Dual CCT COB Light module

Specification Preliminary Sheet

Model: HV-MBXA2DW-3057

Acknowledged by

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Rois

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0. REVISION HISTORY

Official Product	HT Part No. HV-MBXA2DX-3057	Your Part No.		Data Sheet No.
Tentative Product		**********		
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Model Name			OW-HARA501
Rev.	**Date**	**Section**	**Description**
1	2012/09/06	All	Preliminary

1. GENERAL DESCRIPTION

1.1 OVERVIEW

HV-MBXA2DW-3057 / 12V is a COB Light Module with LED. This Module supports DC12V input voltage. The power consumption is 20W.

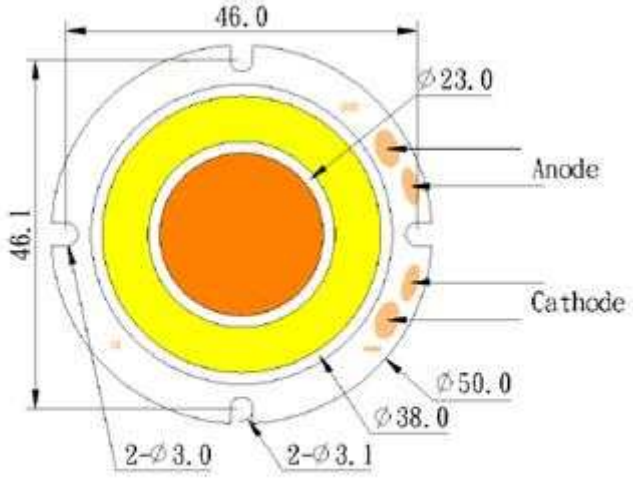
1.2 GENERAL SPECIFICATIONS

Item	Specification	Unit	Note
Model Name	HV-MBXA2DW-3057	-	-
Color Temperature	3000~5700	K	
Lumen	1600	lm	(1)
Luminous Efficacy	80	lm/W	(1),(2)
Power Consumption	20	W	
DC Input Voltage	12	V	-
Life Time	40,000	hr	(3)
Width or Diameter	50	mm	

Note (1) At 12V / 0.7 A , 25℃

(2) Lm/W = Initial Lumen / Power Consumption

(3) The function will not fail



Thickness: 1.6±0.2mm

2. CHARACTERISTICS

2.1 Electro-Optical Characteristics

2.1.1 Absolute Maximum Rating

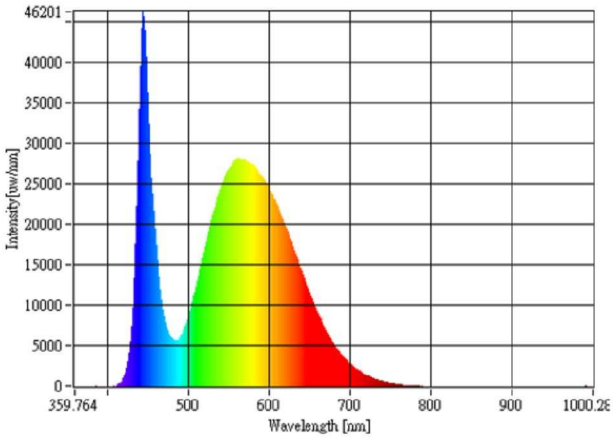
Parameter	Symbol	Value	Unit
Power Dissipation	P_D	20	W
Forward Current	I_F	0.5~8.5	A
Forward Voltage	V_F	10~14	V
Operating Temperature	T_{opr}	-40 ~ +60	℃
Storage Temperature	T_{stg}	-40 ~ +80	℃
Assembly process temperature	T_{sol}	<325℃ , 5 secs	

2.1.2 Electro-Optical Characteristics

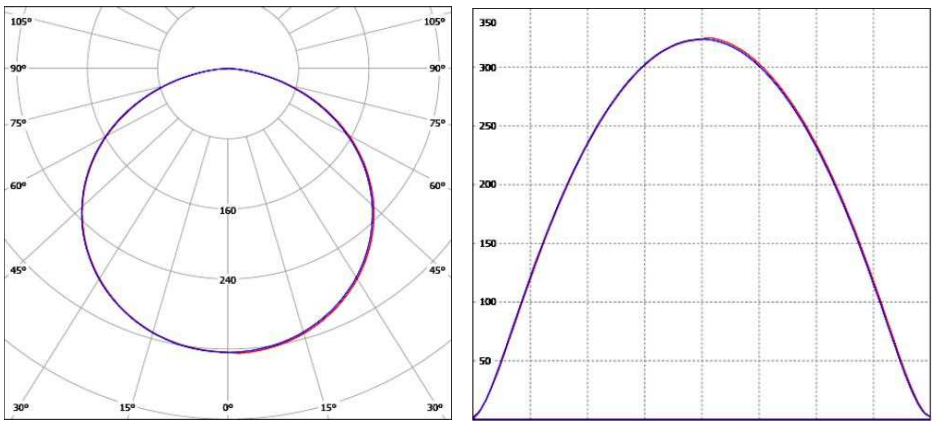
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Forward Voltage	V_F	I_F=0.7A		10	14	V
Reverse Current	I_R	V_R=12V	-	-	20	μA
Luminous Intensity	Φ_v	I_F=0.7A	-	1600	-	Lm

Notice: This is a color-adjustable product; users can get different CCT by electrical control. EBCC-96If drive both area by 10W, the total power consumption is 20W. Different power combination of high/low CCT will result in different color temperature . users must keep the temperature of solder joint point under 60 ℃(with suitable heat sink),or may cause serious luminous decay. We DO NOT guarantee of improper use.

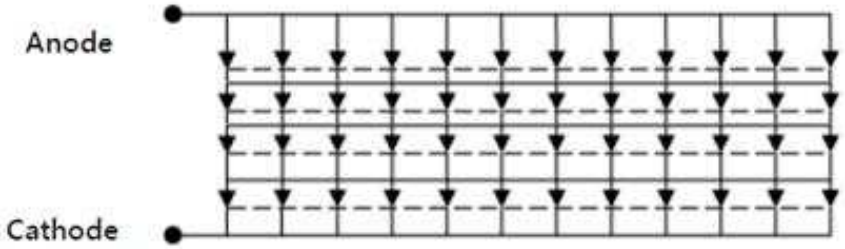
- Spectrum



- Candle Power Distribution & Cartesian Coordinate



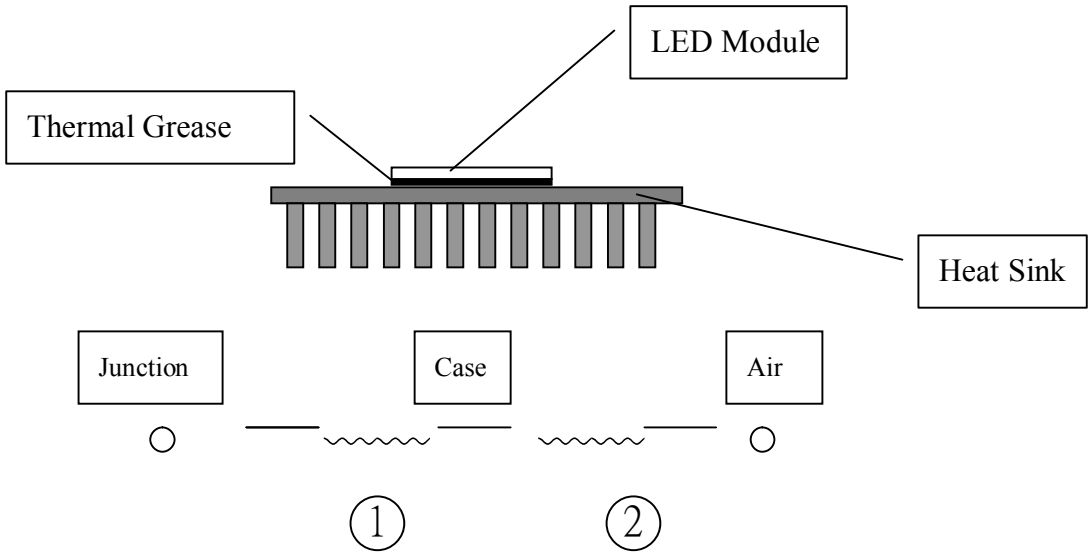
2.1.3 Layout



In chip 4 in series x 12 in parallel=48 LED Chips

Out chip 4 in series x 12 in parallel=48 LED Chips

2.2 Junction Temperature Measurement

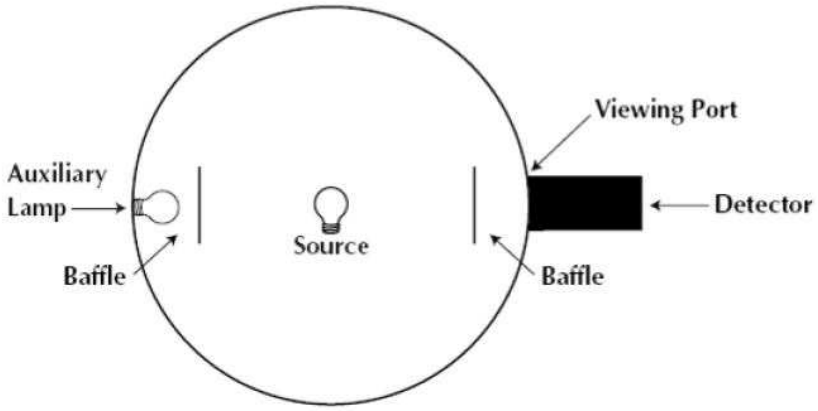


- Thermal resistance of Junction to Case without heat sink : 10(℃/W) 〔Reference Value〕
- Thermal resistance of Case to Ambient Air: Depending on what kind of heat sink users choose. In ideal thermal dissipation situation, the thermal resistance is about 1~2 ℃/W.

2.3 OPTICAL CHARACTERISTICS

2.2.1 Optical Test Method and Measurement Procedures

Item	Condition
Temperature	Normal room temperature (25±2℃)
Humidity	50±10%
DC Input	12V / 0.7A
Measuring instrument	Integration sphere system or equivalent



2.2.2 Optical Specifications

Item		Specification	Unit	Note
Model Name		HV-MBXA2DX-3057	-	-
Color Temperature		3000K~6500K	K	(1)
Initial Lumen	Typ.	1600	lm	-
	Min.	1400		
	Voltage	12V / 0.7A		
Luminous Efficacy		80	lm/W	

Note (1) Reference to ENERGY STAR® Program Requirements for Integral LED Lamps.

3. ABSOLUTE MAXIMUM RATINGS

3.1 ABSOLUTE RATINGS OF ENVIRONMENT

Item	Specification		Unit	Note
	Min.	Max.		
Storage Ambient Temperature	-40	80	℃	(1)
Operation Ambient Temperature	-40	60	℃	(1)

Note (1) (a) Reference diagram as below

(b) No condensation.

3.2 Reliability Test

Test Item	Test Conditions	Number of failed
High Temperature Storage Test	Tstg= +80℃ , x1,000 hrs	0/20
Low Temperature Storage Test	Tstg= -40℃ , x1,000 hrs	0/20
Continous Light-on Test	Ta= 25℃ , RH=65%, x1,000 hrs	0/20
Boiling Test	Ta= 100℃ , RH=100%, x180mins	0/20
Thermal Cycle Test	-40℃ x 30 mins, 80℃ x 30 mins, 100 cycles	0/20

Measuring Item	Measuring Condition	Judging Criteria of Failure
Forward Voltage	I_F = 0.7A	> 0 x 1.1
Total Luminous Flux	I_F = 0.7A	< L x 0.7