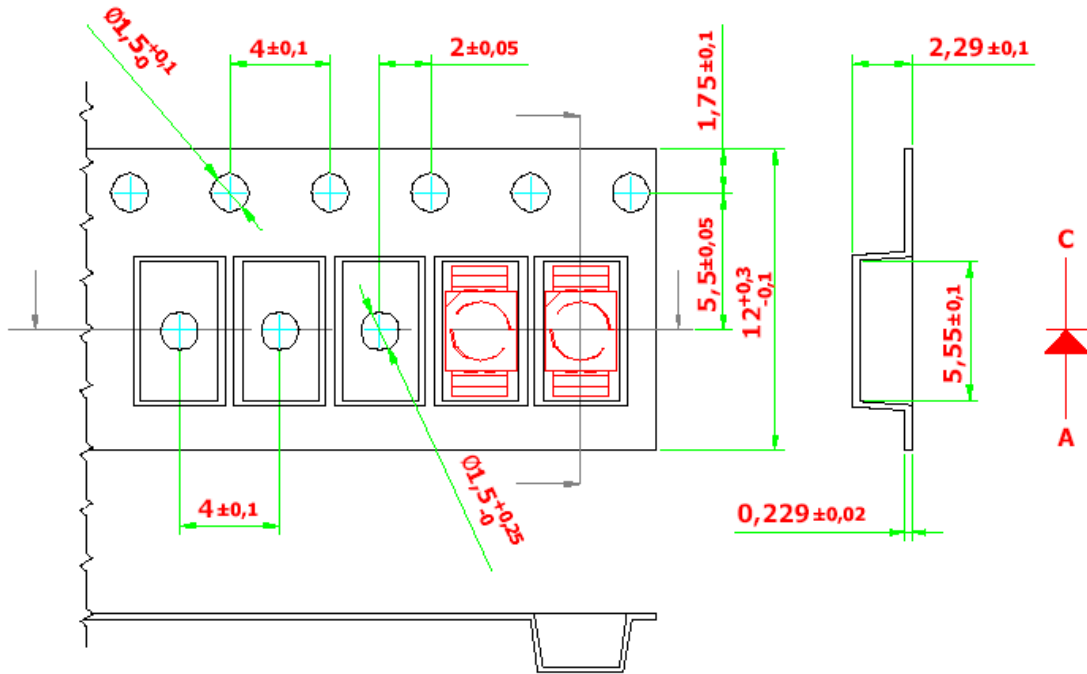
**Relative Intensity vs. Wavelength**





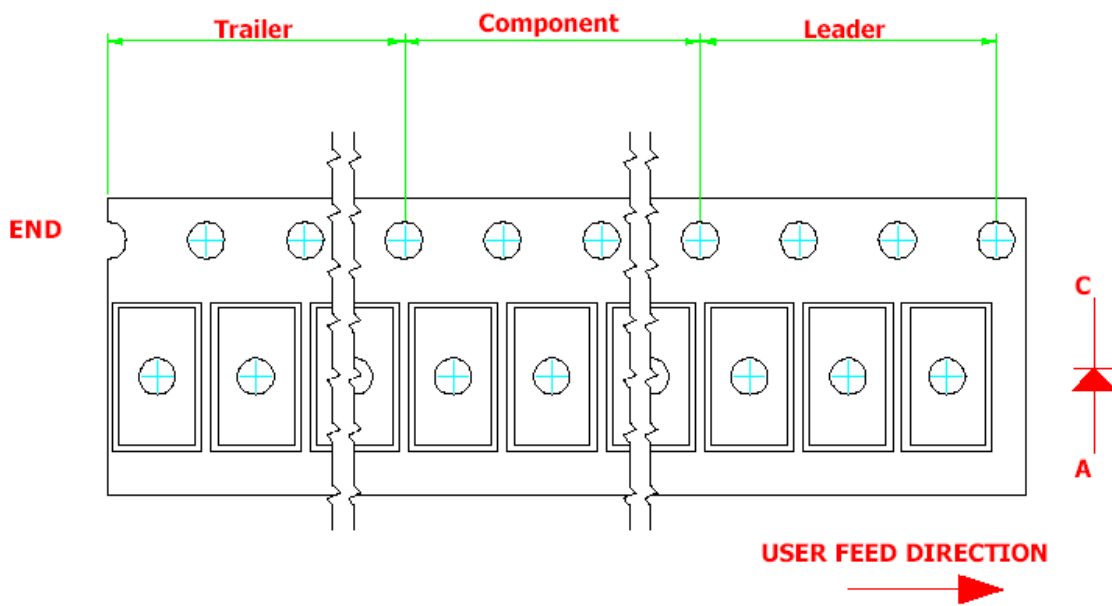
**Taping And Orientation.**

Reels come in quantity of 8000 units or 2000 units.  
 Reel diameters are 330 mm and 180 mm respectively.

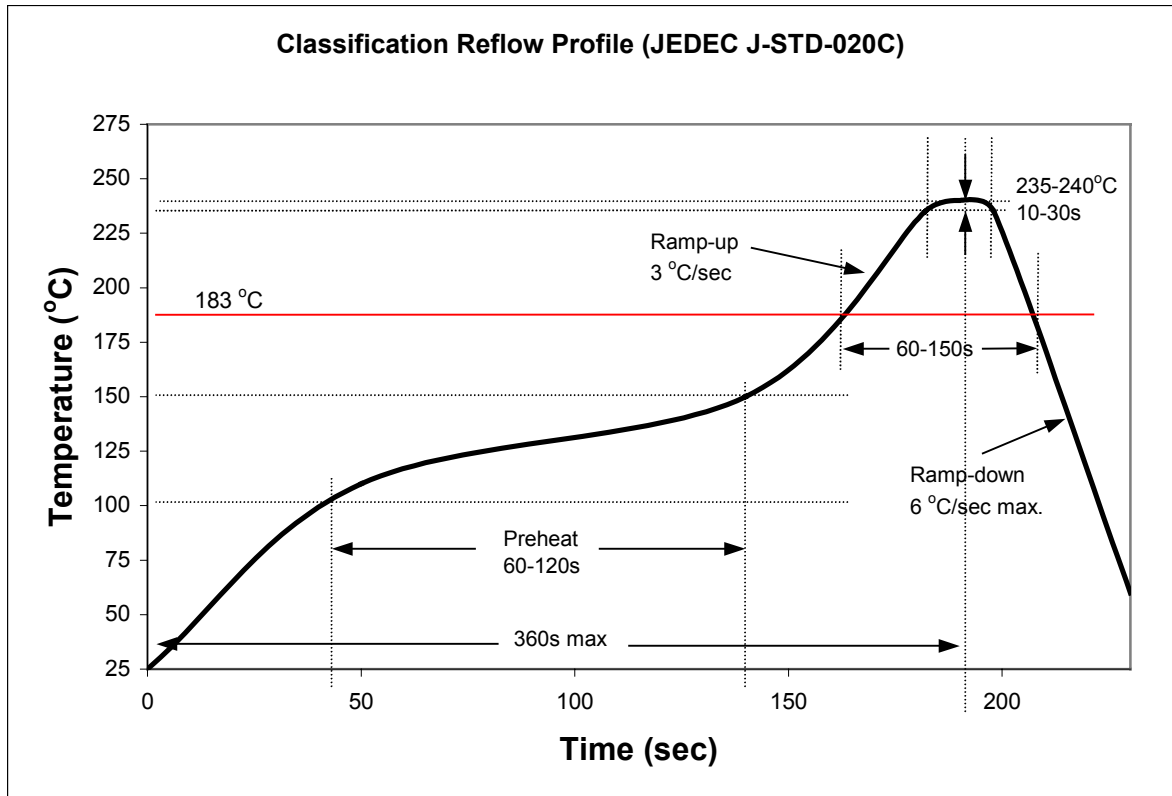


200 mm min. for  $\phi 180$  reel.  
 200 mm min. for  $\phi 330$  reel.

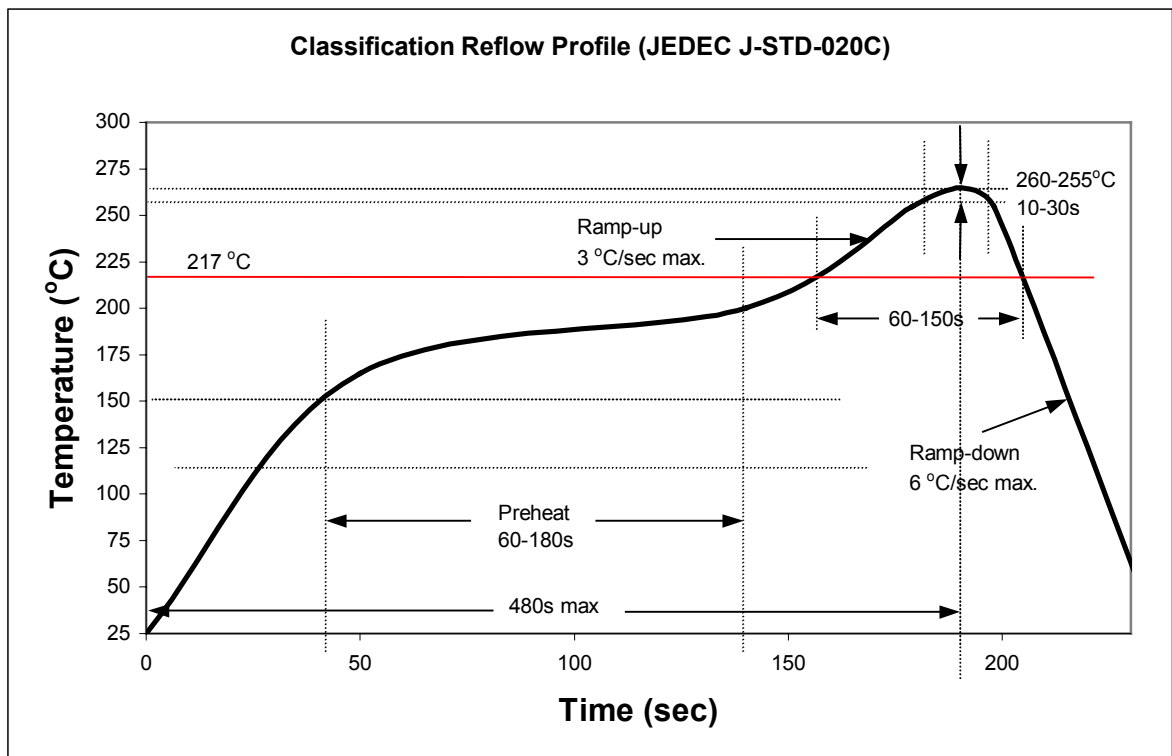
480 mm min. for  $\phi 180$  reel.  
 960 mm min. for  $\phi 330$  reel.



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



**Recommended Pb Free IR-Reflow Soldering Profile.**



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### **NOTE.**

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