

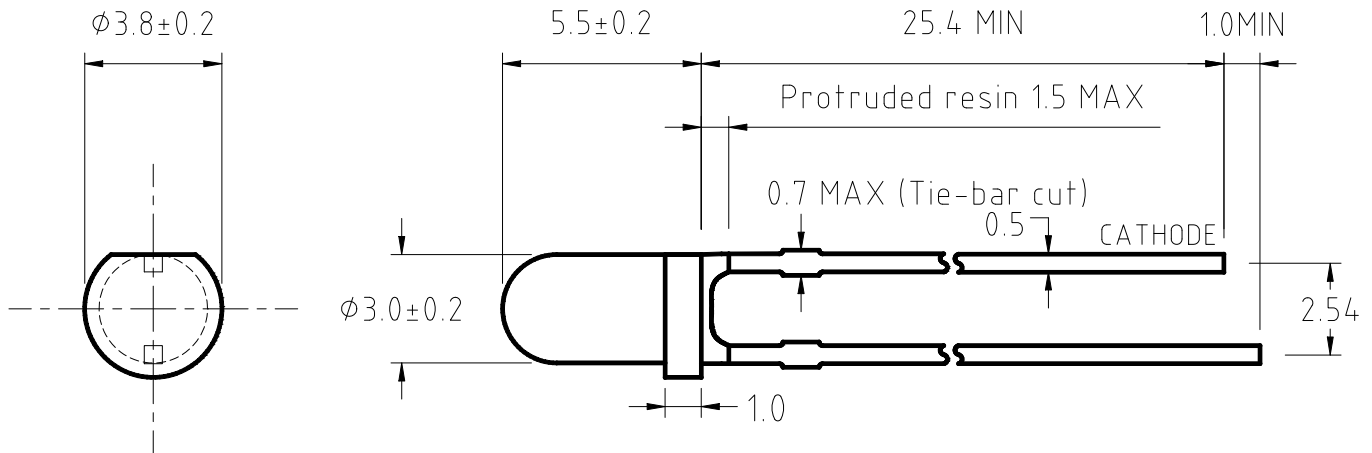


American Opto Plus LED Corp.

L314NWC-30D

3mm White LED Lamp

PACKAGE OUTLINES



Item	Material
Resin	Epoxy Resin
Lead Frame	Ag Plating on SPCC

Note: All dimensions are in millimeters tolerance is ± 0.1 mm unless otherwise noted.

Part Number	Material	Lens Color	
		Emitted	Lens
L314NWC-30D	InGaN	White	Water Clear



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ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

Parameter	Symbol	Ratings	Unit
Forward Current	If	30	mA
Peak Forward Current (Duty 1/10@10ms)	I _{fp}	100	mA
Power Dissipation	P _d	108	mW
Reverse Voltage	V _r	5	V
Operating Temperature Range	T _{opr}	-25~+85	°C
Storage Temperature Range	T _{stg}	-35~+100	°C
Solder Dipping Temperature	T _{sld}	260°C for 5 sec	

OPTICAL-ELECTRICAL CHARACTERISTICS

(Ta=25°C)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Luminous Intensity	I _v	I _F =20mA	7000	10000	--	mcd
Chromaticity Coordinate	X		--	0.31	--	--
	Y		--	0.32	--	--
Forward Voltage	V _f		--	3.2	3.6	V
Viewing Angle	2θ _{1/2}	--	30	--	deg	
Reverse Current	I _r	V _r =5V	--	--	50	μA

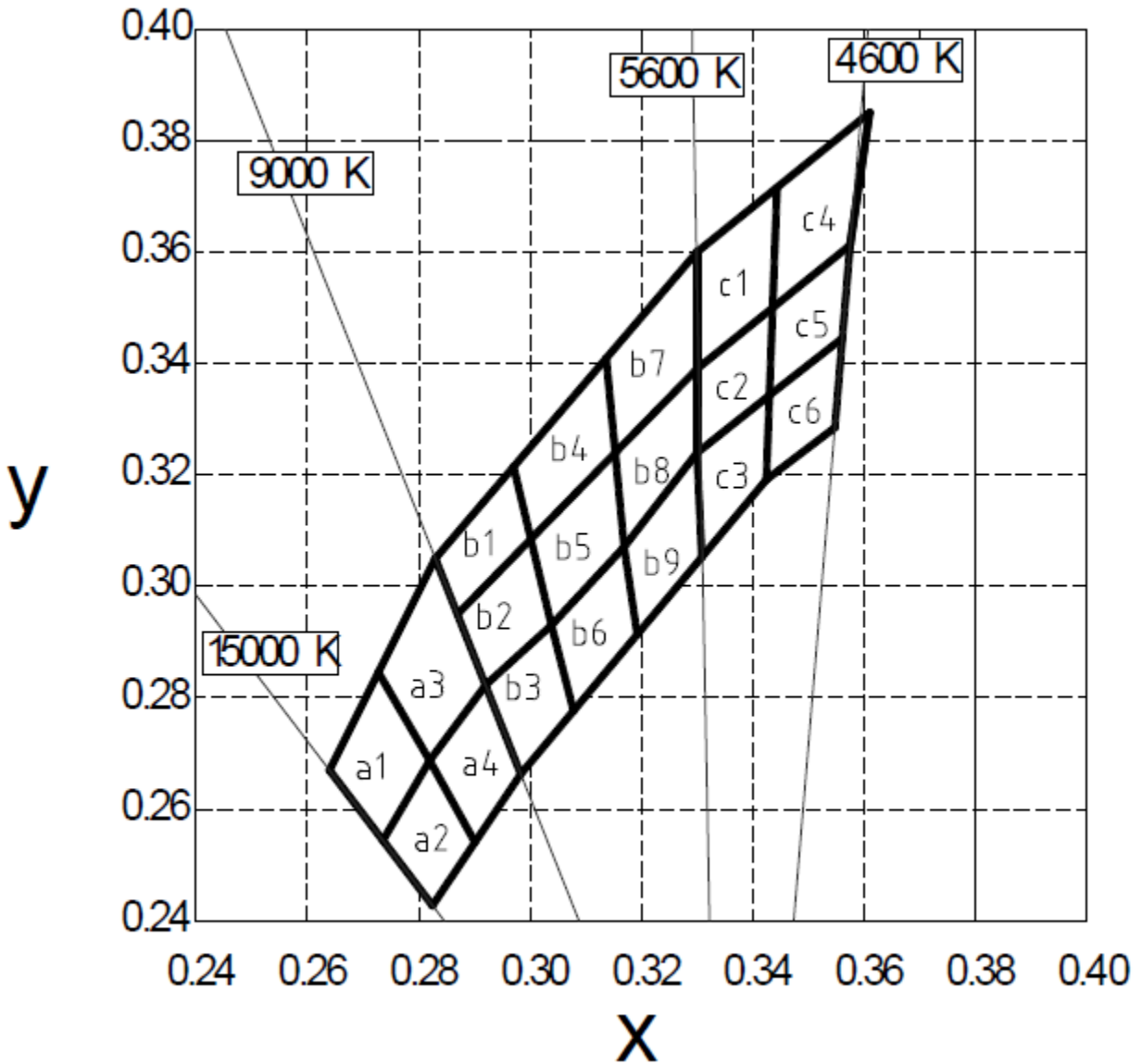


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CHROMATICITY DIAGRAM





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COLOR RANKS

Rank a Color Temperature 9000 K – 15000 K									
a1					a2				
x	0.2736	0.2640	0.2728	0.2820	x	0.2825	0.2736	0.2820	0.2900
y	0.2544	0.2670	0.2846	0.2687	y	0.2427	0.2544	0.2687	0.2539
a3					a4				
x	0.2820	0.2728	0.2830	0.2920	x	0.2910	0.2820	0.2920	0.2984
y	0.2687	0.2846	0.3050	0.2823	y	0.2541	0.2687	0.2823	0.2663

Rank b Color Temperature 5600 K – 9000 K									
b1					b2				
x	0.2870	0.2830	0.2971	0.3002	x	0.2920	0.2870	0.3002	0.3039
y	0.2950	0.3050	0.3215	0.3085	y	0.2823	0.2950	0.3085	0.2930
b3					b4				
x	0.2984	0.2920	0.3039	0.3078	x	0.3002	0.2971	0.3137	0.3153
y	0.2663	0.2823	0.2930	0.2777	y	0.3085	0.3215	0.3409	0.3240
b5					b6				
x	0.3039	0.3002	0.3153	0.3169	x	0.3078	0.3039	0.3169	0.3193
y	0.2930	0.3085	0.3240	0.3071	y	0.2777	0.2930	0.3071	0.2914
b7					b8				
x	0.3153	0.3137	0.3300	0.3300	x	0.3169	0.3153	0.3300	0.3300
y	0.3240	0.3409	0.3600	0.3390	y	0.3071	0.3240	0.3390	0.3239
b9									
x	0.3193	0.3169	0.3300	0.3309					
y	0.2914	0.3071	0.3239	0.3053					



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Rank c Color Temperature 4600 K – 5600 K									
c1					c2				
x	0.3300	0.3300	0.3444	0.3436	x	0.3300	0.3300	0.3436	0.3430
y	0.3390	0.3600	0.3716	0.3500	y	0.3239	0.3390	0.3500	0.3343
c3					c4				
x	0.3309	0.3300	0.3430	0.3425	x	0.3436	0.3444	0.3610	0.3575
y	0.3053	0.3239	0.3343	0.3192	y	0.3500	0.3716	0.3850	0.3612
c5					c6				
x	0.3430	0.3436	0.3575	0.3561	x	0.3425	0.3430	0.3561	0.3548
y	0.3343	0.3500	0.3612	0.3445	Y	0.3192	0.3343	0.3445	0.3285

Note: one delivery will include several color ranks and Iv ranks of products. The quantity-ratio of different rank is decided by American Opto Plus LED Corp.



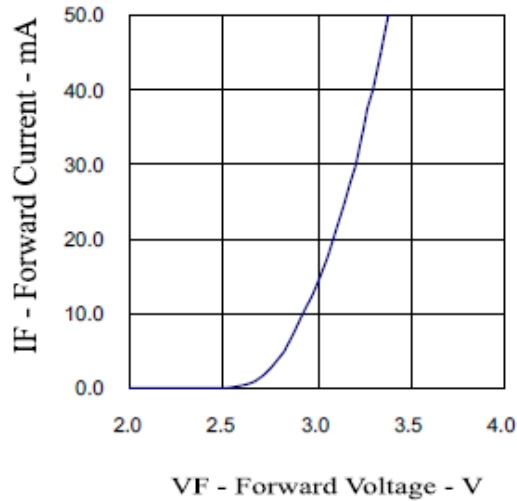
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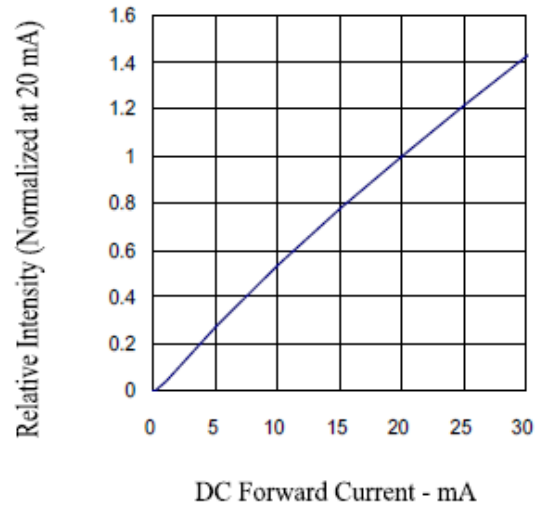
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TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVES

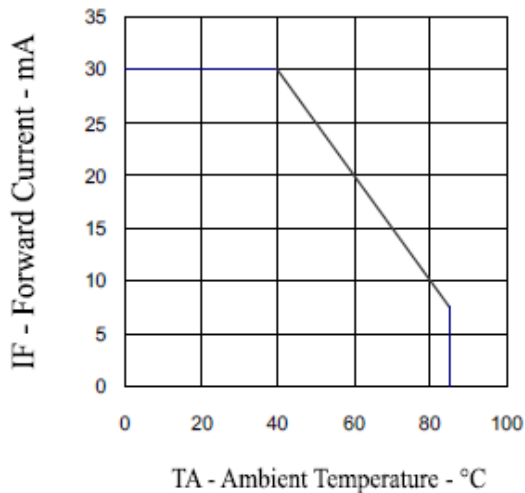
Forward Current vs. Forward Voltage



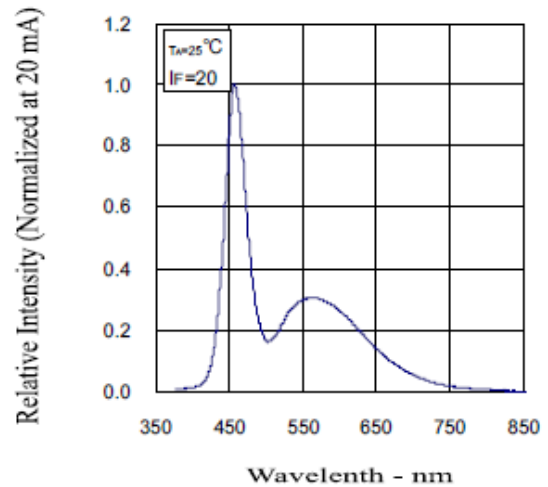
Relative Intensity vs. Forward Current



Forward Current vs. Ambient Temperature



Relative Intensity vs. Wavelength





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SOLDERING CONDITIONS

- Solder the LED no closer than 3mm from the base of the epoxy bulb. Soldering beyond the base of the tie bar is recommended.
- Recommended soldering conditions

Dip Soldering		
Pre-Heat	100°C Max.	
Pre-Heat Time	60 sec. Max.	
Solder Bath Temperature	260°C Max.	
Dipping Time	5 sec. Max.	
Dipping Position	No lower than 3mm from the base of the epoxy bulb.	
Hand Soldering		
	3Ø Series	Others (Including Lead-Free Solder)
Temperature	300°C Max.	350°C Max.
Soldering time	3 sec. Max.	3 sec. Max.
Position	No closer than 3mm from the base of the epoxy bulb.	No closer than 3mm from the base of the epoxy bulb.

- Do not apply any stress to the lead, particularly when heated
- The LEDs must not be repositioned after soldering
- After soldering the LEDs, the epoxy bulb should be protected from mechanical shock or vibration until the LEDs return to room temperature.
- Direct soldering onto a PC board should be avoided. Mechanical stress to the resin may be caused by the PC board warping or from the clinching and cutting of the leadframes. When it is absolutely necessary, the LEDs may be mounted in this fashion, but, the User will assume responsibility for any problems. Direct soldering should only be done after testing has confirmed that no damage, such as wire bond failure or resin deterioration, will occur. Sander's LEDs should not be soldered directly to double sided PC boards because the heat will deteriorate the epoxy resin.
- When it is necessary to clamp the LEDs to prevent soldering failure, it is important to minimize the mechanical stress on the LEDs.
- Cut the LED leadframes at room temperature. Cutting the leadframes at high temperatures may cause LED failure.