SPECIFICATIONS

FOR TOPLITE COB MODULE

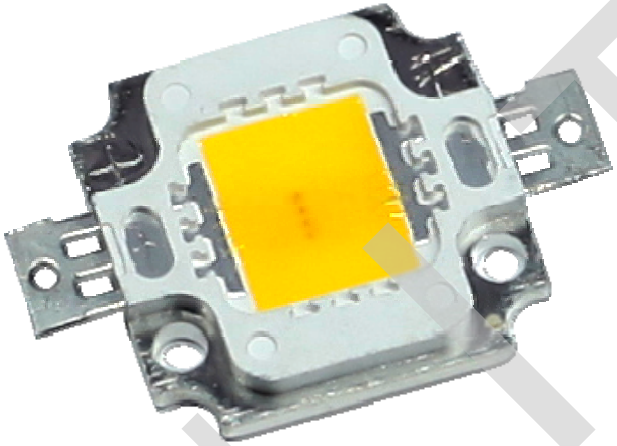
MODEL：ATP-1010

TOPLITE INTERNATIONAL LLC.

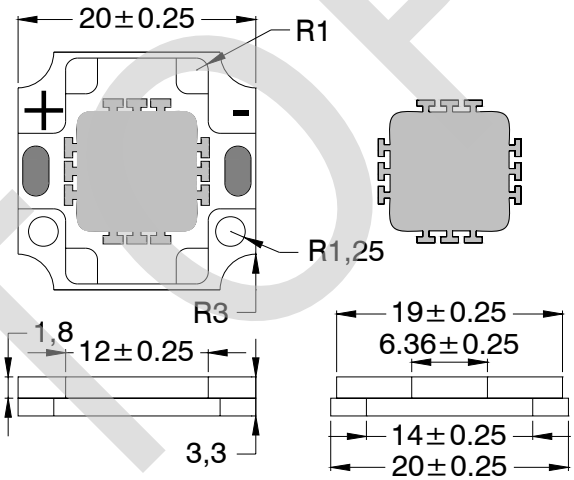
www.topliteusa.com

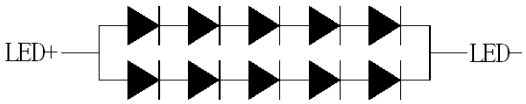
TECHNICAL DATA SHEET
ATP-1010 <FOR TOPLITE COB MODULE>

1. PRODUCT APPEARANCE



2. OUTLINE DRAWING





Unit：mm

Tolerance：±0.25

3. PERFORMANCE PARAMETERS

3-1. ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	RATING	UNIT
Power Dissipation	P	16.5	W
Forward Current	I_F	1000	mA
Reverse Voltage	V_R	25	V
Operating Temperature	T_{opr}	- 30 ～ + 85	℃
Storage Temperature	T_{stg}	- 40 ～ + 100	℃
Junction Temperature	T_{jmax}	+ 125	℃

Note:

*1. Forward Current allows maximum surge current ≤ 10ms.

*2. Power dissipation and forward current are the values when the LED is used within the range of the derating curve in this data sheet.

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ATP-1010 <FOR TOPLITE COB MODULE>

3-2. ELECTRICAL-OPTICAL CHARACTERISTICS

(T_c=25℃)

**		PARAMETER	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
common		Forward Voltage	V_F	I_F=700mA	14.5	15.5	16.5	V
		Beam Angle	—		—	120	—	Deg
W	**	Color Temp.	—	I_F=700mA	2870	3045	3220	K
	**	Color Rendering Index *3	Ra		80	—	—	—
	W_1	Luminous Flux *2	Φ		840	893	—	lm
		Luminous Efficiency	η		80	85	—	lm/W
	W_2	Luminous Flux *2	Φ		903	945	—	lm
		Luminous Efficiency	η		86	90	—	lm/W
D	**	Color Temp.	—	I_F=700mA	4745	5028	5311	K
	**	Color Rendering Index *3	Ra		80	—	—	—
	D_2	Luminous Flux *2	Φ		998	1029	—	lm
		Luminous Efficiency	η		95	98	—	lm/W
	D_3	Luminous Flux *2	Φ		1039	1082	—	lm
		Luminous Efficiency	η		99	103	—	lm/W
C	**	Color Temp.	—	I_F=700mA	6020	6530	7040	K
	**	Color Rendering Index *3	Ra		80	—	—	—
	C_1	Luminous Flux *2	Φ		1070	1082	—	lm
		Luminous Efficiency	η		100	103	—	lm/W
	C_2	Luminous Flux *2	Φ		1092	1135	—	lm
		Luminous Efficiency	η		104	108	—	lm/W

(Note) Parameters is formulated based on shipping samples

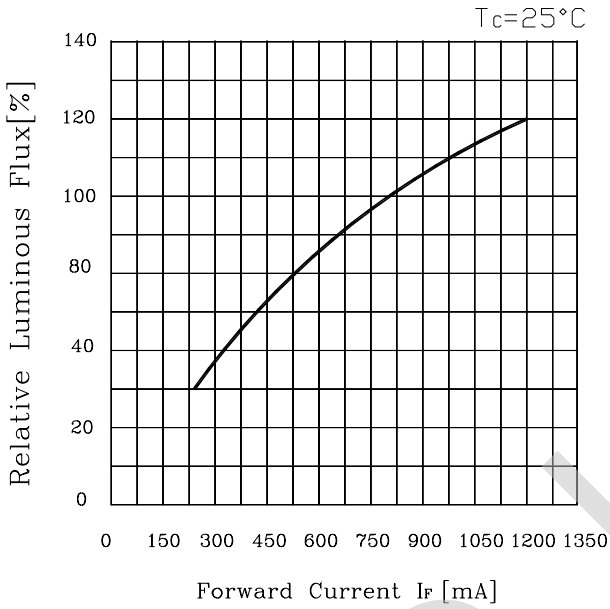
*1. After 20 ms drive, Measurement tolerance: ± 3 %

*2. Monitored by TOPLITE's 1 m integrating sphere, after 20 ms drive, Measurement tolerance: ± 10 %

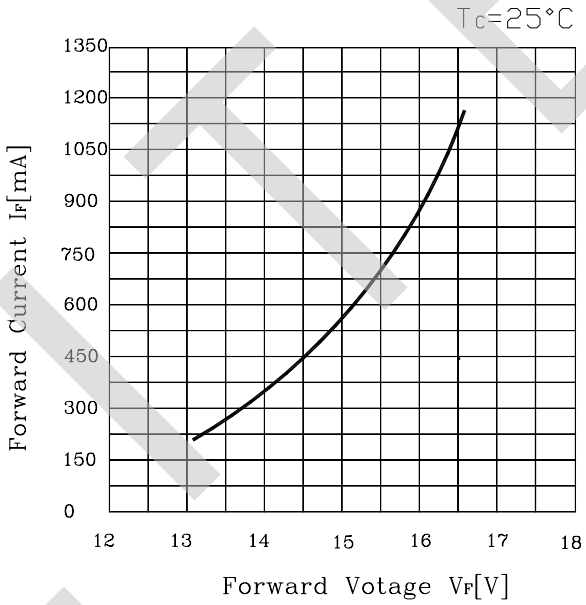
*3. Monitored by TOPLITE's 1 m integrating sphere, after 20 ms drive, Measurement tolerance:± 2

3-3. Characteristics diagram (TYP.)

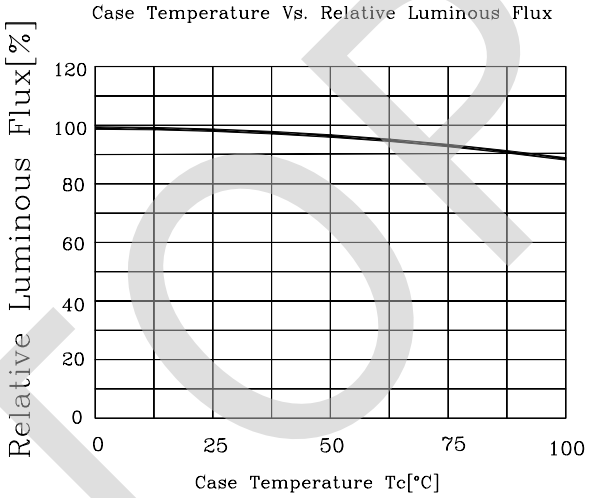
Forward Current Vs.Relative Luminous Flux



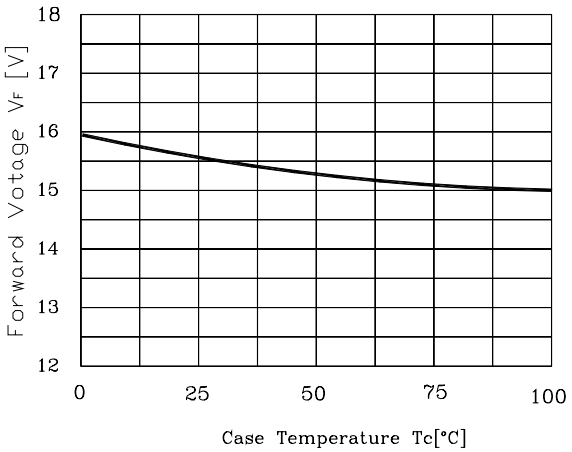
Forward Votage Vs. Forward Current



Case Temperature Vs. Relative Luminous Flux



Case Temperature Vs. Forward Votage



4. RELIABILITY

The reliability of products shall be satisfied with items listed below.

4-1. TEST ITEMS AND TEST CONDITIONS

NO.	TEST ITEM	TEST CONDITIONS	RESULT
1	Continuous operation test	T_a = 25℃, I_F = 700 mA × 1000 hours(with Al fin)	PASS
		T_a = 80℃, T_j=120℃, I_F = 700 mA × 1000 hours(with Al fin)	
2	Low temperature storage	T_a=-40℃×1000 hours	PASS
3	High temperature storage	T_a=100℃×1000 hours	PASS
4	Moisture resistance	T_a=60℃, 90%RH for 1000 hours	PASS
5	Thermal shock	T_a=-40℃×30minutes～100℃×30minutes, 100 cycle	PASS

4-2. FAILURE CRITERIA

NO.	PARAMETER	SYMBOL	FAILURE CRITERIA
1	Forward Voltage	V_F	V_F ＞ Initial value × 1.1
2	Luminous Flux	Φ	Φ ＜ Initial value × 0.7

5. CHROMATICITY COORDINATES REGIONAL

5-1. 3000K CHROMATICITY COORDINATES

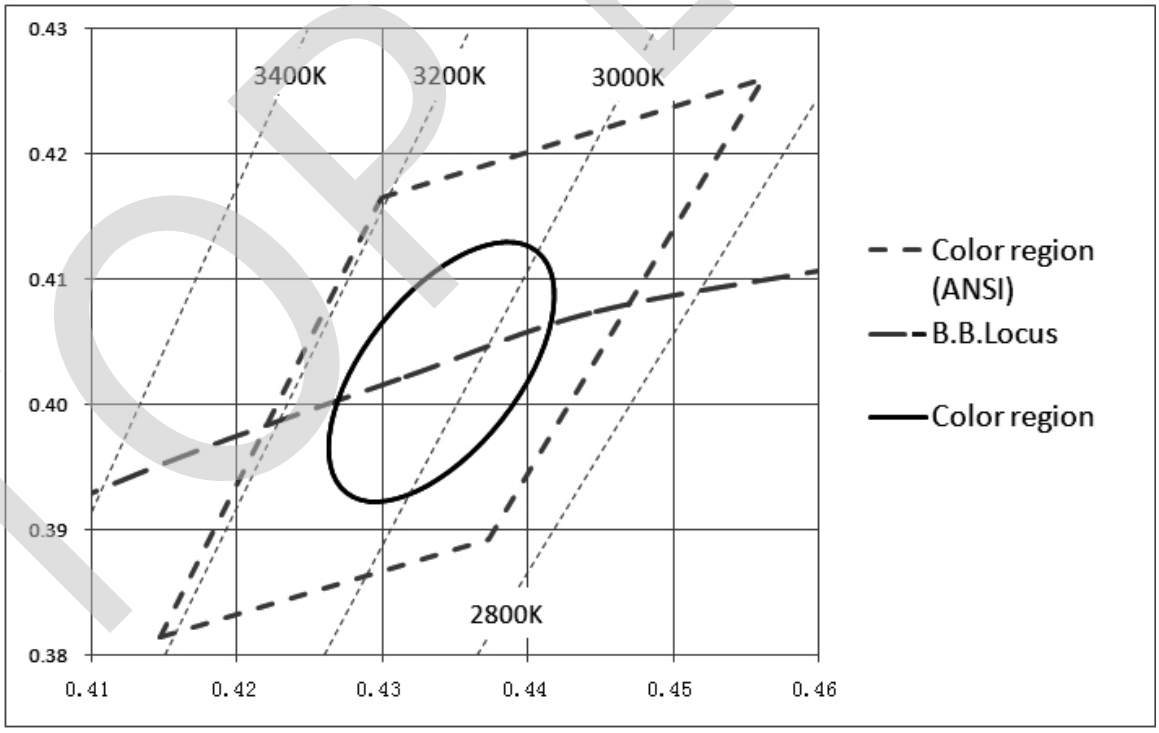
(Tolerance: x,y ± 0.005)

(I_F =700mA, T_c= 25℃)

Range		Chromaticity coordinates				
		NO.1	NO.2	NO.3	NO.4	CENTER
	x	0.4562	0.4299	0.4147	0.4373	0.4338
	y	0.4260	0.4165	0.3814	0.3893	0.4030

* The percentage of each rank in the shipment shall be determined by TOPLITE.

Chromaticity Diagram



Note: The tolerance of measurement at our tester is VF±3% , Dv±10% , Chromaticity(x,y)±0.005.

5-2. 5000K CHROMATICITY COORDINATES

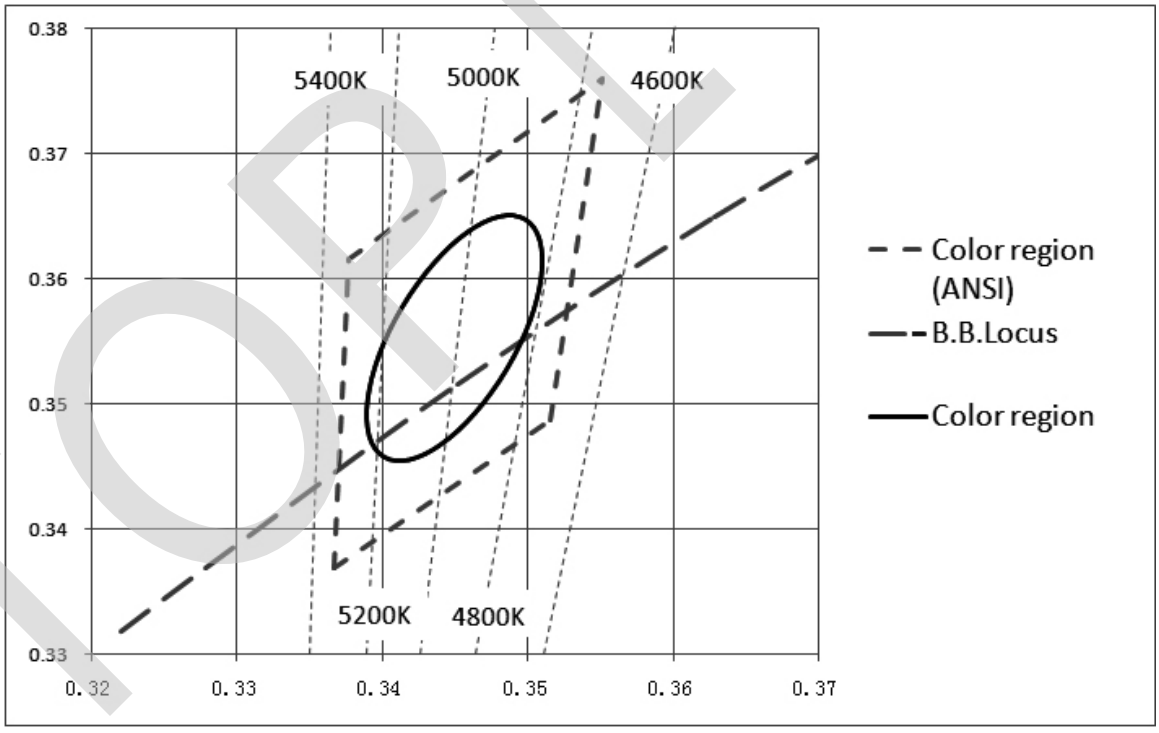
(Tolerance: x,y ± 0.005)

(I_F =700mA, T_c= 25℃)

Range		Chromaticity coordinates				
		NO.1	NO.2	NO.3	NO.4	CENTER
	x	0.3551	0.3376	0.3366	0.3515	0.3447
	y	0.376	0.3616	0.3369	0.3487	0.3553

* The percentage of each rank in the shipment shall be determined by TOPLITE

Chromaticity Diagram



Note: The tolerance of measurement at our tester is VF±3% , Dv±10% , Chromaticity(x,y)±0.005.

5-3. 6500K CHROMATICITY COORDINATES

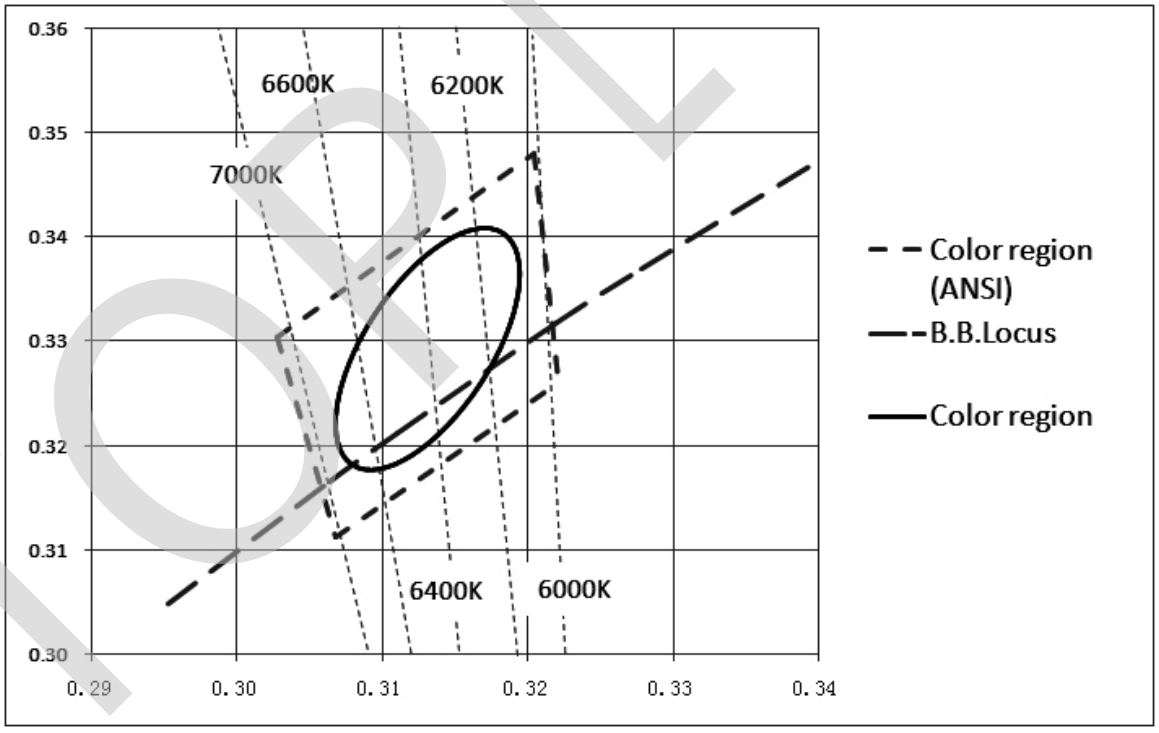
(Tolerance: x,y ± 0.005)

(I_F =700mA, T_c= 25℃)

Range		Chromaticity coordinates				
		NO.1	NO.2	NO.3	NO.4	CENTER
	x	0.3205	0.3028	0.3068	0.3221	0.3123
	y	0.3481	0.3304	0.3113	0.3261	0.3238

* The percentage of each rank in the shipment shall be determined by TOPLITE.

Chromaticity Diagram



Note: The tolerance of measurement at our tester is VF±3% , Dv±10% , Chromaticity(x,y)±0.005.