

ENEMAX

Data Sheet

20mA AlInGaP Super Red-ES3528D- 0201

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.



Applications:

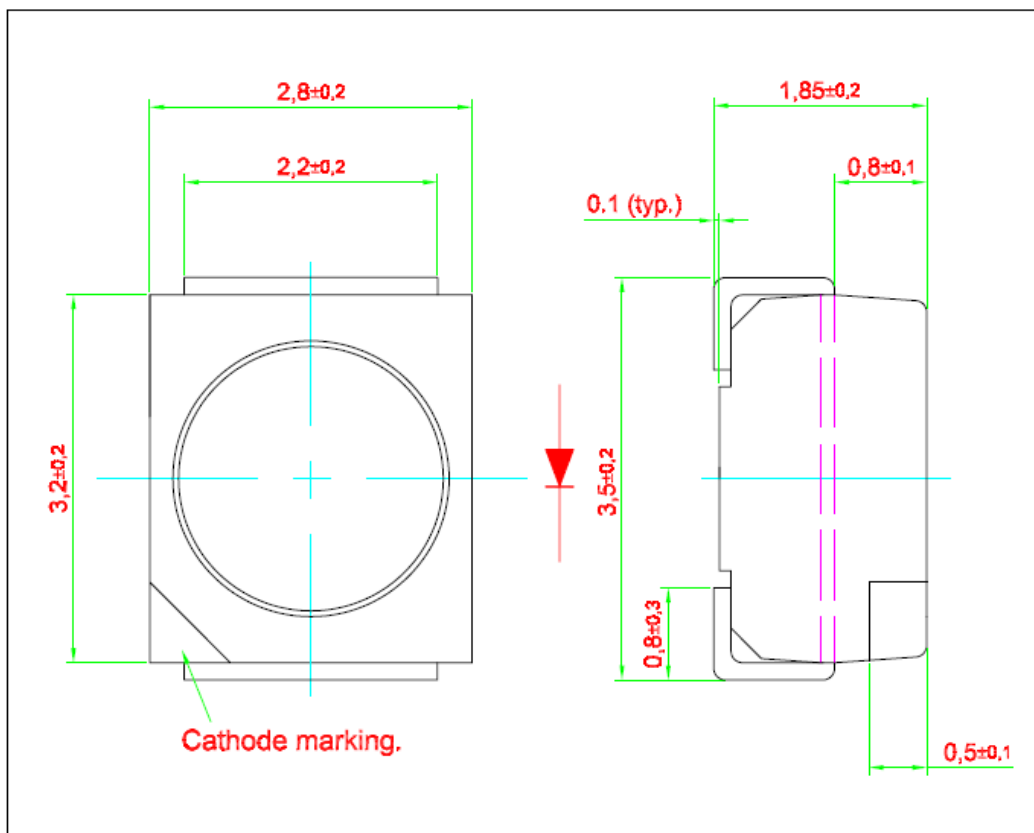
- > Automotive: interior applications, eg: switches, telematics, climate control system, dashboard, etc.
- > Consumer appliances: LCD illumination as in PDAs, LCD TV.
- > Communication: indicator and backlight in mobilephone.
- > Display: full color display video notice board.
- > Industrial: white goods (eg: Oven, microwave, etc.).

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Package Outline Dimensions



Material

	Material
Lead-frame	Cu Alloy With Ag Plating.
Package	High Temperature Resistant Plastic, PPA.
Encapsulant	Epoxy
Soldering Leads	Sn-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	
ES3528D-0201-PR2-1	Super Red	45.0	90.0	180.0	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.

Electrical Characteristics at Tj=25°C

Part Number	Vf @ If=20mA		
	Min. (V)	Typ. (V)	Max. (V)
ES3528D-0201	1.6	1.9	2.3

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	500	mA
Reverse voltage.	12	V
LED junction temperature.	125	°C
Operating temperature.	-40 ... +100	°C
Storage temperature.	-40 ... +100	°C
ESD Threshold (HBM)	2	V
Power dissipation (at room temperature)	75	mW
Thermal resistance • Junction / ambient, R_{th} JA • Junction/ solder point, R_{th} JS (Mounted on dual side plated through hole FR4 PCB; total Cu area> 900mm ²)	500 280	K/W K/W

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Luminous Intensity Group at Tj=25°C.

Bin	Luminous Intensity @ 20mA IV (mcd)	
	Min	Max
P1	45.0	56.0
P2	56.0	71.5
Q1	71.5	90.0
Q2	90.0	112.5
R1	112.5	140.0
R2	140.0	180.0

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Wavelength Grouping at Tj=25°C

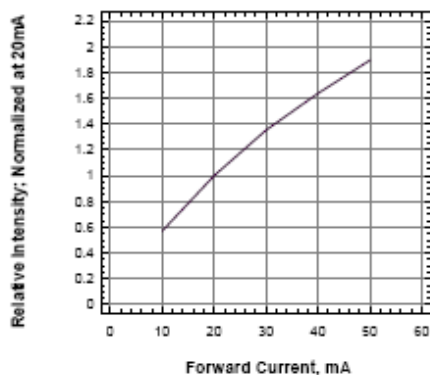
Color	Group	Wavelength distribution (nm)
Super Red	Full	625-640

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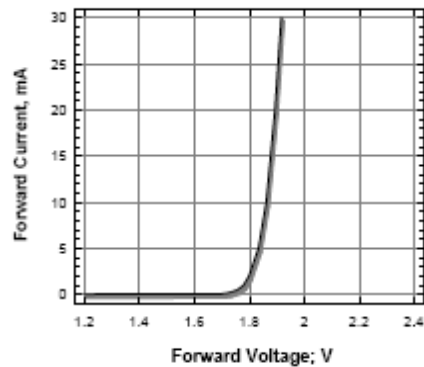
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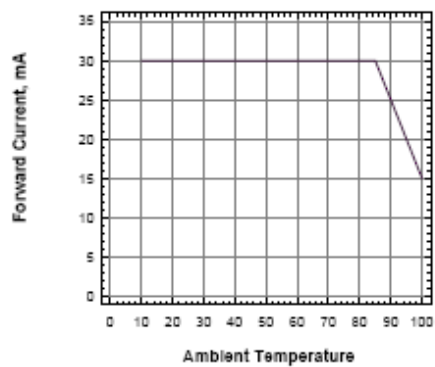
Relative Luminous Intensity Vs Forward Current



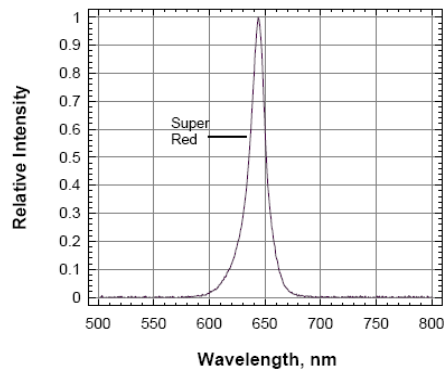
Forward Current Vs Forward Voltage



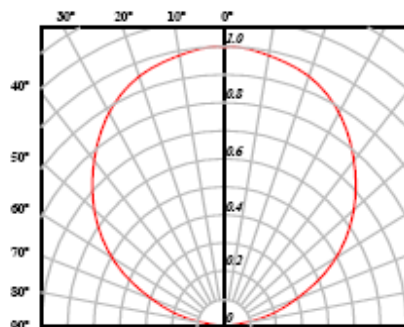
Maximum Current Vs Temperature



Relative Intensity Vs Wavelength



Radiation Pattern

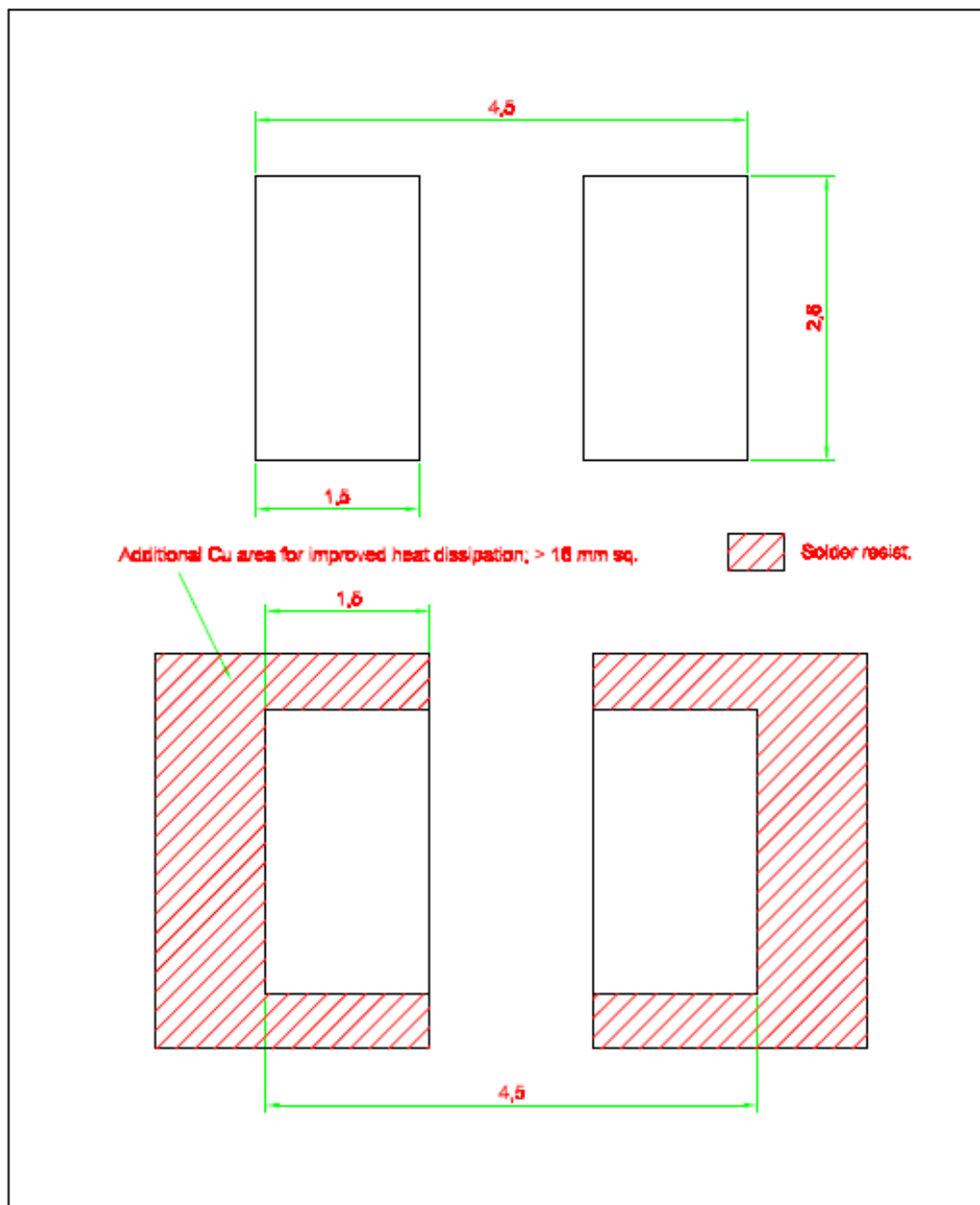


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Recommended Solder Pad



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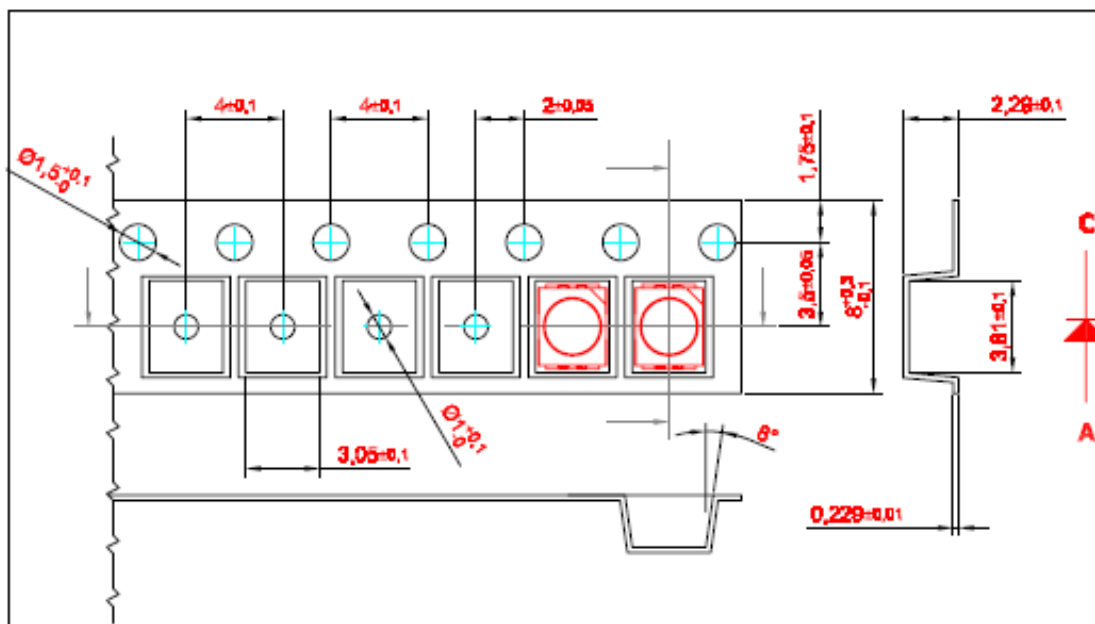
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Taping And Orientation

Reels come in quantity of 2000 units.

Reel diameters are 180 mm.

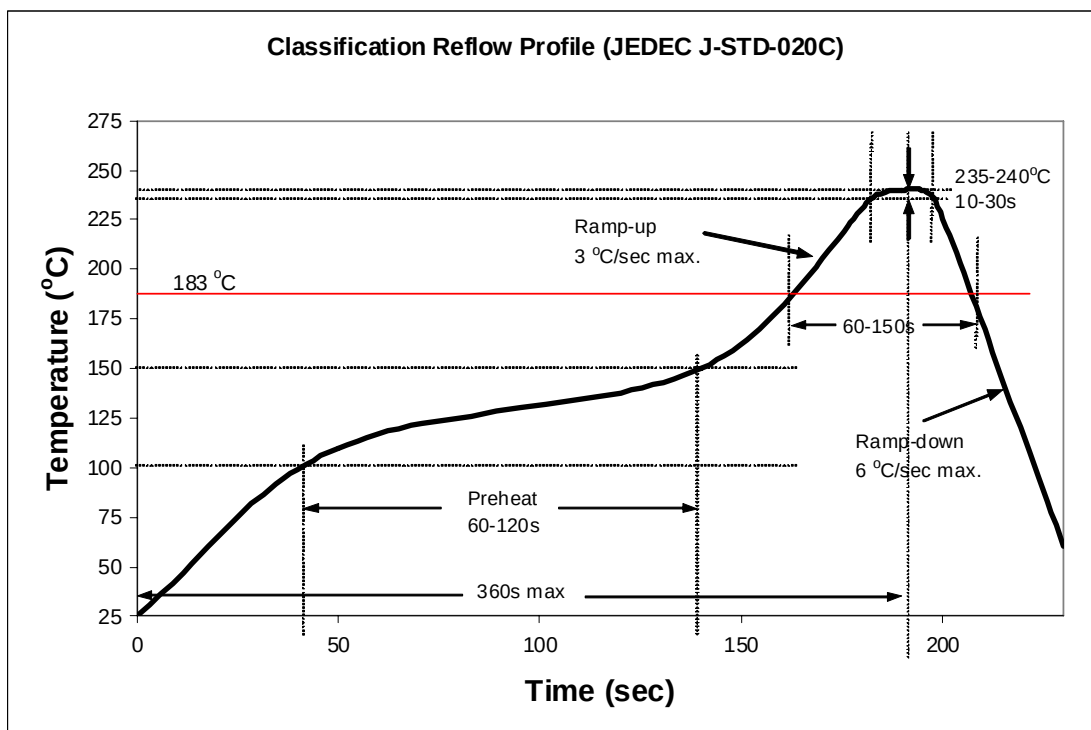


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Recommended Sn-Pb IR-Reflow Soldering Profile



Recommended Pb Free IR-Reflow Soldering Profile.

