SPECIFICATION FOR COTCO LED LAMP

MODEL No : LS1-TRO1-01-MT
DOC. No : 02 11Nov04

Description:

120 Degree 4.0x 4.0mm Side SMD in High Reddish Orange Color with Water Transparent
This specification is only for MT

Dice Material: AlGaInP

Confirmed
By Customer: _____

Date: _____

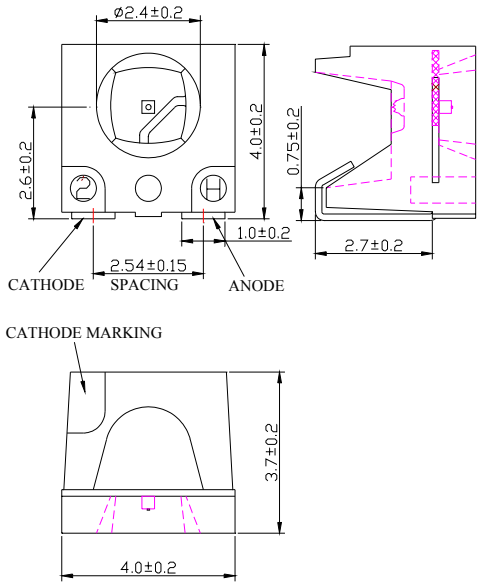
COTCO LUMINANT DEVICE (HUIZHOU) LTD.

Marktech Optoelectronics

Applications:

- Optical indicators
- Coupling into light guides
- Back lights(LCD, switches, keys, displays, illuminated advertising,general lighting)
- Interior automotive lighting.(e.g.dashboard backlighting, etc.)
- Automobile's Applications
- Marker lights (e.g. steps, exit ways, etc)
- Signal and symbol luminaire

Dimension Drawing



Dimensions are specified as follows: mm.

Absolute Maximum Ratings at Ta = 25°C

Items	Symbol	Absolute maximum Rating	Unit
Forward Current	I_F	50	mA
Peak Forward Current*	I_{FP}	200	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_D	130	mW
Operation Temperature	T_{opr}	-40 ~ + 100	°C
Storage Temperature	T_{stg}	-40 ~ + 100	°C
Junction temperature	Tj	+110	°C
Junction/solder point	$R_{th\ JS}$	250	°C /W

*pulse width <=0.1msec duty <=1/10

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

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	I_F = 20mA	---	2.1	2.6	V
Reverse Current	I_R	V_R = 5V	---	---	10	μA
Luminous Intensity	I_V	I_F = 20mA	280	450	---	mcd
Dominant Wavelength	λ_D	I_F = 20mA	612	618	625	nm
50% Power Angle	2 $\theta_{1/2}$	I_F = 20mA	---	120	---	deg

I

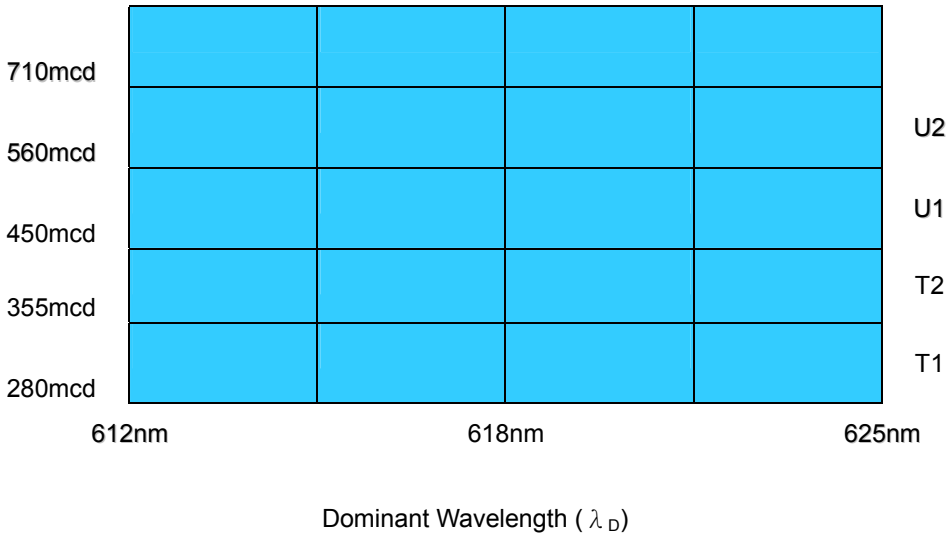
Standard bins for LS1-TRO1-01-MT (I_F = 20mA):

Lamps are sorted to Luminous Intensity –I_V , V_F & Dominant Wavelength – λ_D bins shown.

Orders for LS1-TRO1-01-MT may be filled with any or all bins contained as below.

All Luminous Intensity –I_V , V_F & Dominant Wavelength – λ_D values shown and specified are at If=20mA.

*** T1+**



* T1+ indicates Luminous Intensity is at T1 bin or above.

Forward Voltage (V_F)

Rank	V2	V3	V4	V5
Voltage	1.8-2.0V	2.0-2.2V	2.2-2.4V	2.4-2.6V

#The quantity not enough for full reel

VF(V)	1.8-2.2	2.2-2.6

Important Notes:

1) All ranks will be included per delivery, rank ratio will be determined by Cotco.

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.

#The notice is only apply quantity not enough for full reel.

6) Please refer to LED LAMP RELIABILITY TEST STANDARD for reliability test conditions.

Graphs

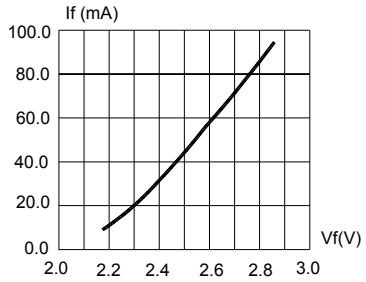


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

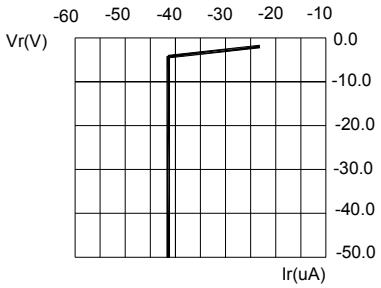


FIG.2 REVERSE CURRENT VS. REVERSE VOLTAGE.

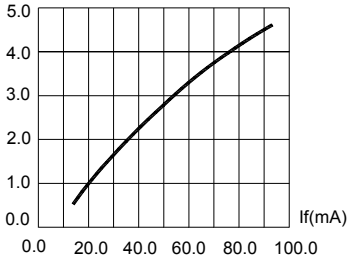


FIG.3 FORWARD CURRENT.

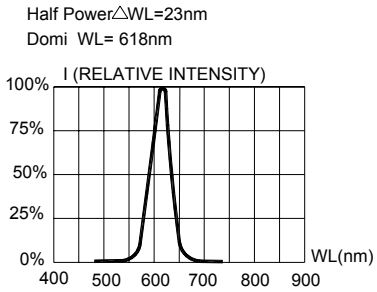


FIG.4 RELATIVE INTENSITY VS. WAVE LENGTH.

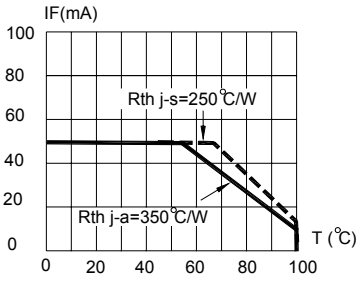


FIG.5 MAXIMUM FORWARD DC CURRENT VS TEMPERATURE. DERATING BASED ON Tjmax=110℃

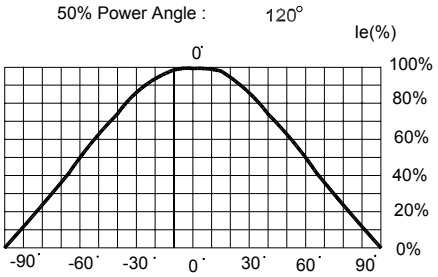


FIG.6 SPATIAL DISTRIBUTION.

Rth test condition: Mounted on PC Board FR 4(pad size>=16mm^2)

Items	Signatures	Date	Revision History	
Prepared by	Meiliping	2004/11/11	DOC. No.	CHANGE DESCRIPTION
Checked by	TangShR	2004/11/11	02 11Nov04	Change Dimension Drawing, IV form, max current from 50 to 20, PD from 150 to 55, Graphs.
Approved by	Thomson	2004/11/11		
ECN#	ECN-H20040299			

Obsoletes Doc: A 28Jul03.