SPECIFICATIONS

FOR TOPLITE COB MODULE

MODEL：ATE-R11-5W

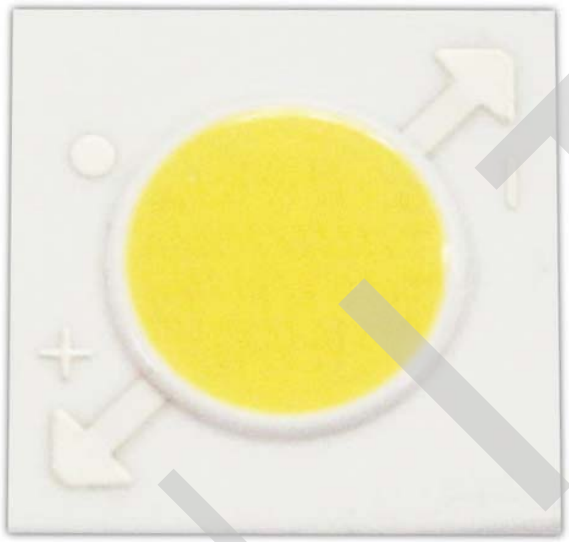
TOPLITE

TOPLITE INTERNATIONAL LLC.

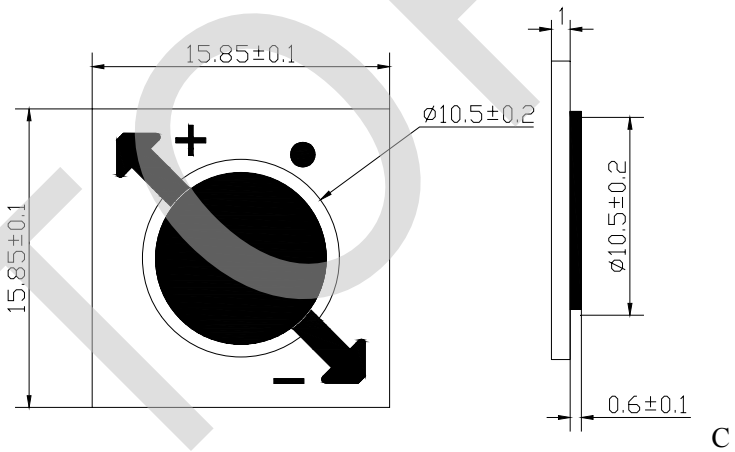
www.topliteusa.com

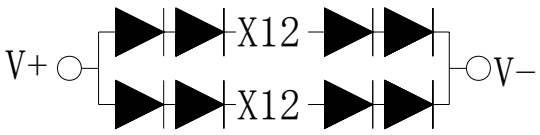
TECHNICAL DATA SHEET
ATE-R11-5W <TOPLITE COB MODULE>

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	7.12	W
Forward Current	I_F	180	mA
Reverse Voltage	V_R	60	V
Operating Temperature	T_{opr}	- 30 ～ + 80	℃
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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ATE-R11-5W <TOPLITE COB MODULE>

3-2. ELECTRICAL-OPTICAL CHARACTERISTICS

(T_C=25℃)

**		PARAMETER	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
common		Forward Voltage *1	V_F	I_F=140mA	34.8	36	39.6	V
		Beam Angle	—		—	120	—	Deg
W	**	Color Temp.	—	I_F=140mA	2870	3045	3220	K
	**	Color Rendering Index *3	Ra		80	—	—	—
	W_1	Luminous Flux *2	Φ		400	450	—	lm
		Luminous Efficiency	η		80	90	—	lm/W
	W_2	Luminous Flux *2	Φ		455	475	—	lm
		Luminous Efficiency	η		91	95	—	lm/W
D	**	Color Temp.	—	I_F=140mA	4745	5028	5311	K
	**	Color Rendering Index *3	Ra		80	—	—	—
	D_1	Luminous Flux *2	Φ		475	500	—	lm
		Luminous Efficiency	η		95	100	—	lm/W
	D_2	Luminous Flux *2	Φ		505	525	—	lm
		Luminous Efficiency	η		101	105	—	lm/W
C	**	Color Temp.	—	I_F=140mA	6020	6530	7040	K
	**	Color Rendering Index *3	Ra		80	—	—	—
	C_1	Luminous Flux *2	Φ		500	525	—	lm
		Luminous Efficiency	η		100	105	—	lm/W
	C_2	Luminous Flux *2	Φ		550	575	—	lm
		Luminous Efficiency	η		110	115	—	lm/W

(Note) Parameters is formulated based on shipping samples

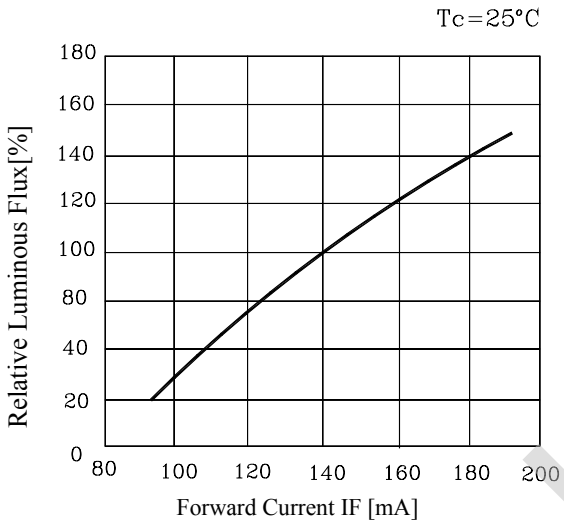
*1. After 20 ms drive, Measurement tolerance: ± 3 %

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

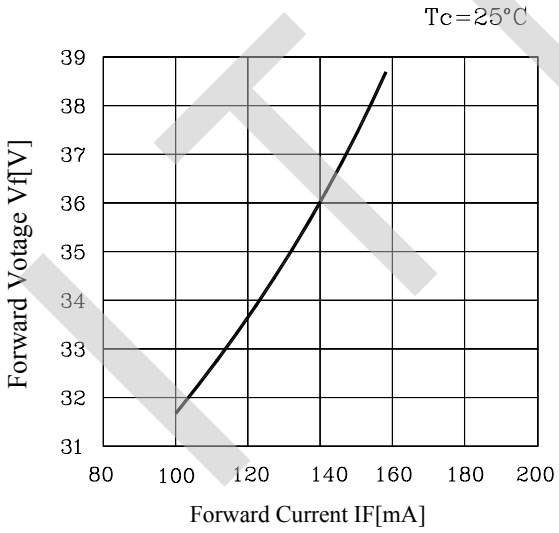
*3. Monitored by TOPLITE's 1m integrating sphere, after 20 ms drive, Measurement tolerance:± 2

3-3. Characteristics diagram (TYP.)

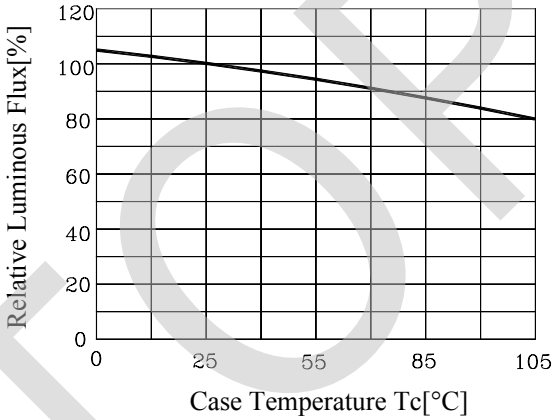
Forward Current Vs.Relative Luminous Flux



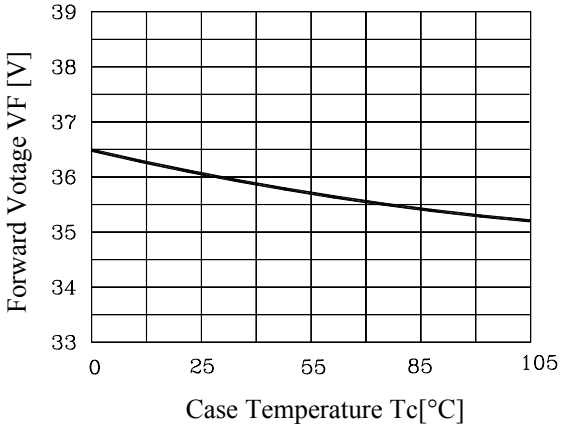
Forward Votage Vs. Forward Current



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 = 140mA × 1000 hours(with Al fin) T_a = 80℃, T j ≒ 120℃, I_F =140mA × 1000 hours(with Al fin)	PASS
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

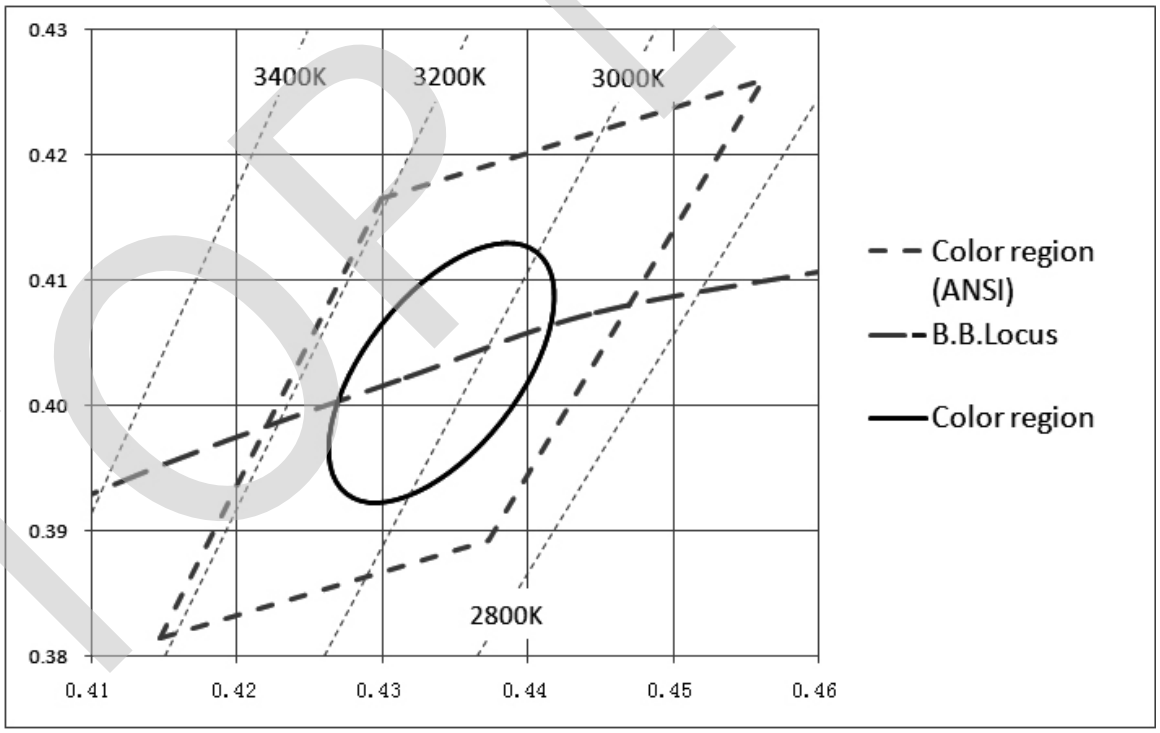
5-1. 3000K CHROMATICITY COORDINATES

(Tolerance: x,y ± 0.005)
(I_F =140mA, 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

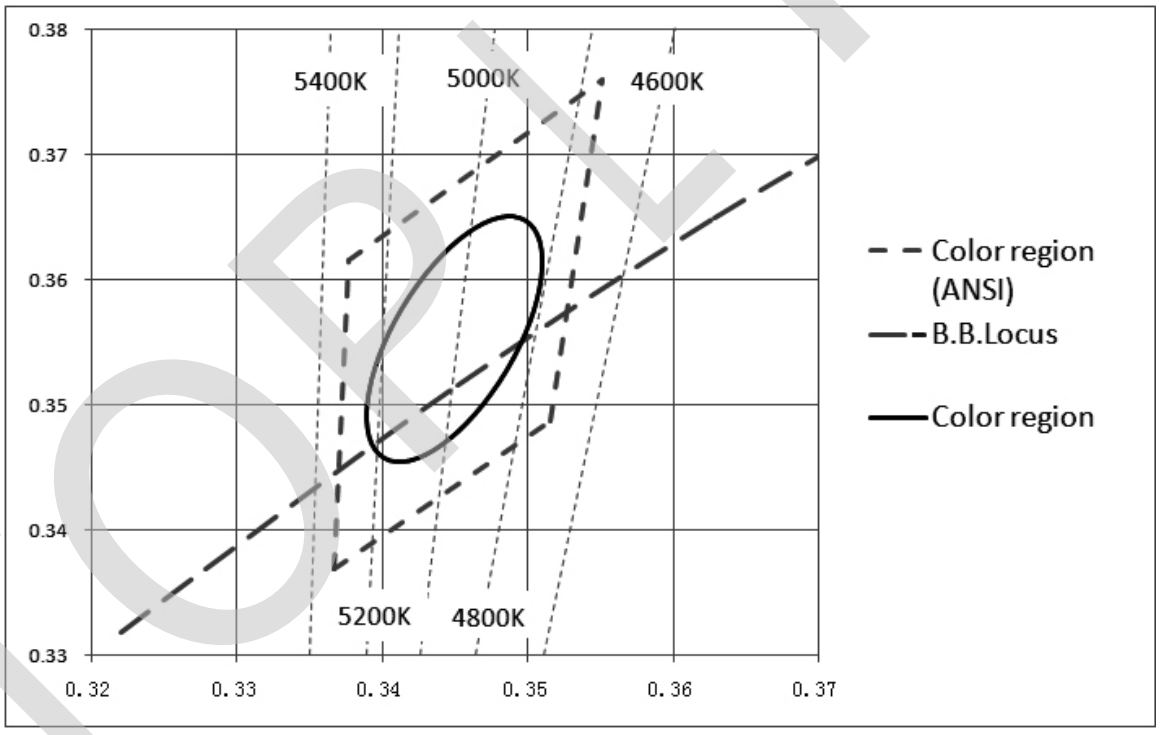
(Tolerance: x,y ± 0.005)

(I_F =140mA, 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	0.3760	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 =140mA, 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