

SPECIFICATIONS

FOR TOPLITE COB MODULE

MODEL: ATP-1010



TOPLITE INTERNATIONAL LLC.

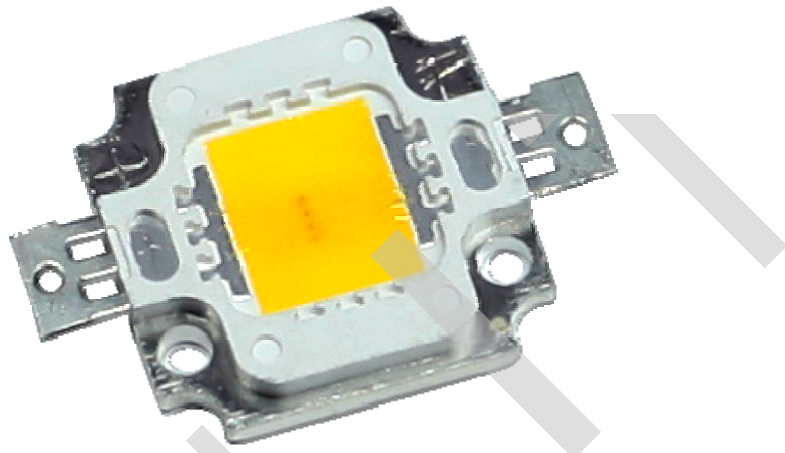
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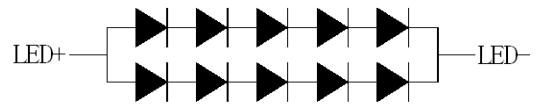
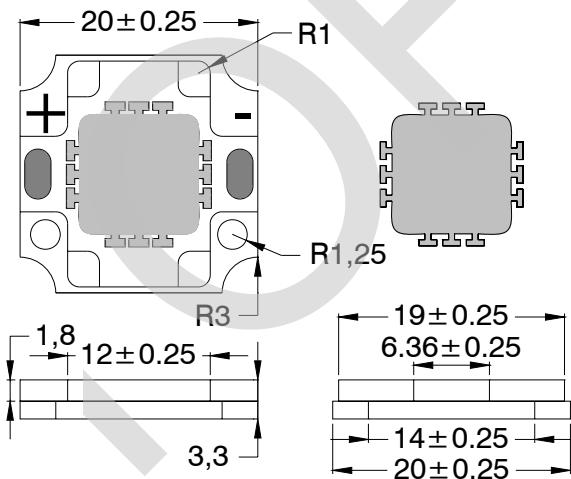
TECHNICAL DATA SHEET

ATP-1010 <FOR TOPLITE COB MODULE>

1. PRODUCT APPEARANCE



2. OUTLINE DRAWING



Unit: mm

Tolerance: ±0.25

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

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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	°C
Storage Temperature	T _{stg}	- 40 ~ + 100	°C
Junction Temperature	T _{jmax}	+ 125	°C

Note:

*1. Forward Current allows maximum surge current $\leq 10\text{ms}$.

*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.



TECHNICAL DATA SHEET

ATP-1010 <FOR TOPLITE COB MODULE>

3-2. ELECTRICAL-OPTICAL CHARACTERISTICS

(T_c=25°C)

**	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

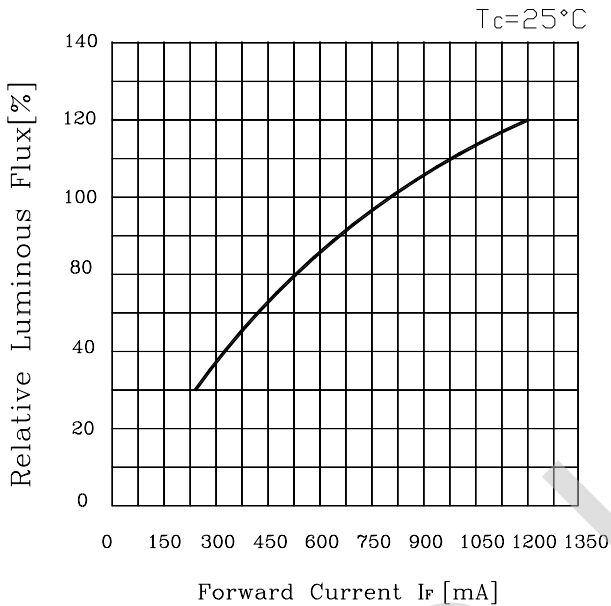


TECHNICAL DATA SHEET

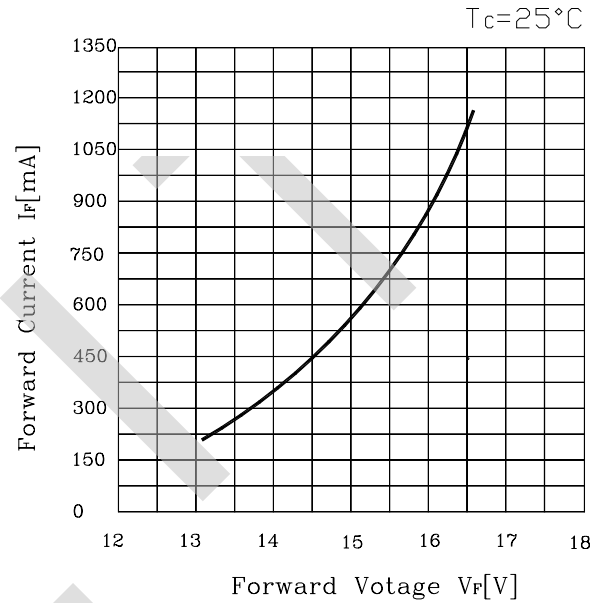
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3-3. Characteristics diagram (TYP.)

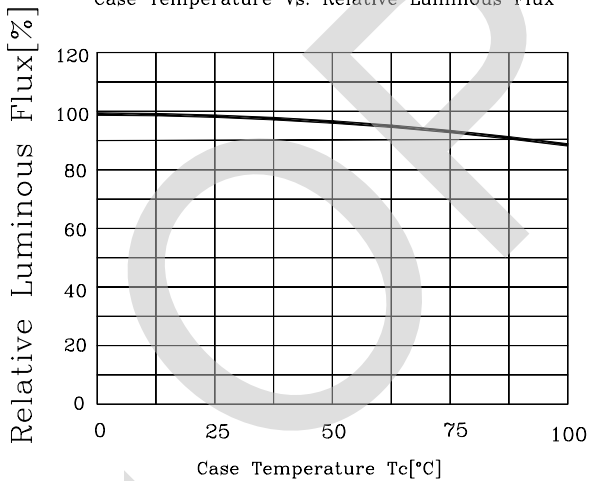
Forward Current Vs. Relative Luminous Flux



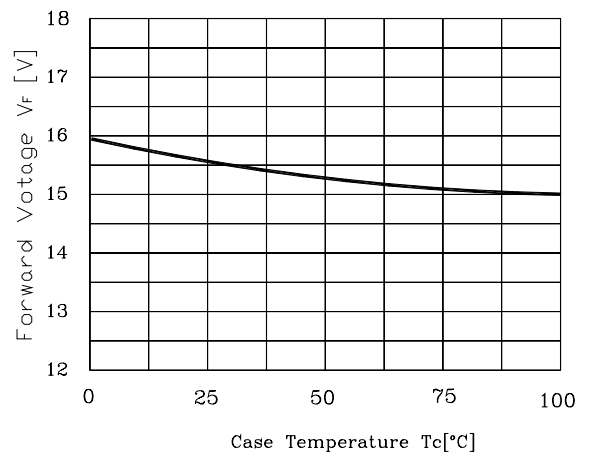
Forward Voltage Vs. Forward Current



Case Temperature Vs. Relative Luminous Flux



Case Temperature Vs. Forward Voltage



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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	$T_a = 25^{\circ}\text{C}$, $I_F = 700\text{ mA} \times 1000\text{ hours}$ (with Al fin)	PASS
		$T_a = 80^{\circ}\text{C}$, $T_j = 120^{\circ}\text{C}$, $I_F = 700\text{ mA} \times 1000\text{ hours}$ (with Al fin)	
2	Low temperature storage	$T_a = -40^{\circ}\text{C} \times 1000\text{ hours}$	PASS
3	High temperature storage	$T_a = 100^{\circ}\text{C} \times 1000\text{ hours}$	PASS
4	Moisture resistance	$T_a = 60^{\circ}\text{C}$, 90%RH for 1000 hours	PASS
5	Thermal shock	$T_a = -40^{\circ}\text{C} \times 30\text{ minutes} \sim 100^{\circ}\text{C} \times 30\text{ minutes}$, 100 cycle	PASS

4-2. FAILURE CRITERIA

NO.	PARAMETER	SYMBOL	FAILURE CRITERIA
1	Forward Voltage	V_F	$V_F > \text{Initial value} \times 1.1$
2	Luminous Flux	Φ	$\Phi < \text{Initial value} \times 0.7$



TECHNICAL DATA SHEET

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5. CHROMATICITY COORDINATES REGIONAL

5-1. 3000K CHROMATICITY COORDINATES

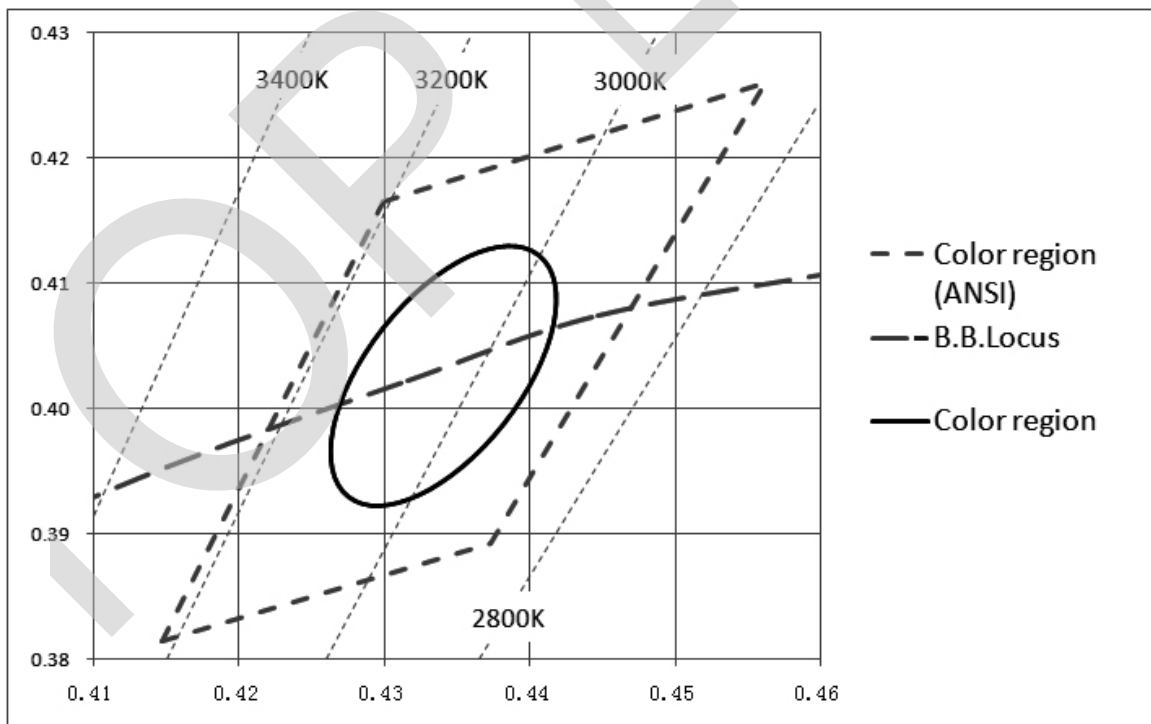
(Tolerance: $x,y \pm 0.005$)

($I_F = 700\text{mA}, T_c = 25^\circ\text{C}$)

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 $V_F \pm 3\%$, $D_v \pm 10\%$, Chromaticity(x,y) ± 0.005 .



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5-2. 5000K CHROMATICITY COORDINATES

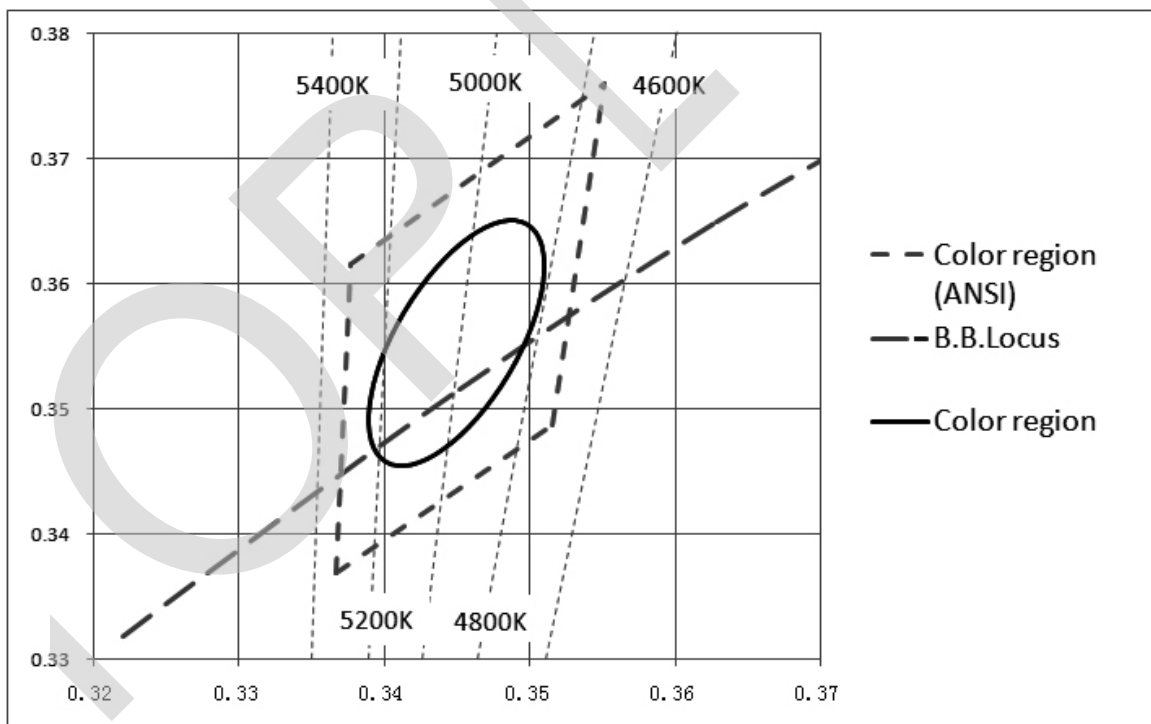
(Tolerance: $x,y \pm 0.005$)

($I_F = 700\text{mA}$, $T_c = 25^\circ\text{C}$)

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 $V_F \pm 3\%$, $D_v \pm 10\%$, Chromaticity(x,y) ± 0.005 .



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5-3. 6500K CHROMATICITY COORDINATES

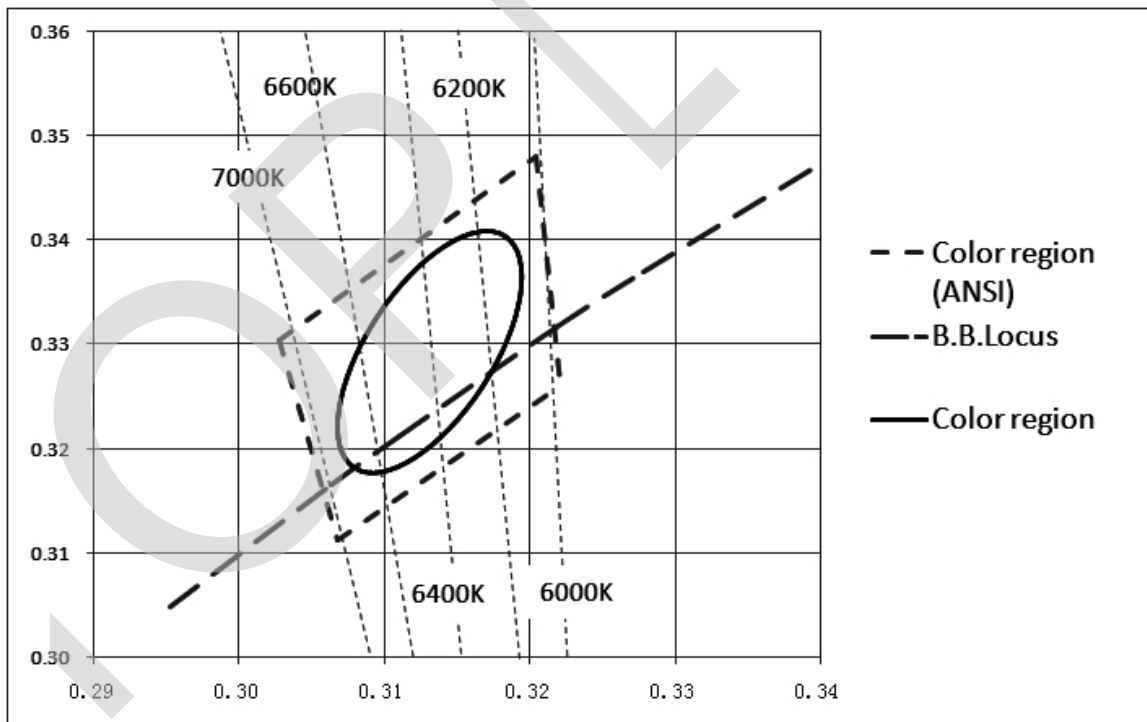
(Tolerance: x,y ± 0.005)

(I_F =700mA, T_c= 25°C)

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.