DOMINANT™
Opto Technologies
Innovating Illumination

DATA SHEET :

Primax5620™

120 InGaN RG White : NEW-FSM

Primax™

Synonymous with function and performance, enter the Primax, the new era of high intensity illumination in LED. With its high flux output and high luminous intensity, Primax transcends today LED lightings technology and how we perceive it.

Features:

- > Designed for coupling with BLU.
- > Compact package outline (LxW) of 5.6 x 2.0 mm.
- > Ultra low height profile - 0.9mm.
- > Low thermal resistance.
- > Electrical and thermal isolated solder-pad design for better heat management.
- > Compatible to IR reflow soldering.
- > Environmental friendly; RoHS compliance.

Applications:

- > Backlighting (TFT LCD display), flash light, architectural lighting.

Optical Characteristics at Tj=25°C

Part Ordering Number	Color	Viewing Angle°	Luminous Intensity @ 120mA (lm)		
			Min.	Typ.	Max.
NEW-FSM-9P8Q-1	White	120	28.7	31.5	37.3

NOTE
1. Luminous intensity is measured with an accuracy of ± 11%.
2. Color binning is carried for all units as per the wavelength-binning table. Only one color group is allowed for each reel.

Electrical Characteristics at Tj=25°C

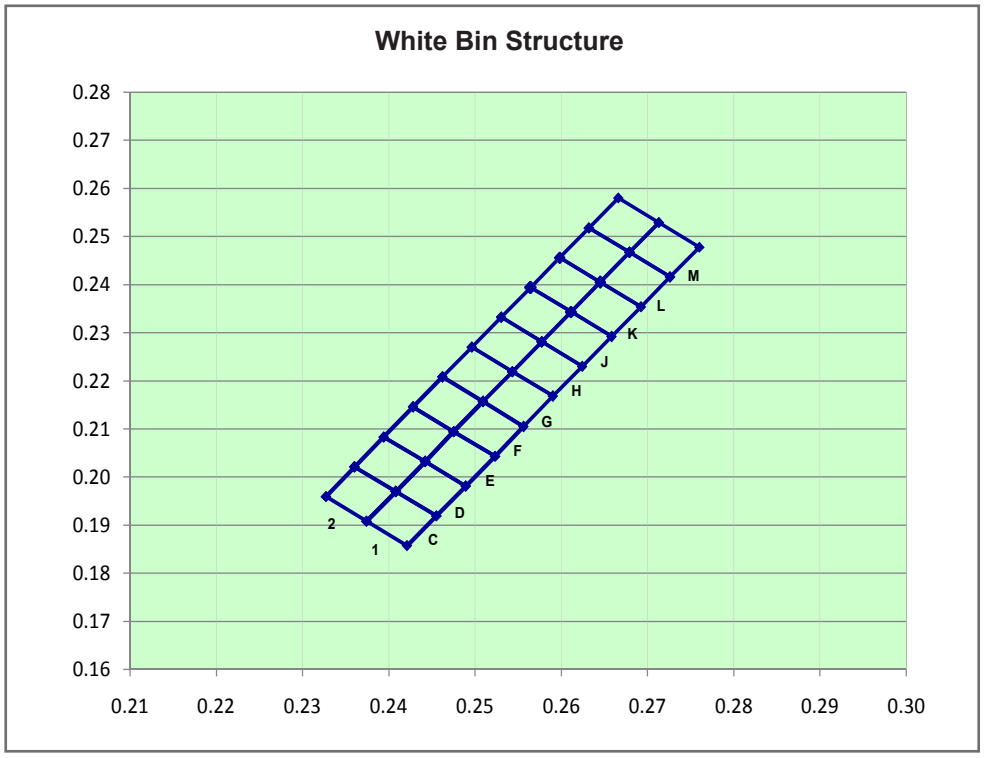
Part Number	Vf @ If = 120 mA			Vr @ Ir = 10 μA
	Min. (V)	Typ. (V)	Max. (V)	Min. (V)
NEW-FSM	2.8	3.2	3.5	5.0

Forward Voltages are tested using a current pulse of 1 ms and has an accuracy of ± 0.1 V.

Absolute Maximum Ratings

	Maximum Value	Unit
DC forward current	120	mA
Peak pulse current	200	mA
Reverse voltage	5	V
ESD threshold (HBM)	2000	V
LED junction temperature	125	˚C
Operating temperature	-40 … +100	˚C
Storage temperature	-40 … +100	˚C

NEW-FSM, White Color Grouping



Chromaticity coordinate groups are measured with an accuracy of ± 0.01.

Bin		1	2	3	4
2C	Cx	0.2327	0.2374	0.2408	0.2360
	Cy	0.1959	0.1908	0.1970	0.2021
1C	Cx	0.2374	0.2421	0.2455	0.2408
	Cy	0.1908	0.1857	0.1919	0.1970
2D	Cx	0.2360	0.2408	0.2442	0.2394
	Cy	0.2021	0.1970	0.2032	0.2083
1D	Cx	0.2408	0.2455	0.2489	0.2442
	Cy	0.1970	0.1919	0.1981	0.2032
2E	Cx	0.2394	0.2442	0.2475	0.2428
	Cy	0.2083	0.2032	0.2094	0.2146
1E	Cx	0.2442	0.2489	0.2523	0.2475
	Cy	0.2032	0.1981	0.2043	0.2094
2F	Cx	0.2428	0.2475	0.2509	0.2462
	Cy	0.2146	0.2094	0.2157	0.2208
1F	Cx	0.2475	0.2523	0.2556	0.2509
	Cy	0.2094	0.2043	0.2105	0.2157
2G	Cx	0.2462	0.2509	0.2543	0.2496
	Cy	0.2208	0.2157	0.2219	0.2270
1G	Cx	0.2509	0.2556	0.2590	0.2543
	Cy	0.2157	0.2105	0.2168	0.2219

Bin		1	2	3	4
2H	Cx	0.2496	0.2543	0.2577	0.2530
	Cy	0.2270	0.2219	0.2281	0.2332
1H	Cx	0.2543	0.2590	0.2624	0.2577
	Cy	0.2219	0.2168	0.2230	0.2281
2J	Cx	0.2530	0.2577	0.2611	0.2564
	Cy	0.2332	0.2281	0.2343	0.2394
1J	Cx	0.2577	0.2624	0.2658	0.2611
	Cy	0.2281	0.2230	0.2292	0.2343
2K	Cx	0.2564	0.2611	0.2645	0.2598
	Cy	0.2394	0.2343	0.2405	0.2456
1K	Cx	0.2611	0.2658	0.2692	0.2645
	Cy	0.2343	0.2292	0.2354	0.2405
2L	Cx	0.2598	0.2645	0.2679	0.2632
	Cy	0.2456	0.2405	0.2467	0.2518
1L	Cx	0.2645	0.2692	0.2726	0.2679
	Cy	0.2405	0.2354	0.2416	0.2467
2M	Cx	0.2632	0.2679	0.2713	0.2666
	Cy	0.2518	0.2467	0.2529	0.2580
1M	Cx	0.2679	0.2726	0.2760	0.2713
	Cy	0.2467	0.2416	0.2478	0.2529

Dominant color coordinate is measured with an accuracy of ± 0.01.

Luminous Intensity Group

Brightness Group	Luminous Flux IV (lm)
9P	28.7 ... 30.6
6Q	30.6 ... 32.7
7Q	32.7 ... 34.8
8Q	34.8 ... 37.3

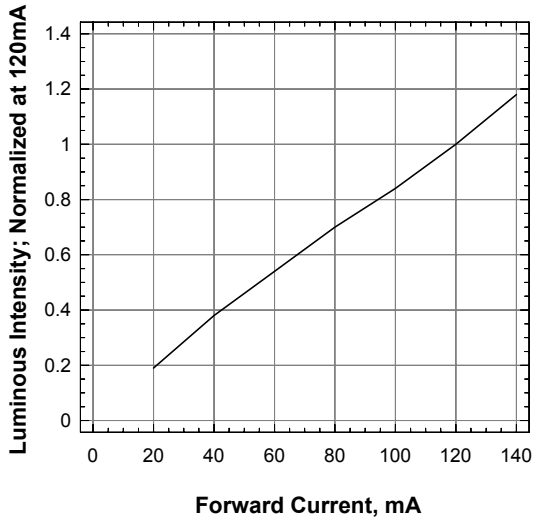
Luminous intensity is measured with an accuracy of ± 11%.

Vf Binning

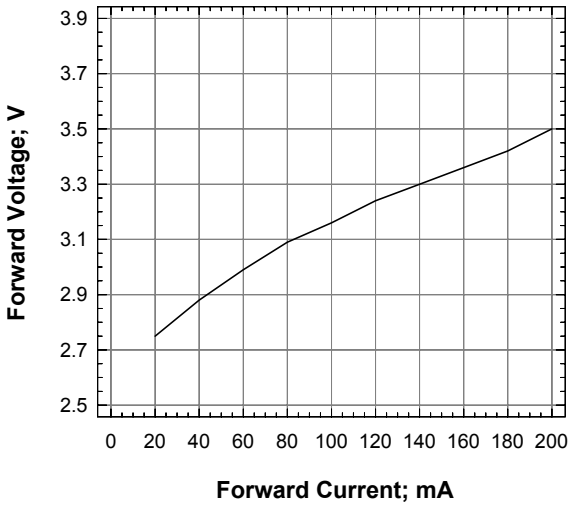
Vf Bin @ 120mA	Forward Voltage (V)
V0	2.80 ... 2.90
V1	2.90 ... 3.00
V2	3.00 ... 3.10
V3	3.10 ... 3.20
V4	3.20 ... 3.30
V5	3.30 ... 3.40
V6	3.40 ... 3.50

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

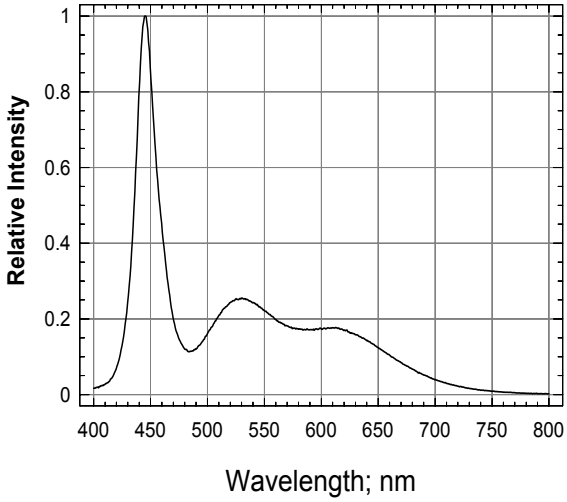
Relative Intensity Vs Forward Current



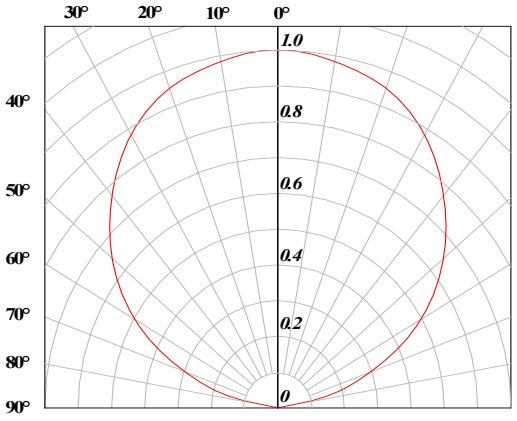
Forward Voltage Vs Forward Current



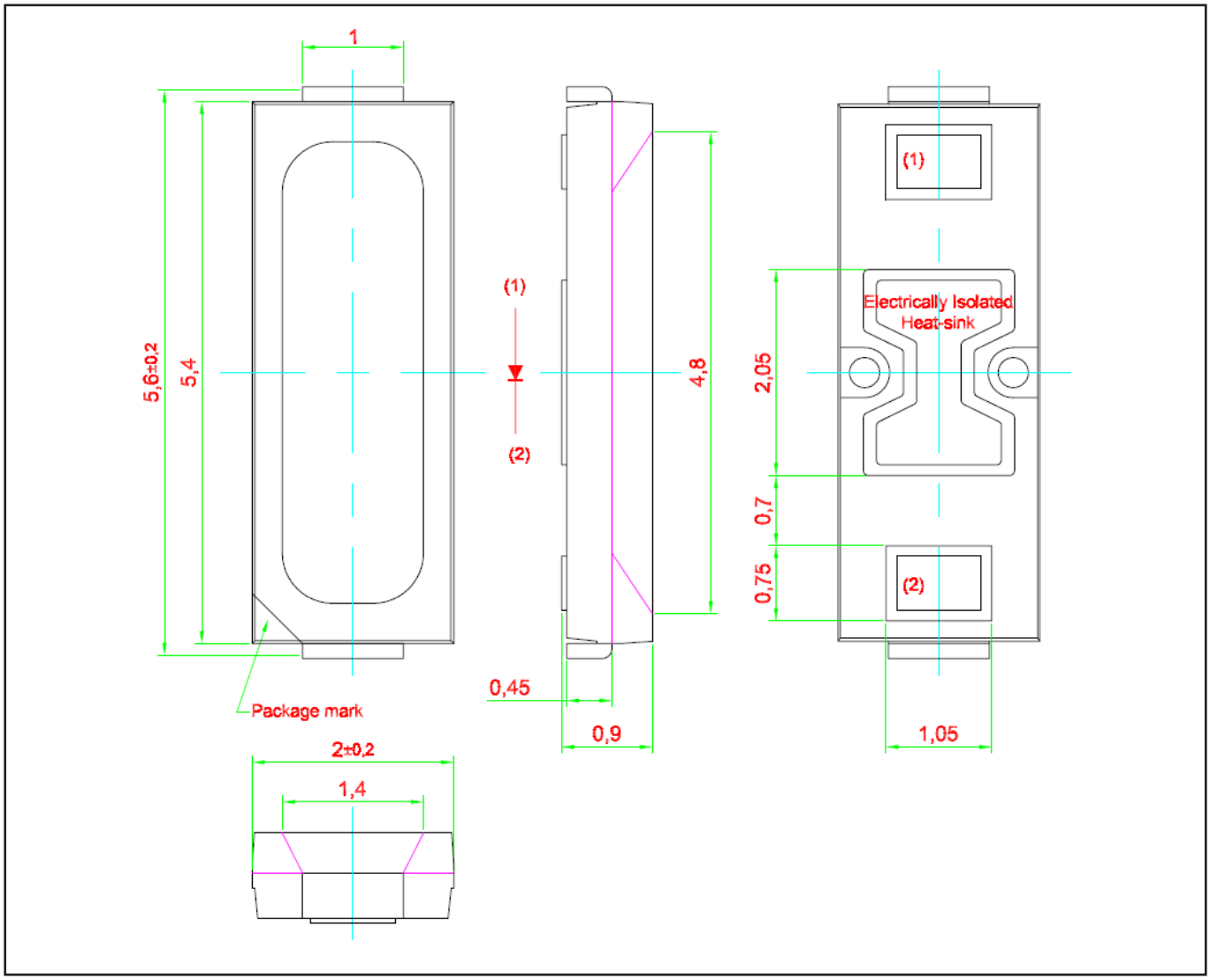
Relative Intensity Vs Wavelength



Radiation Pattern



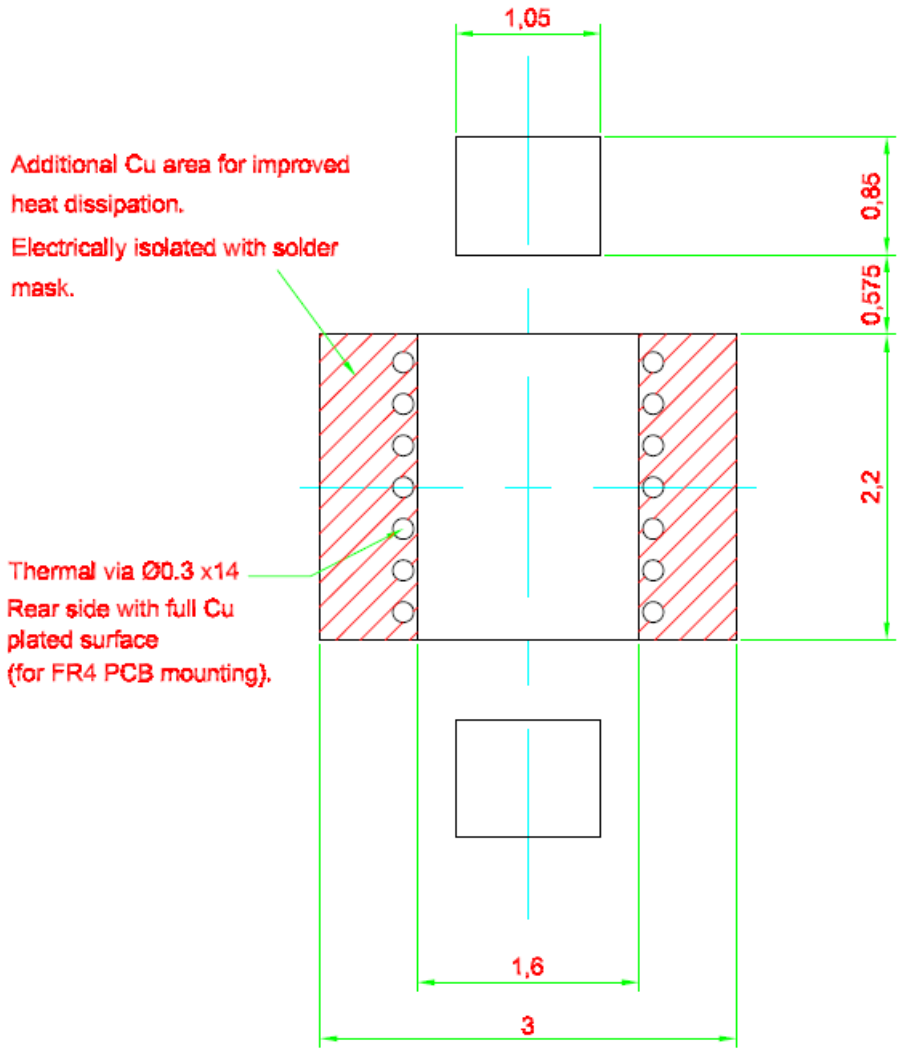
Primax5™ • 120 InGaN RG White: NEW-FSM Package Outlines



Material

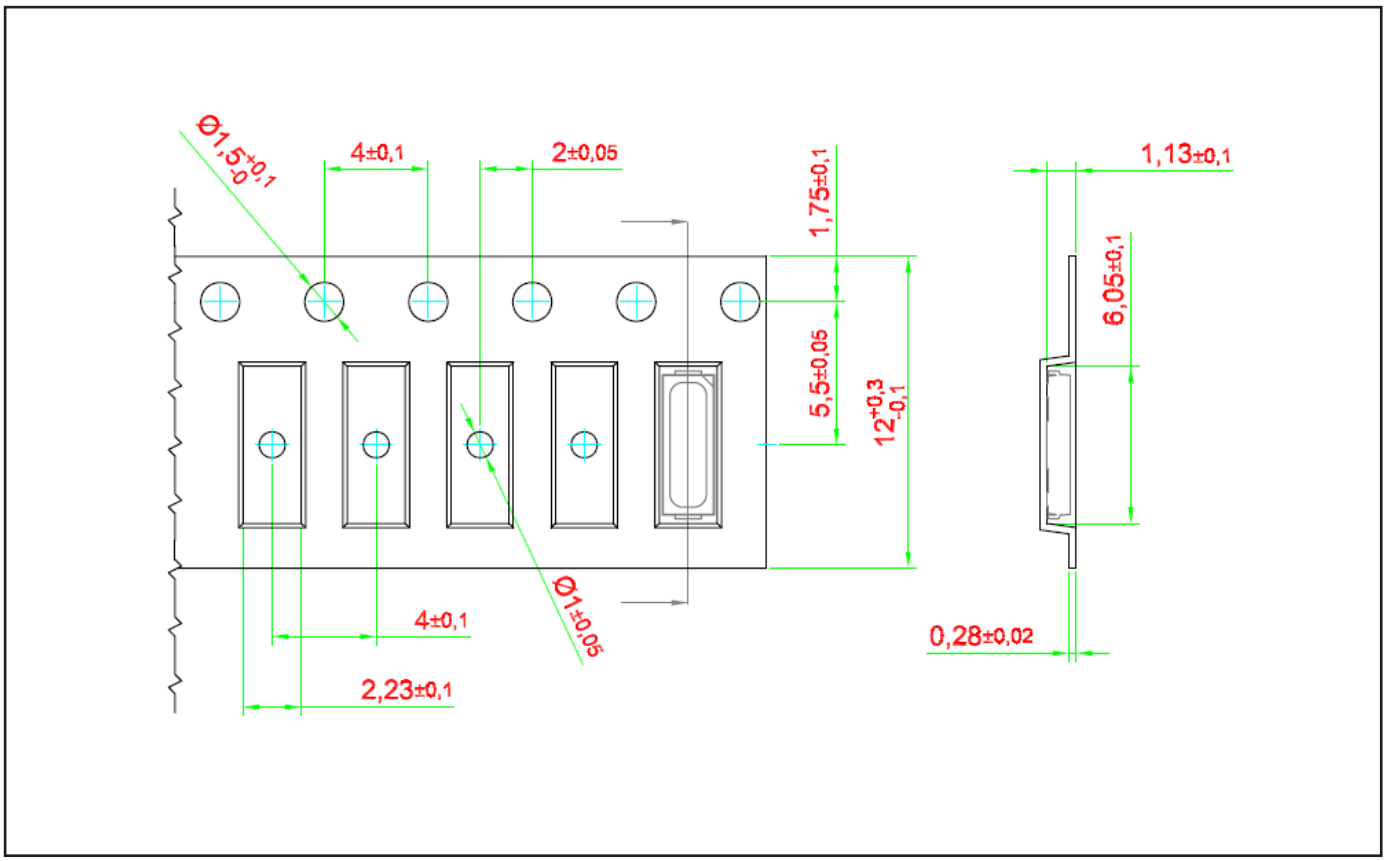
	Material
Lead-frame	Cu Alloy With Ag Plating
Package	High Temperature Resistant Plastic, PPA
Encapsulant	Silicone Resin
Soldering Leads	Ag Plating

Recommended Solder Pad

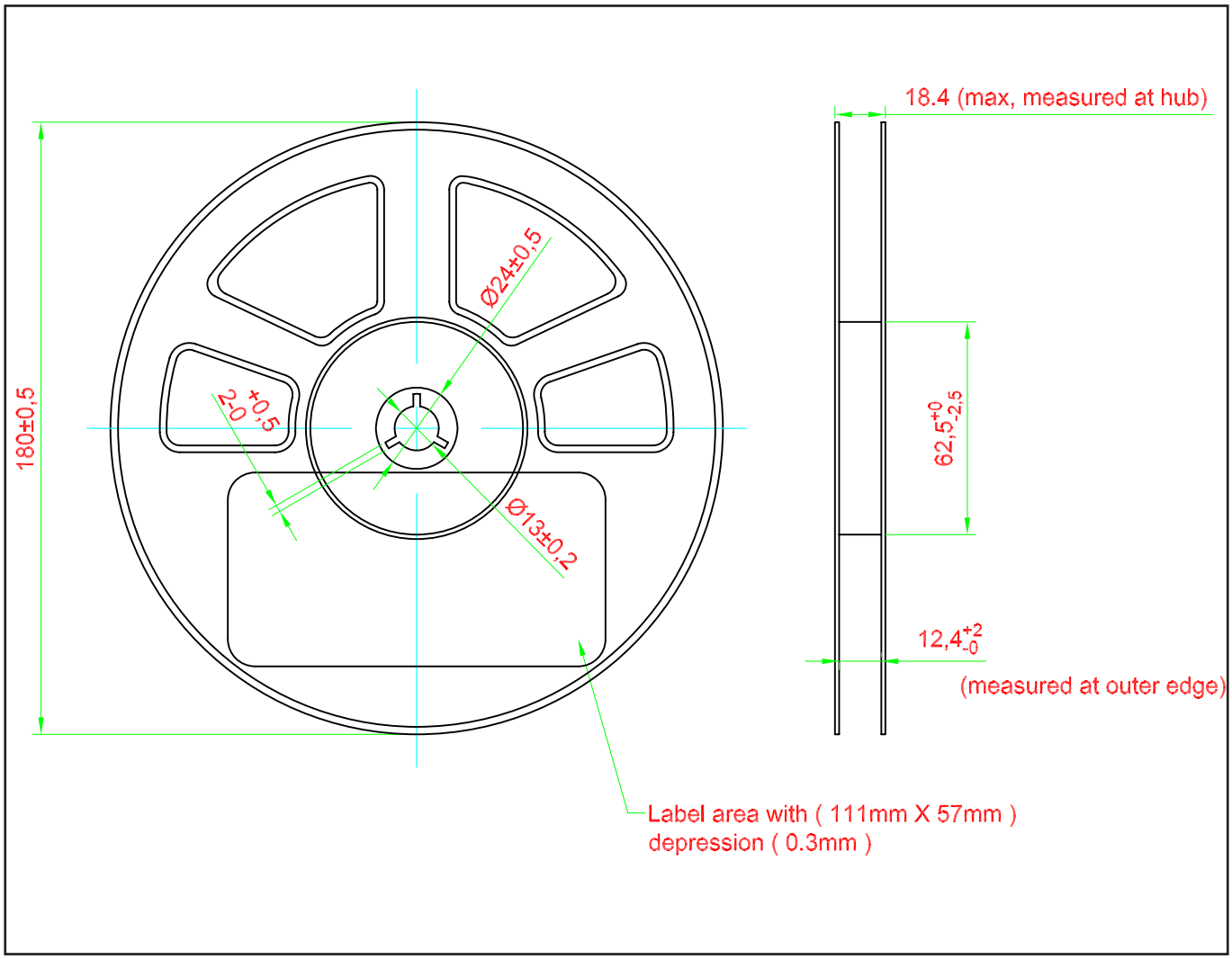


Taping and orientation

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



Packaging Specification



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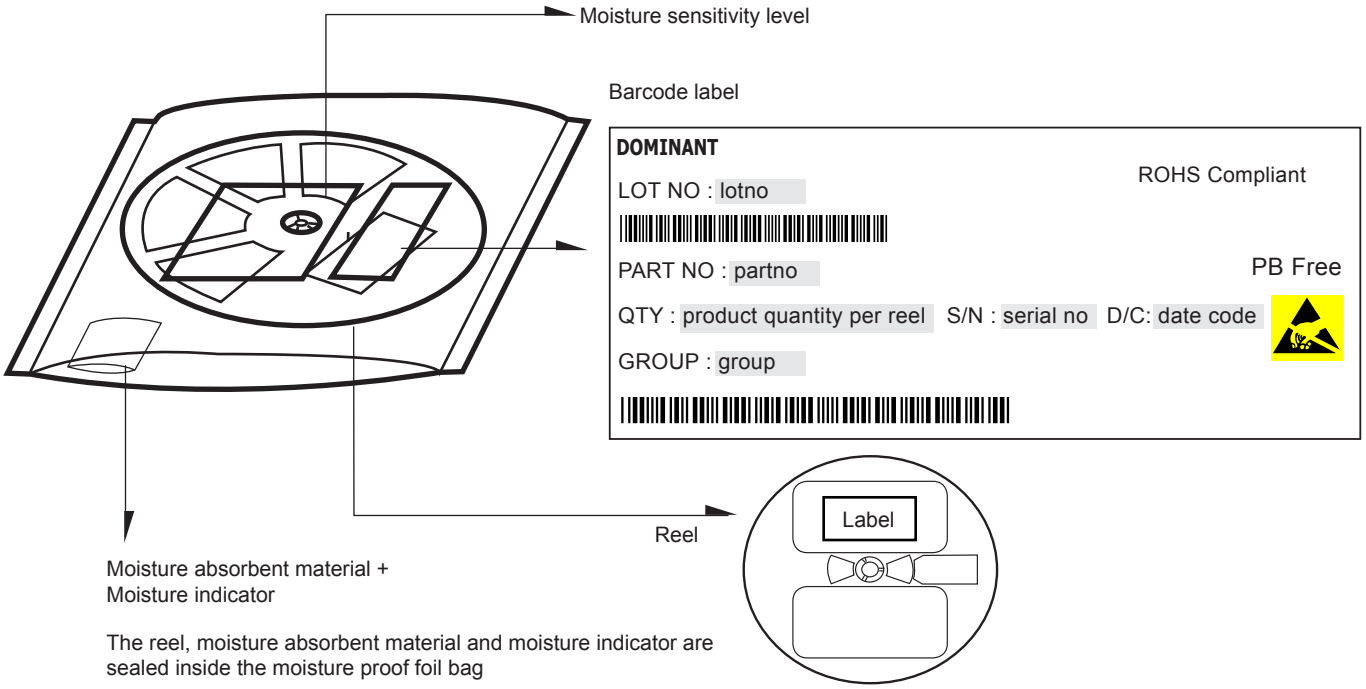
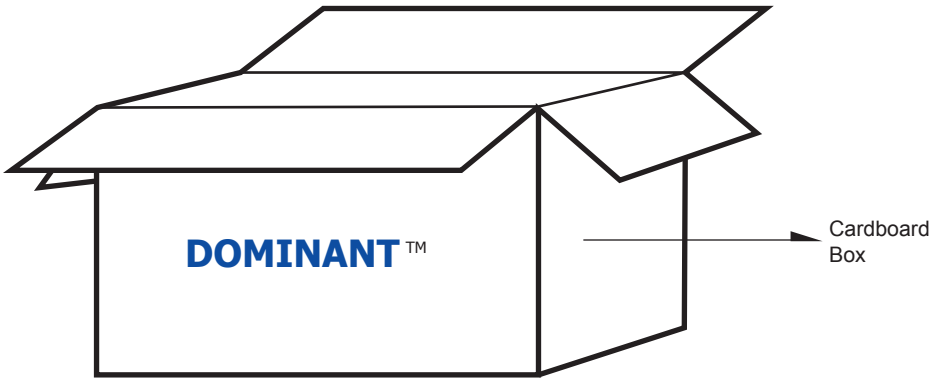


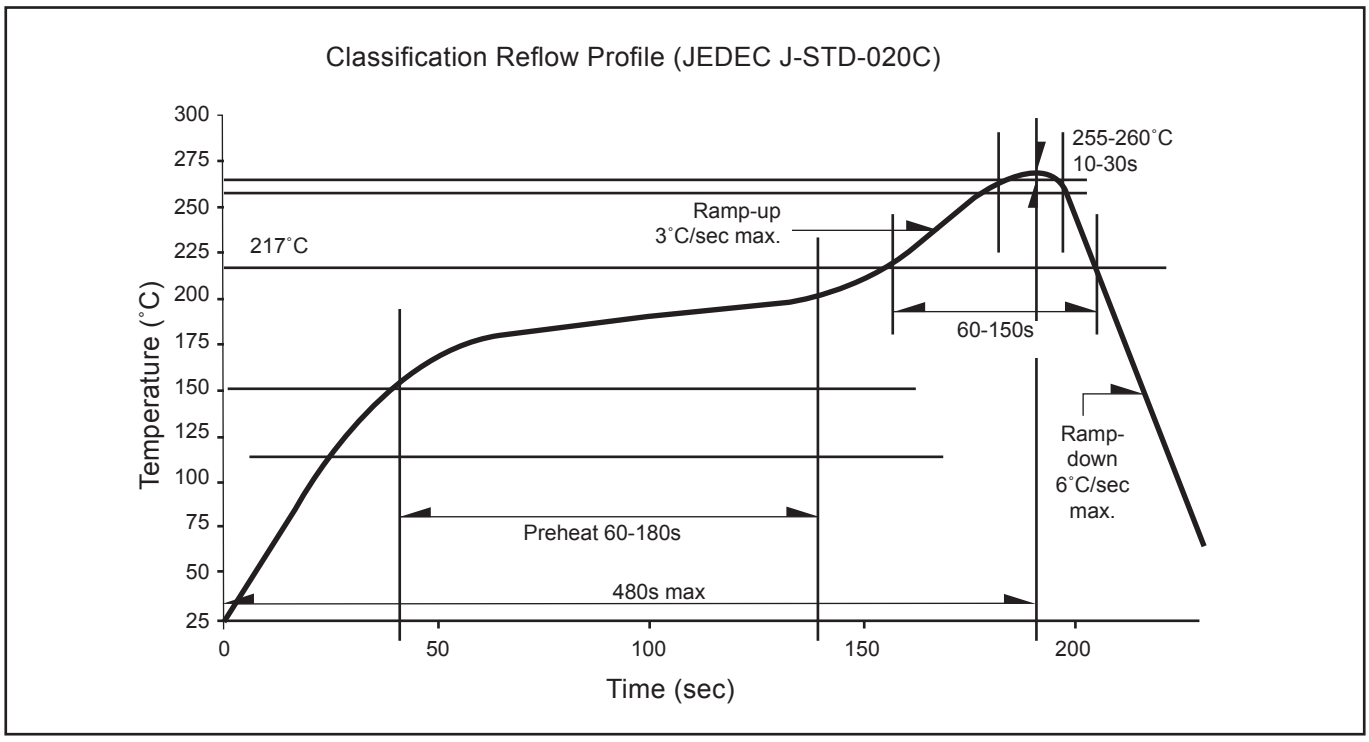
	Average 1pc Primax5	1 completed bag (2000pcs)
Weight (gram)	**0.041**	**200 ± 10**



For Primax5™

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	96 reels MAX	192,000 MAX

Recommended Pb-free Soldering Profile



Revision History

Page	Subjects	Date of Modification
-	Initial Release	12 Sep 2012

NOTE

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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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