

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. The small package outline (3.5 x 3.5 x 1.2 mm) and high intensity make it an ideal choice for backlighting, signage, exterior automotive lighting and decorative lighting.



Features:

- > Super high brightness surface mount LED
- > 120° viewing angle.
- > Compact package outline (LxW) of 3.5 x 3.5 mm.
- > Ultra low height profile - 1.2mm.
- > Low thermal resistance.
- > Compatible to IR reflow soldering.
- > Environmental friendly; RoHS compliance.



Applications:

- > Automotive: interior applications and exterior applications.
- > Lighting: garden light, architecture lighting, general lighting. etc
- > Backlighting (TFT LCD display), flash light, architectural lighting.

Optical Characteristics at Tj=25°C

Part Ordering Number	Color	Viewing Angle°	Luminous Intensity @ 60mA IV (mcd)		
			Min.	Typ.	Max.
NA2F-PSG-Y2Z-1	Warm White	120	3550.0	5000.0	7150.0

NOTE

1. Luminous intensity is measured with an accuracy of $\pm 11\%$.
2. 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

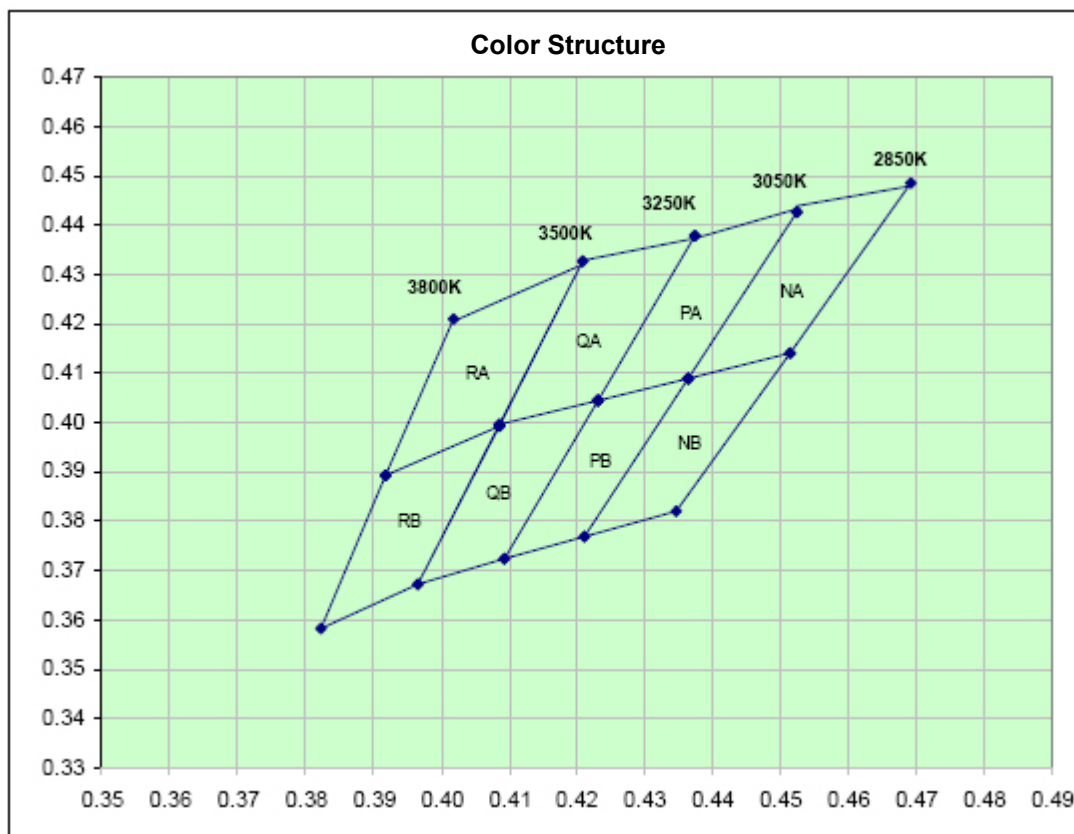
Part Number	Vf @ If = 60 mA		
	Min. (V)	Typ. (V)	Max. (V)
NA2F-PSG	2.9	3.4	3.8

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	70	mA
Peak pulse current (tp<=10ms, duty cycle<=0.1)	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
Thermal resistance		
- Junction / ambient, R _{th JA}	200	K/W
- Junction / solder point, R _{th JS}	90	K/W
(Mounting on FR4 PCB, pad size >= 16 mm ² per pad)		

NA2F-PSG, White Color Grouping



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

Bin					
RA	Cx	0.402	0.392	0.409	0.421
	Cy	0.421	0.389	0.399	0.433
RB	Cx	0.392	0.382	0.397	0.409
	Cy	0.389	0.358	0.367	0.399
QA	Cx	0.421	0.409	0.423	0.437
	Cy	0.433	0.400	0.405	0.438
QB	Cx	0.409	0.397	0.409	0.423
	Cy	0.400	0.367	0.372	0.405
PA	Cx	0.437	0.423	0.436	0.452
	Cy	0.438	0.405	0.409	0.443
PB	Cx	0.423	0.409	0.421	0.436
	Cy	0.405	0.372	0.377	0.409
NA	Cx	0.452	0.436	0.451	0.469
	Cy	0.443	0.409	0.414	0.448
NB	Cx	0.436	0.421	0.435	0.451
	Cy	0.409	0.377	0.382	0.414

Brightness Group	Luminous Intensity @ 60mA (mcd)	Flux @ 60mA (lm) Typ.
Y2	3550.0...4500.0	10.1
Z1	4500.0...5600.0	12.6
Z2	5600.0...7150.0	15.9

Luminous intensity is measured with an accuracy of $\pm 8\%$.

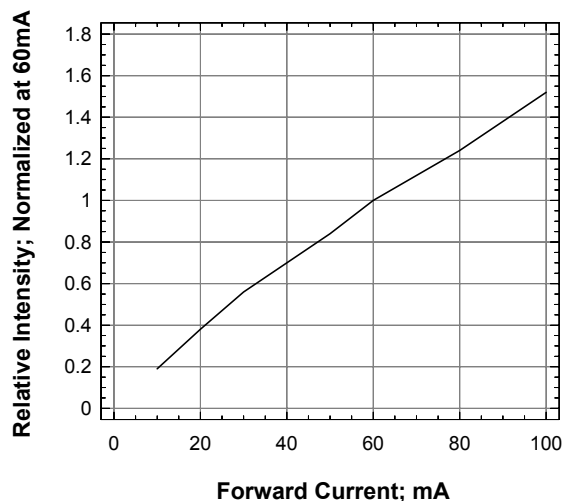
Vf Binning (Optional)

Vf Bin @ 60mA	Forward Voltage (V)
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
V7	3.50 ... 3.60
V8	3.60 ... 3.70
V9	3.70 ... 3.80

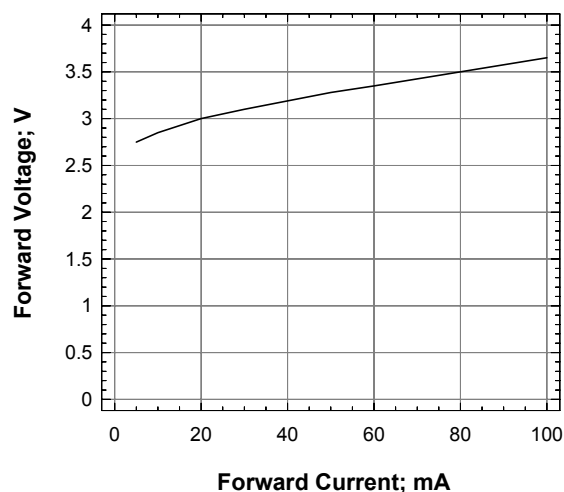
Forward voltage, Vf is measured with an accuracy of ± 0.1 V.

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

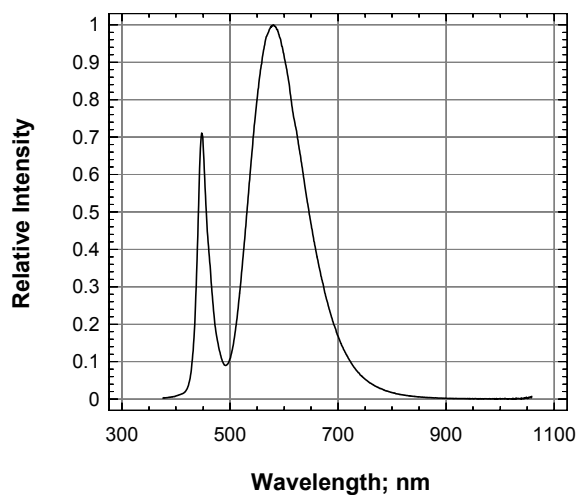
Relative Intensity Vs Forward Current



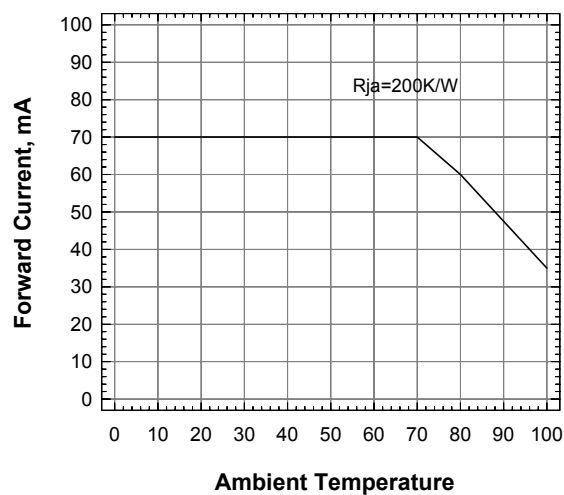
Forward Voltage Vs Forward Current



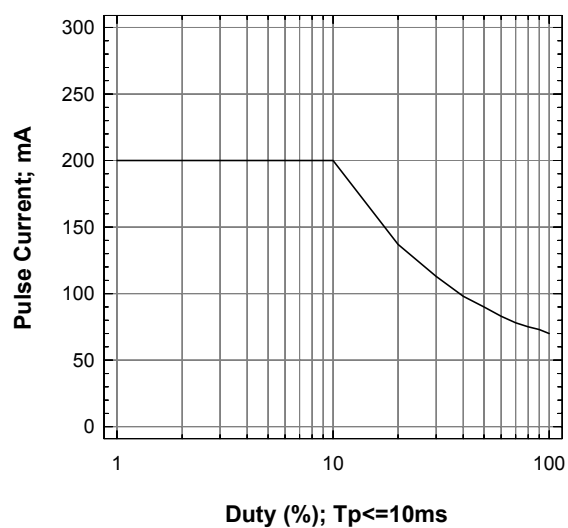
Relative Intensity Vs Wavelength



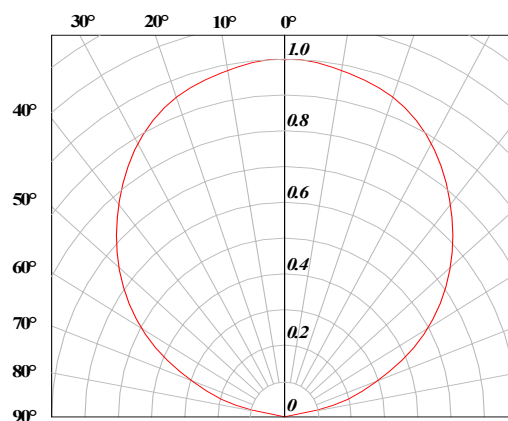
Maximum Current Vs Ambient Temperature



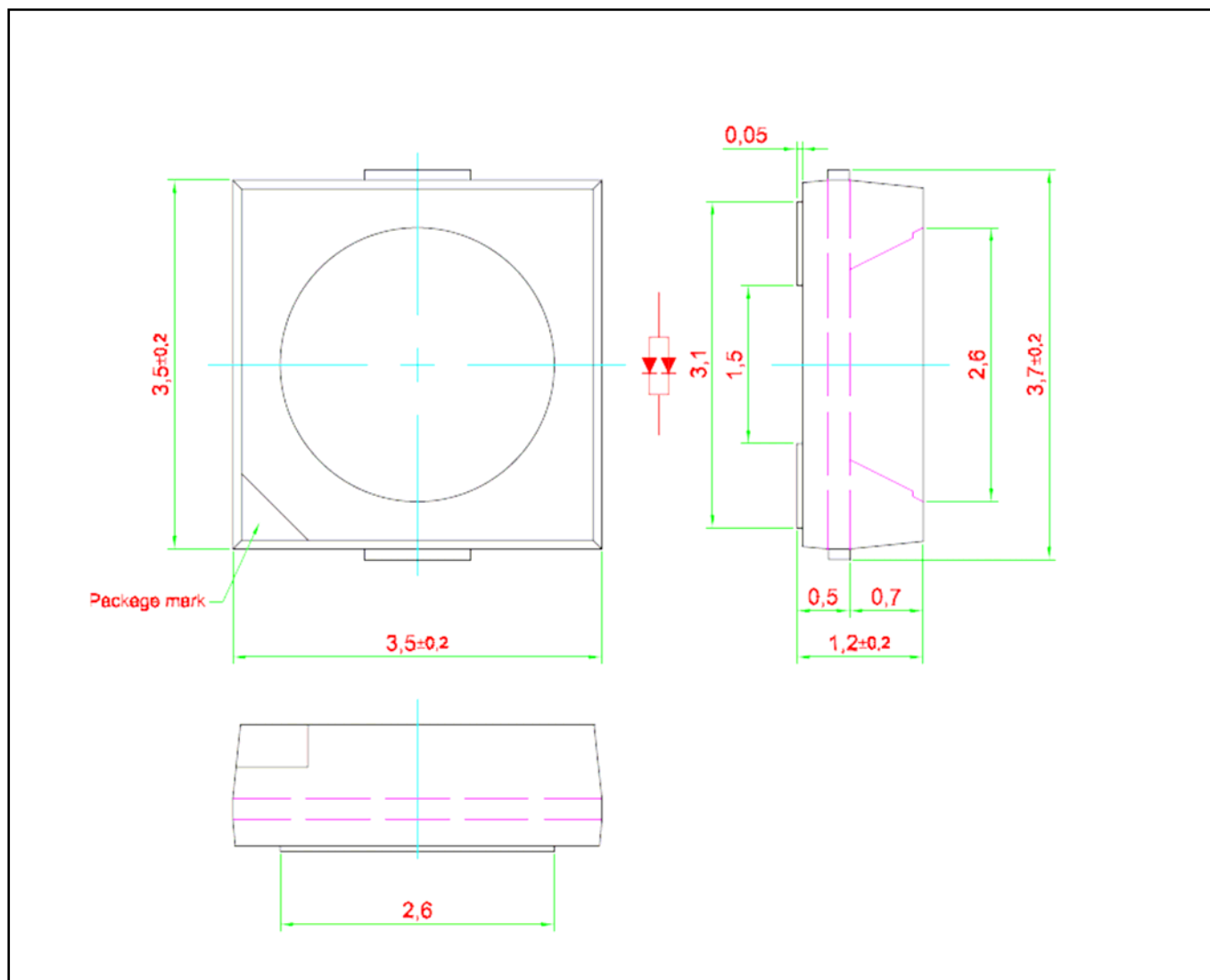
Max Pulse Current Vs Duty Cycle



Radiation Pattern



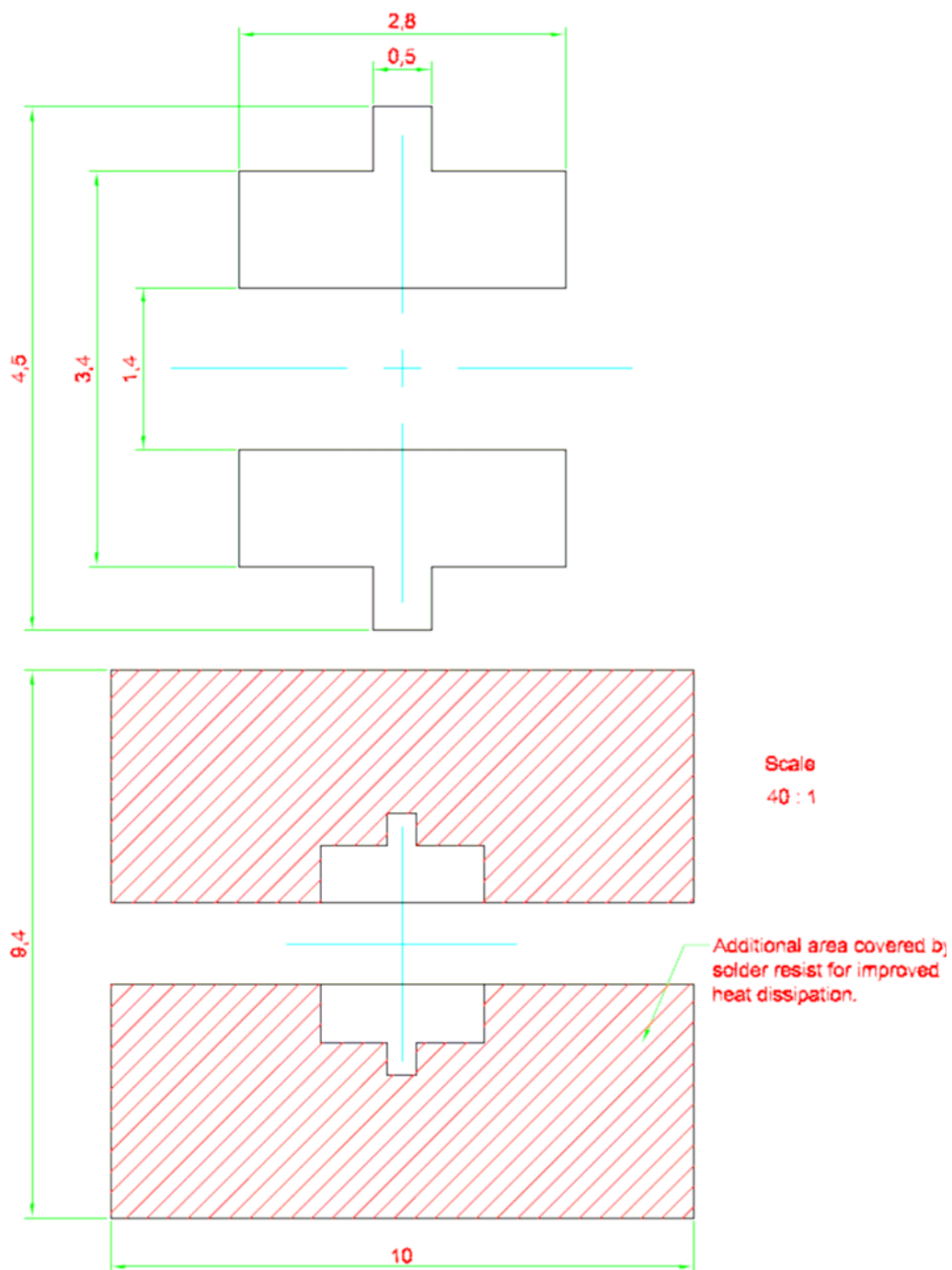
Primax™ • InGaN Warm White : NA2F-PSG Package Outlines



Material

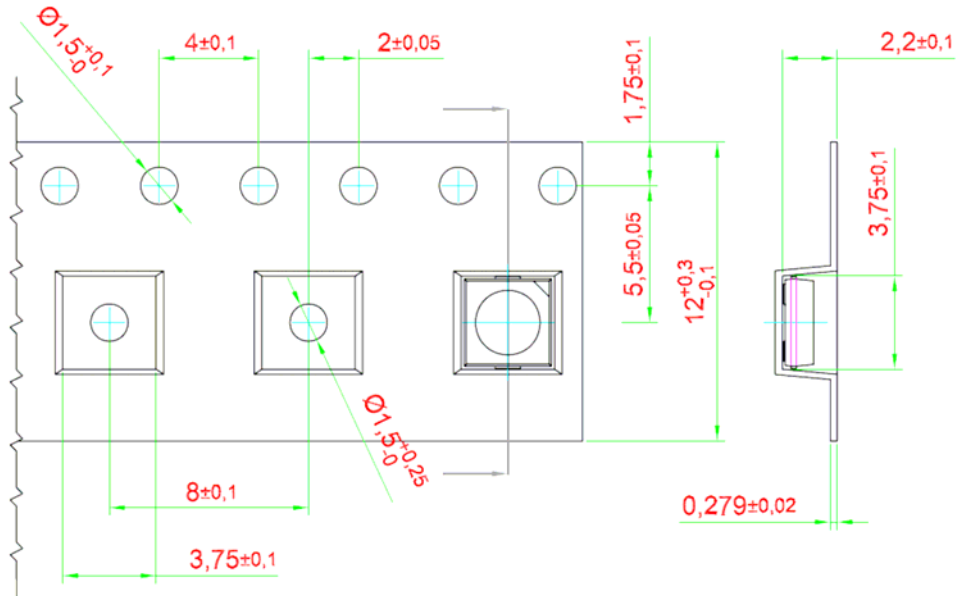
Material	
Lead-frame	Cu Alloy With Ag Plating
Package	High Temperature Resistant Plastic, PPA
Encapsulant	Silicone Resin
Soldering Leads	Sn-Sn Plating

Recommended Solder Pad

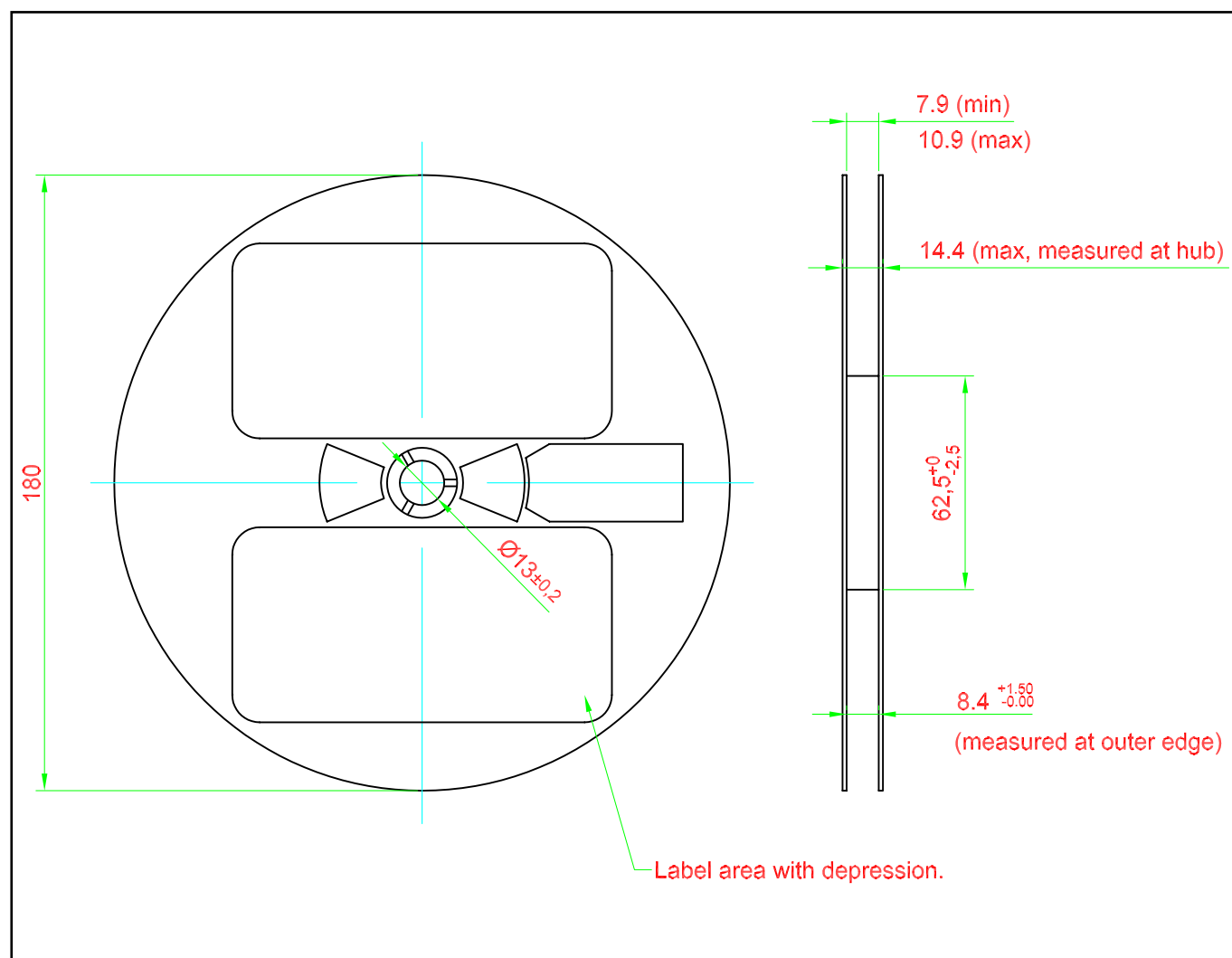


Taping and orientation

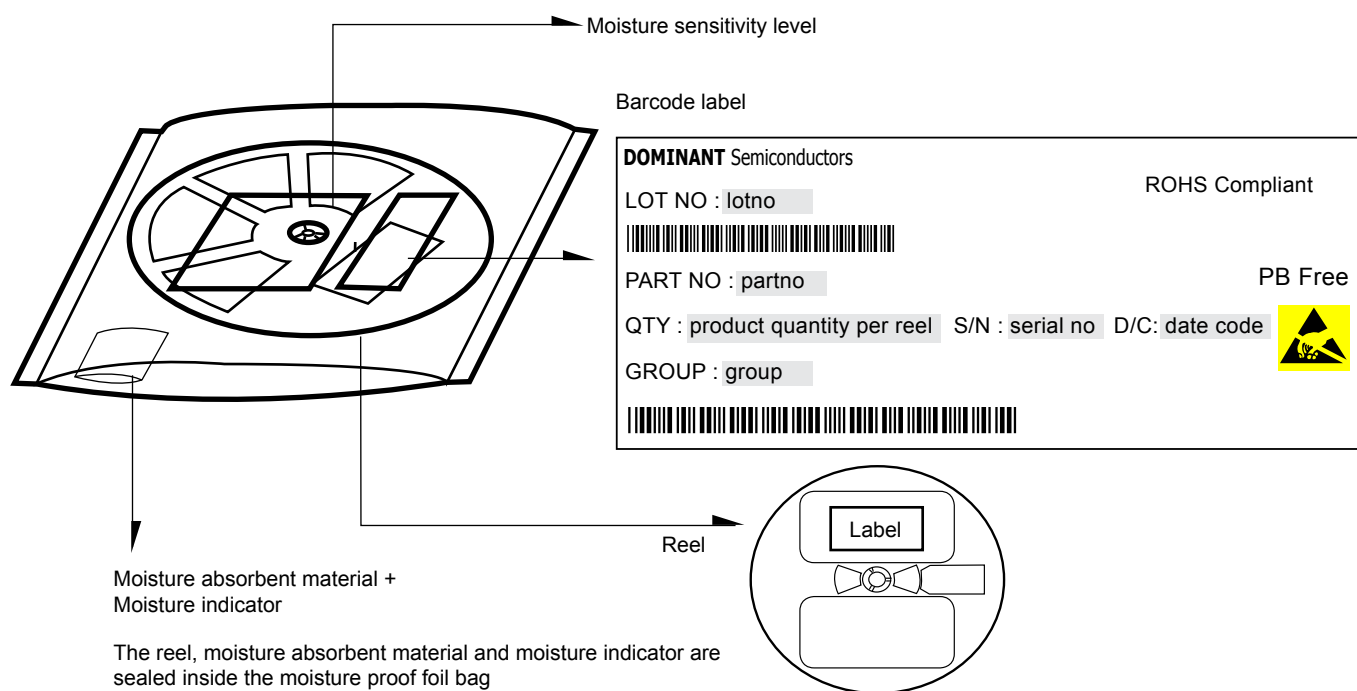
- Reels come in quantity of 1000 units.
- Reel diameter is 180 mm.



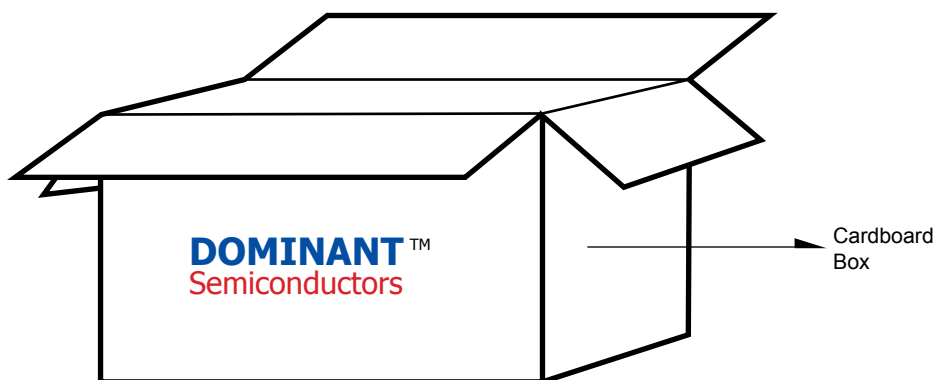
Packaging Specification



Packaging Specification



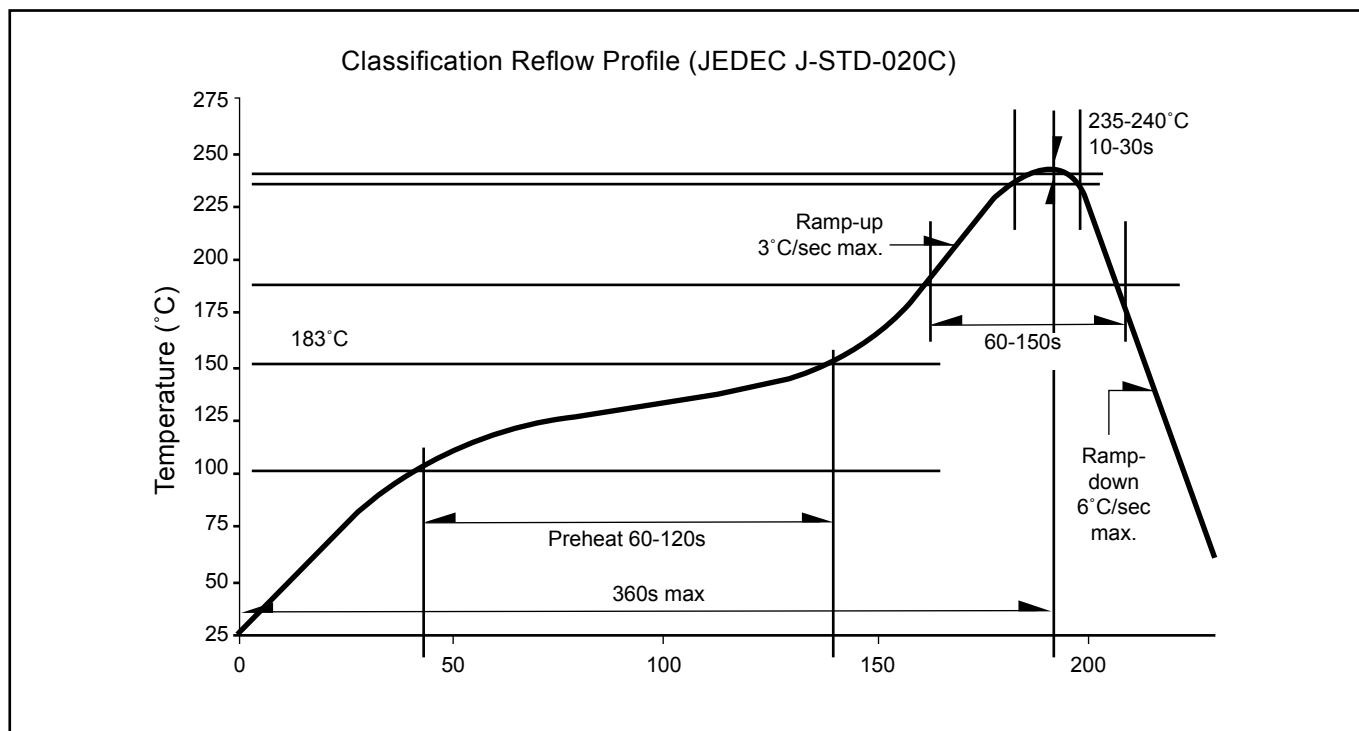
	Average 1pc Primax	1 completed bag (1000pcs)
Weight (gram)	0.041	160 ± 10



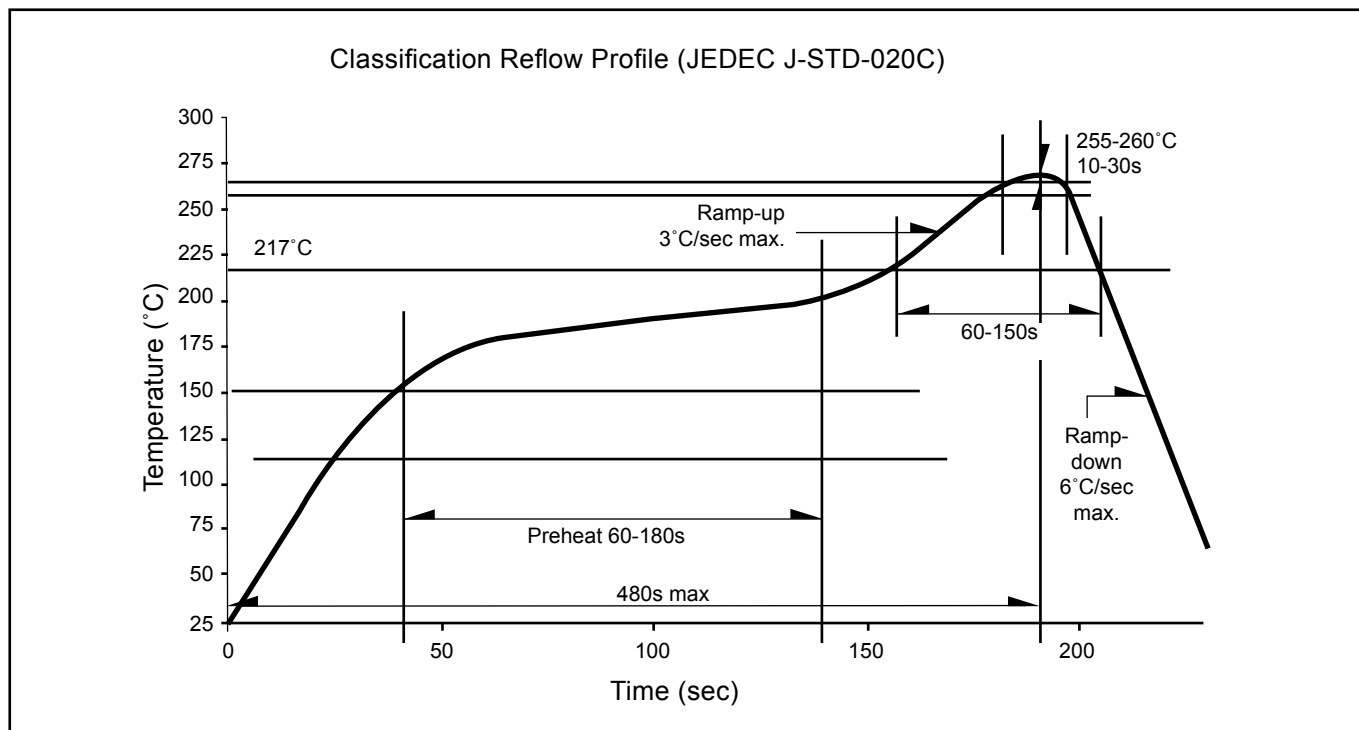
For Primax™

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 Sn-Pb IR-Reflow Soldering Profile



Recommended Pb-free Soldering Profile



Revision History

Page	Subjects	Date of Modification
-	Initial Release	17 Mar 2009

NOTE

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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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