



SPECIFICATION FOR COTCO LED LAMP

Document No: SPE/LM1-PPP1-01-N1-MT
Model No : LM1-PPP1-01-N1-MT
Rev. No : 01
Date: 2006-06-27

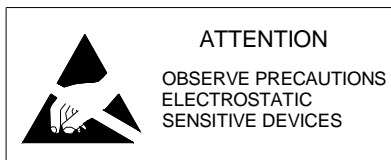
Description:

120 Degree 3.2 x 2.8mm SMT-LED in Full
Color with Water Transparent

*This specification is only for MT
Dice Material: AlGaInP&InGaN

Confirmed
By Customer: _____

Date: _____



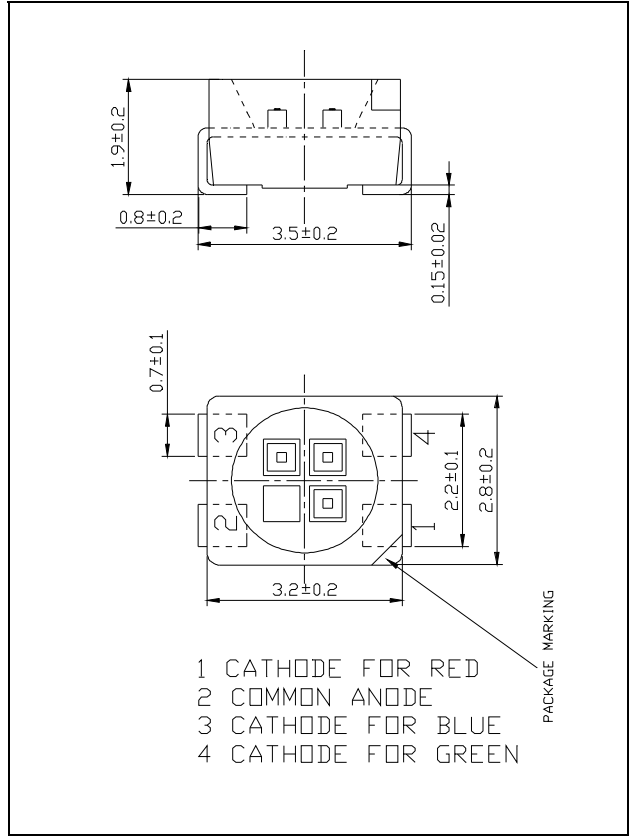
Applications:

- Indoor and outdoor displays
- Backlighting
- Coupling into light guides
- RGB full color displays

Absolute Maximum Ratings at Ta = 25°C

Items	Symbol	Absolute maximum Rating			Unit
		R	G	B	
Forward Current ^{*1}	I _F	50	25	25	mA
Peak Forward Current ^{*2}	I _{FP}	200	100	100	mA
Reverse Voltage	V _R	5	5	5	V
Power Dissipation	P _D	125	100	100	mW
Operation Temperature	T _{opr}	-40~+100			°C
Storage Temperature	T _{stg}	-40~+100			°C
Junction Temperature	T _J	+110	+110	+110	°C
Junction/ambient 1 chips on ^{*3}	R _{th JA}	450	400	450	°C/W
Junction/ambient 3 chips on ^{*3}	R _{th JA}	650	580	680	°C/W
Junction/solder point 1 chips on	R _{th JS}	300	280	300	°C/W
Junction/solder point 3 chips on	R _{th JS}	450	430	480	°C/W

Dimension Drawing



*¹ single color light *² pulse width <=0.1msec duty <=1/10 *³ Rth test condition: Mounted on PC Board FR 4(pad size>=16mm²)

Typical Electrical & Optical Characteristics (Ta = 25°C)

Parameter	Condition	Symbol	Values			Unit
			R	G	B	
Wavelength at peak emission	I _F =20mA	λ _{peak}	620	520	465	nm
Dominant wavelength	I _F =20mA	λ _{dom}	612~622	520~540	460~480	nm
Spectral bandwidth at 50% Irel max	I _F =20mA	Δ λ	24	38	28	nm
Viewing angle at 50% IV	I _F =20mA	2 θ _{1/2}	120	120	120	Deg.
Forward voltage	I _F =20mA	V _{F(avg)}	2.0	3.4	3.4	V
		V _{F(max)}	2.5	4.0	4.0	V
Luminous Intensity	I _F =20mA	I _{V(Min)}	180	280	71	mcd
		I _{V(Avg)}	300	450	110	mcd
Reverse current (max.)	V _R =5V	I _R	10	10	10	μA

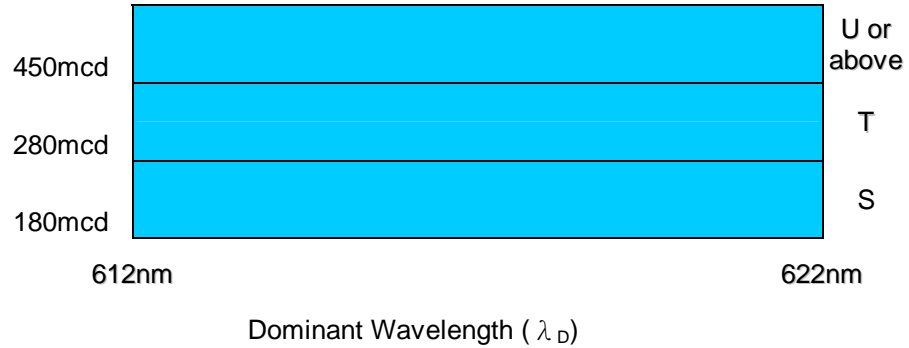
Standard bins for LM1-PPP1-01-N1-MT(I_F = 20mA):

Lamps are sorted to Luminous Intensity –I_v & Dominant Wavelength – λ_D bins shown.

Orders for LM1-PPP1-01-N1-MT may be filled with any or all bins contained as below.

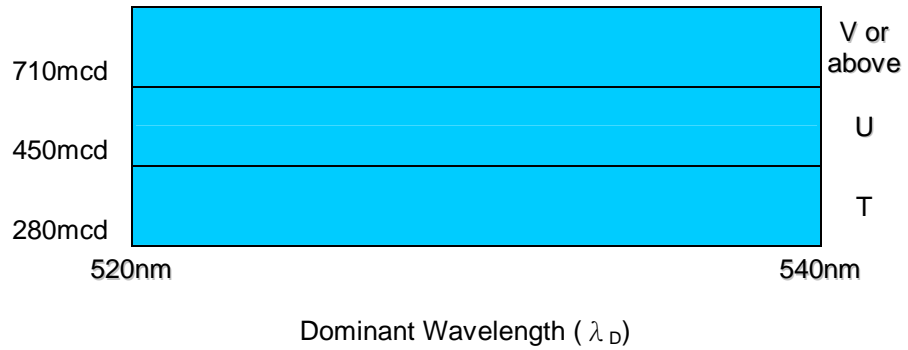
All Luminous Intensity –I_v & Dominant Wavelength – λ_D values shown and specified are at I_f=20mA.

R * S+



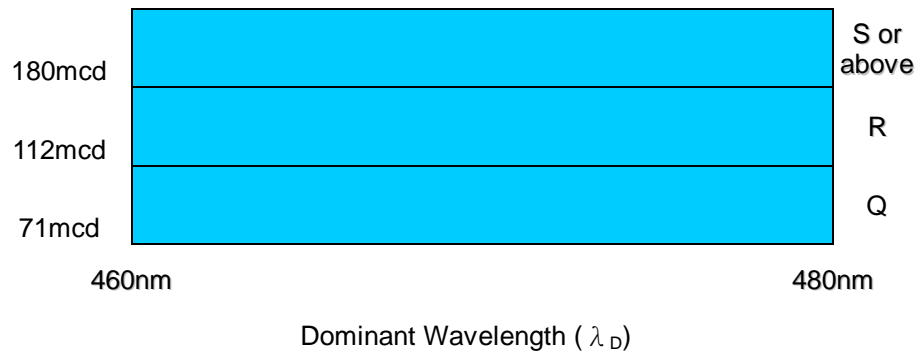
I S+ indicates Luminous Intensity of Red Rank is at S bin or above.

G * T+



I T+ indicates Luminous Intensity of Green Rank is at T bin or above.

B * Q+

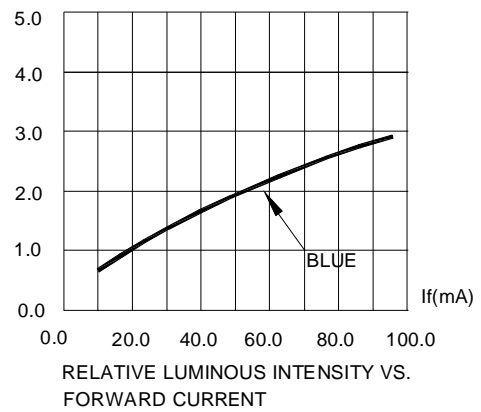
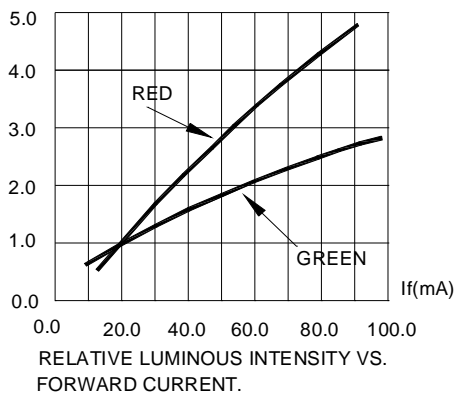
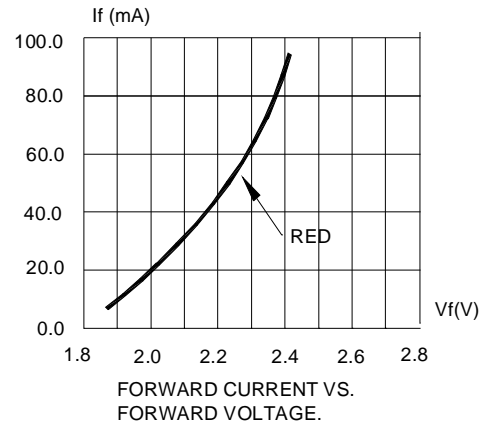
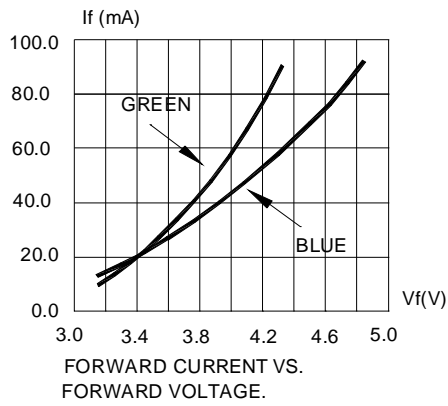
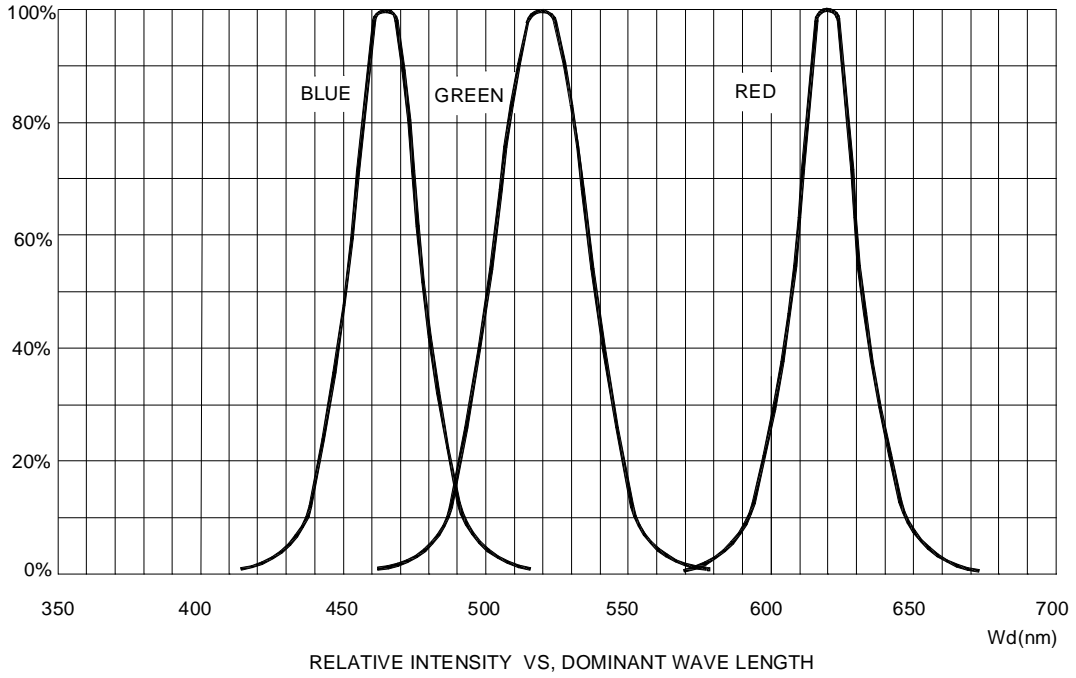


I Q+ indicates Luminous Intensity of Blue Rank is at Q bin or above.

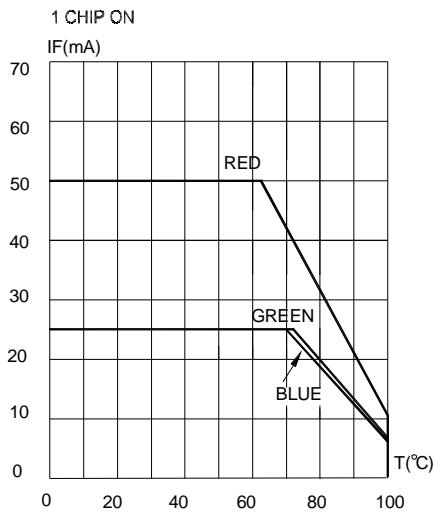
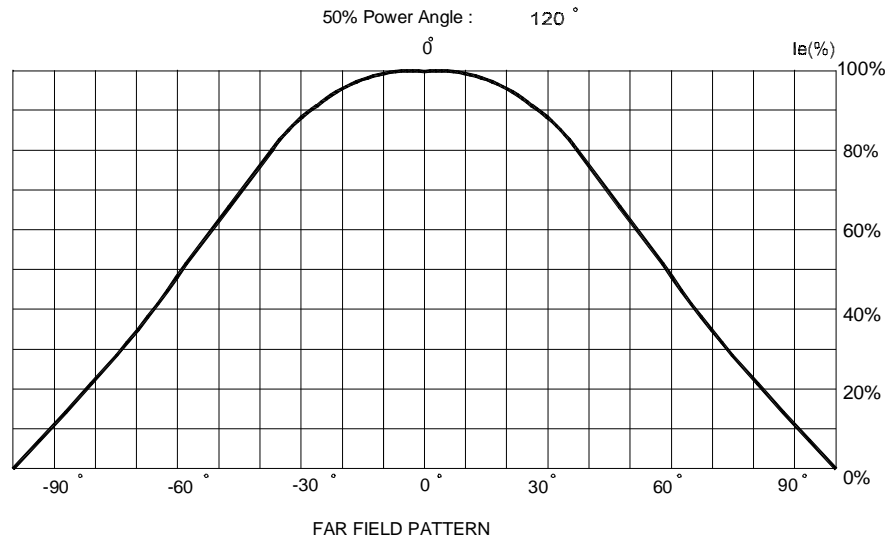
Important Notes:

- 1) All ranks will be included per delivery, rank ratio will be based on Dices distribution.
- 2) Tolerance of measurement of luminous intensity is ±10%
- 3) Tolerance of measurement of dominant wavelength is ±1nm.
- 4) Tolerance of measurement of Vf is ±0.05 V.
- 5) Packaging methods are available for selection, please refer to PACKAGING STANDARD.
- 6) Please refer to LED LAMP RELIABILITY TEST STANDARD for reliability test conditions.
- 7) Please refer to APPLICATION NOTES for Application .

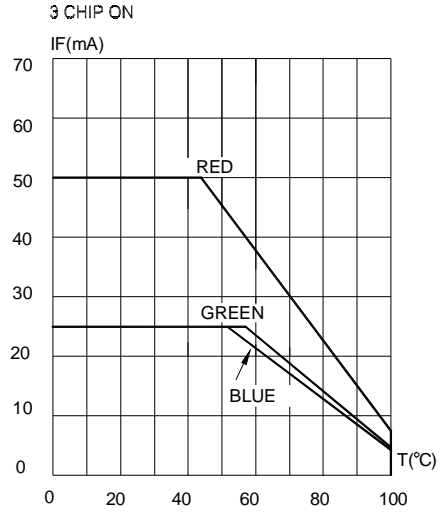
Graphs



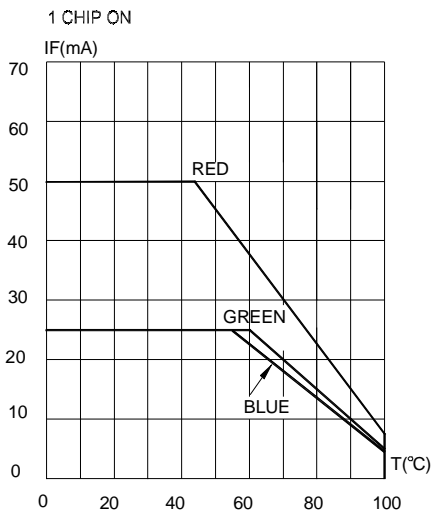
Graphs



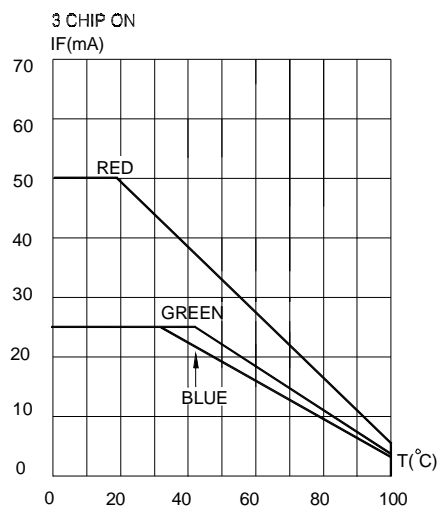
MAXIMUM FORWARD DC CURRENT
VS, SOLDER POINT TEMPERATURE.



MAXIMUM FORWARD DC CURRENT
VS, SOLDER POINT TEMPERATURE.

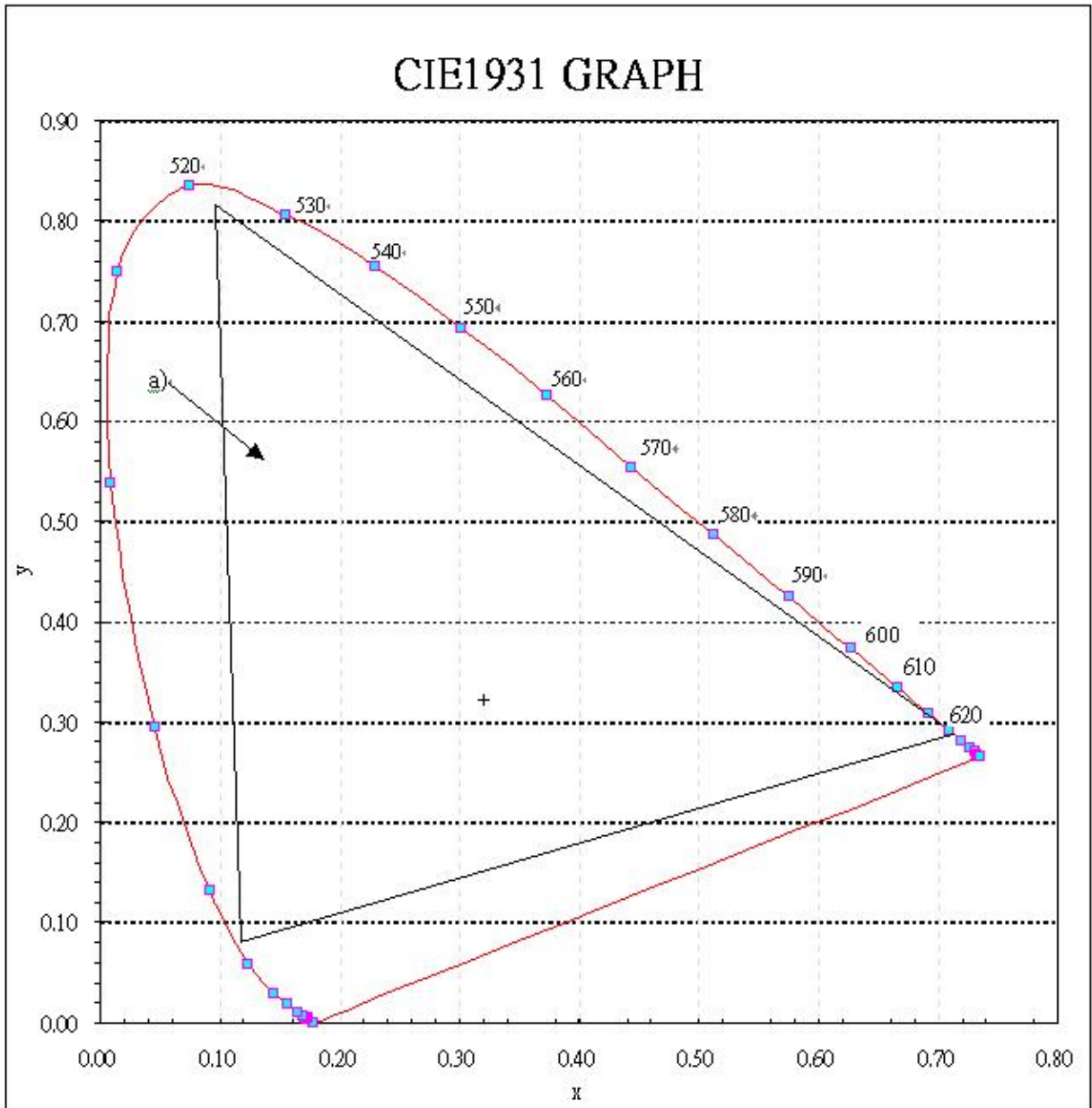


MAXIMUM FORWARD DC CURRENT
VS, AMBIENT TEMPERATURE.



MAXIMUM FORWARD DC CURRENT
VS, AMBIENT TEMPERATURE.

Graphs



the color coordinates of the mixed light can be expected within the area of the color triangle marked a).

the achromatic point ($x=0.33, y=0.33$) is marked "+"

Items	Signatures	Date	Revision History		
Prepared by	MaAiQiu	2006-06-27	Rev.No	Date	Change Description
Checked by	XieJH	2006-06-27			
Approved by	DavidLiu	2006-06-27			
FCN#	FCN20060218				

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