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Data Sheet

20mA InGaN Warm White-EF3528D- 0201-0545

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.

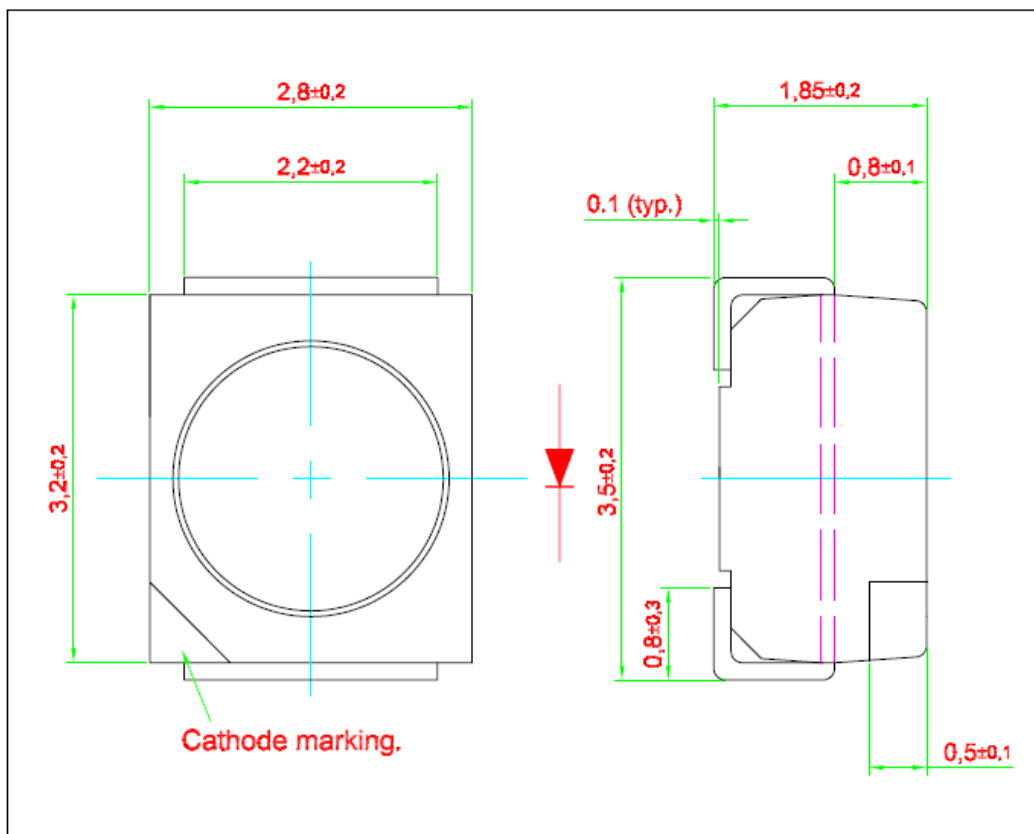


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Package Outline Dimensions



Material

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

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Optical Characteristics at Tj=25°C

Part Number	Color	Luminous Intensity @ 20mA IV (mcd)			Viewing Angle
		Min	Typ.	Max	
EF3528D-0201-X5X7-0545	Warm White	2200.0	2500.0	2800.0	120°

1. Luminous flux 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.
3. Color binning is carrier for all units as per the color binning table. Only one color group is allowed for each reel.
4. High color rendering Index (CRI). Minimum CRI of 70.

Electrical Characteristics at Tj=25°C

Part Number	Vf @ If=20mA		
	Min. (V)	Typ. (V)	Max. (V)
EF3528D-0201-X5X7-0545	2.9	3.2	3.5

Forward voltage, Vf is measured with a current pulse of 1 ms and an accuracy of ± 0.1 V.

Absolute Maximum Ratings

	Maximum Value	Unit
DC forward current.	30	mA
Peak pulse current	100	mA
Reverse voltage.	5	V
LED junction temperature.	125	°C
Operating temperature.	-40 ... +100	°C
Storage temperature.	-40 ... +100	°C
ESD Threshold (HBM)	500	V
Power dissipation (at room temperature)	80	mW

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Luminous Intensity Group at Tj=25°C.

Bin	Luminous Intensity @ 20mA IV (mcd)	
	Min	Max
X5	2200.0	2400.0
X6	2400.0	2600.0
X7	2600.0	2800.0

Vf Bining

Vf Bin	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

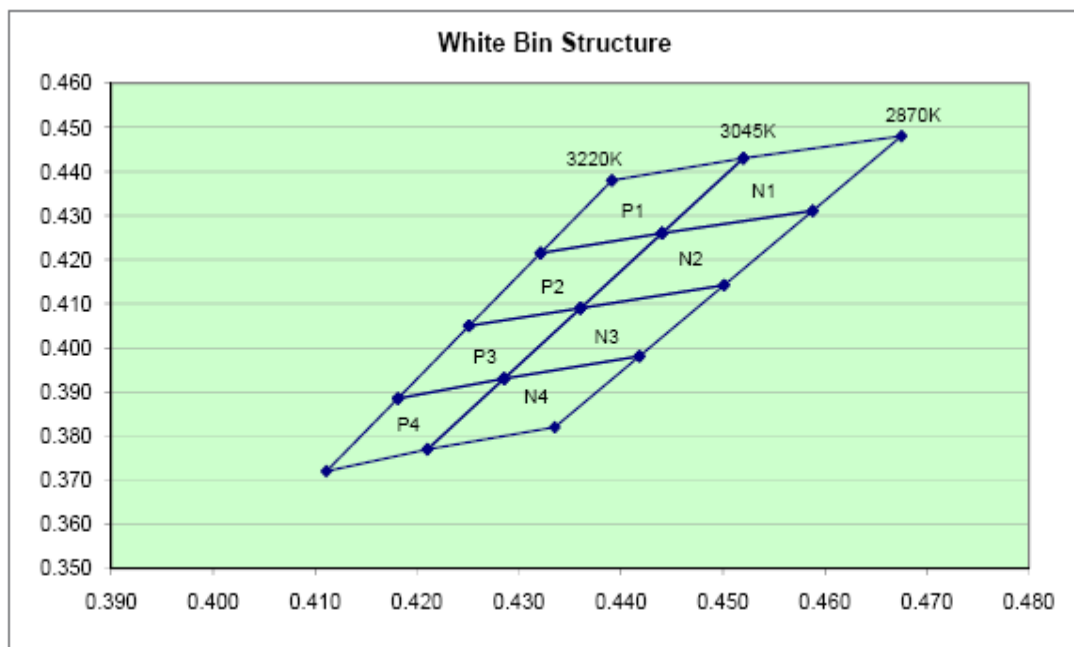
Forward voltage, Vf is measured with an accuracy of ± 0.1 V.

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Color bin structure



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

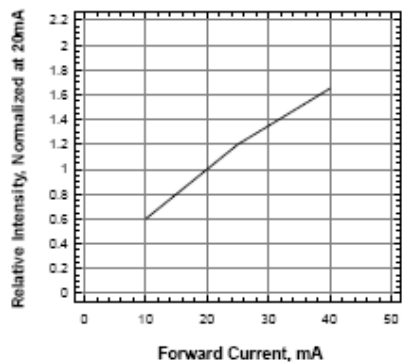
Bin		1	2	3	4
P1	Cx	0.4391	0.4321	0.4440	0.4520
	Cy	0.4380	0.4215	0.4260	0.4430
P2	Cx	0.4321	0.4251	0.4360	0.4440
	Cy	0.4215	0.4050	0.4090	0.4260
P3	Cx	0.4251	0.4181	0.4285	0.4360
	Cy	0.4050	0.3885	0.3930	0.4090
P4	Cx	0.4181	0.4111	0.4210	0.4285
	Cy	0.3885	0.3720	0.3770	0.3930
N1	Cx	0.4520	0.4440	0.4588	0.4675
	Cy	0.4430	0.4260	0.4311	0.4480
N2	Cx	0.4440	0.4360	0.4501	0.4588
	Cy	0.4260	0.4090	0.4142	0.4311
N3	Cx	0.4360	0.4285	0.4418	0.4501
	Cy	0.4090	0.3930	0.3981	0.4142
N4	Cx	0.4285	0.4210	0.4335	0.4418
	Cy	0.3930	0.3770	0.3820	0.3981

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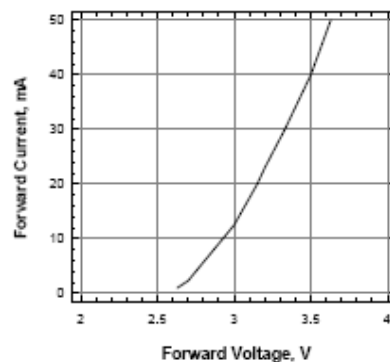
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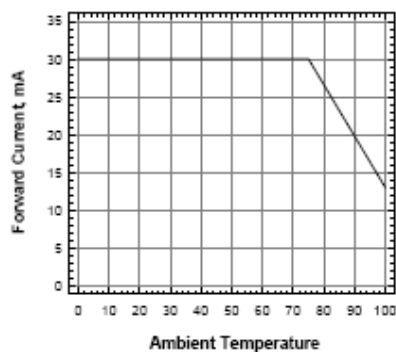
Relative Intensity Vs Forward Current



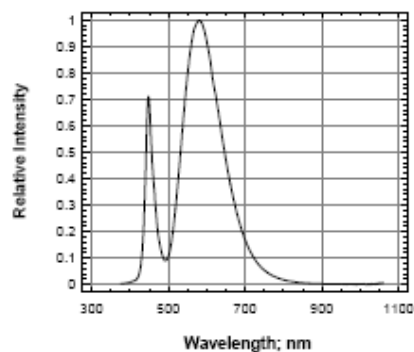
Forward Current Vs Forward Voltage



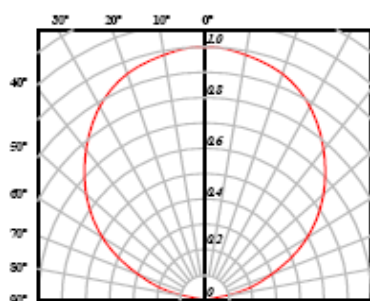
Maximum Forward Current Vs Ambient Temperature



Relative Intensity Vs Wavelength



Radiation Pattern

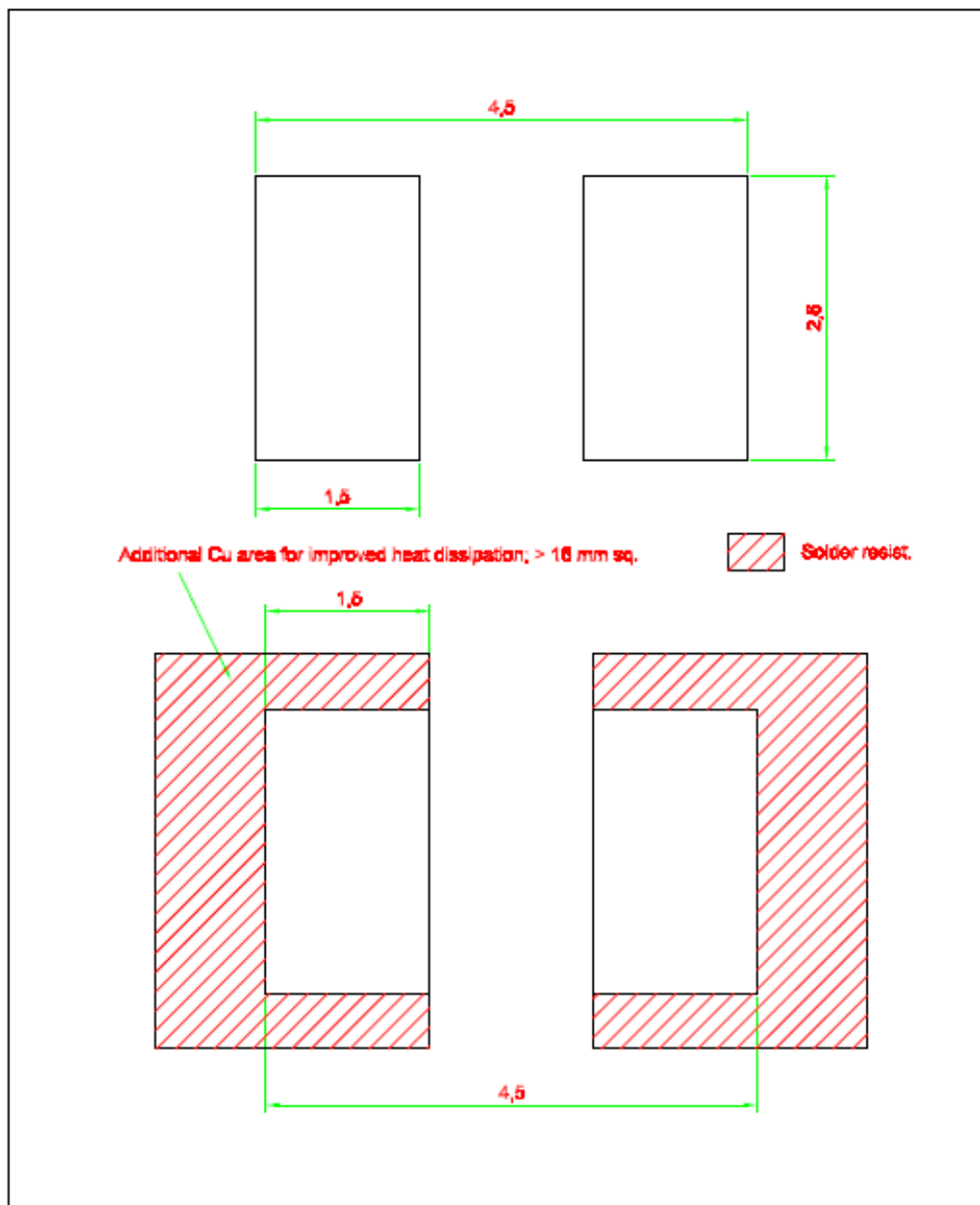


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Recommended Solder Pad



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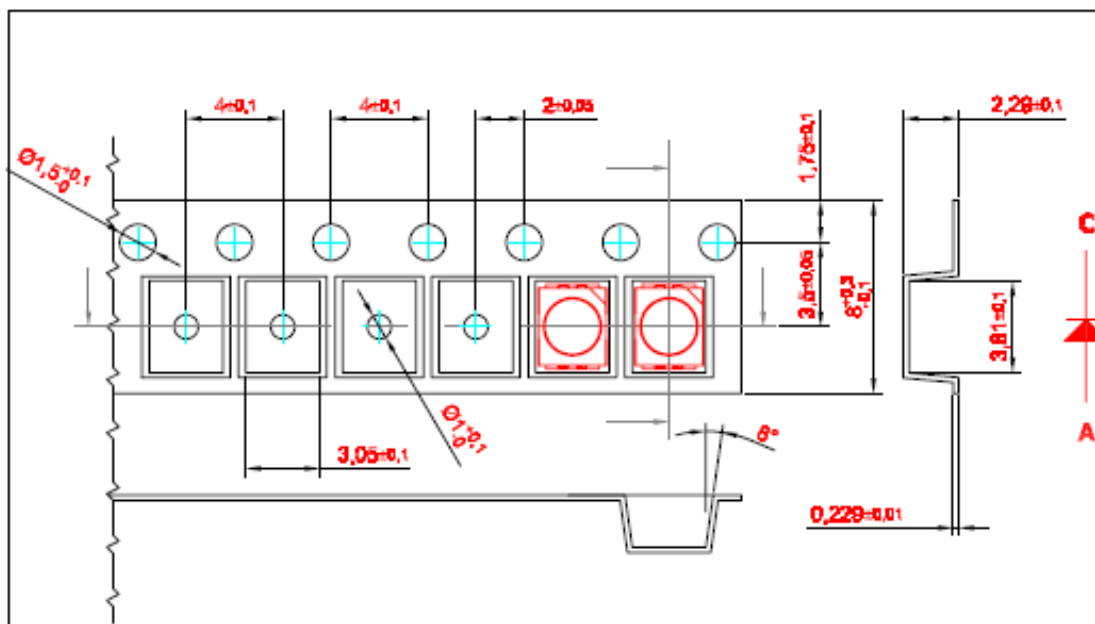
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Taping And Orientation

Reels come in quantity of 2000 units.

Reel diameters are 180 mm.

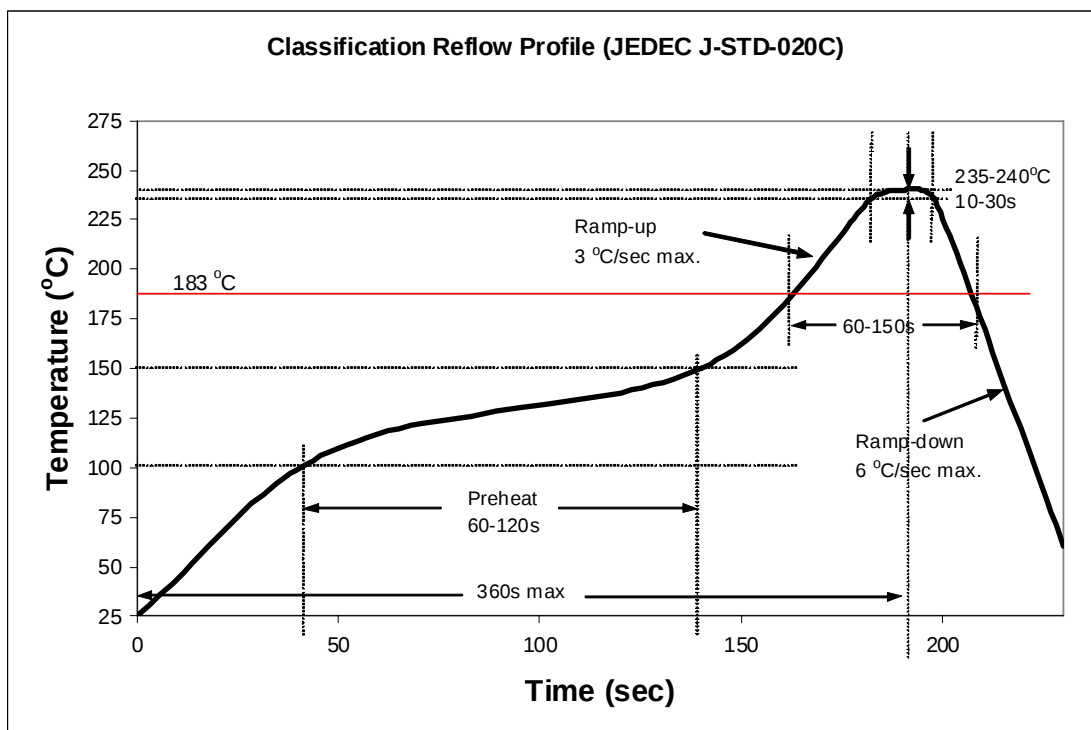


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Recommended Sn-Pb IR-Reflow Soldering Profile



Recommended Pb Free IR-Reflow Soldering Profile.

