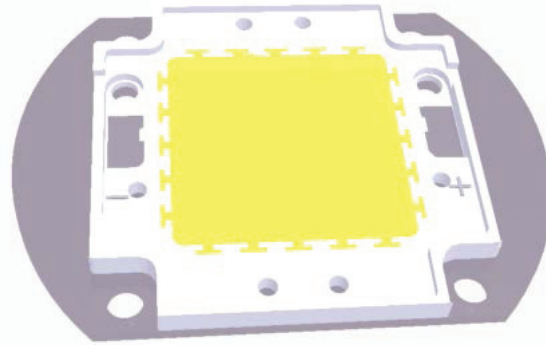
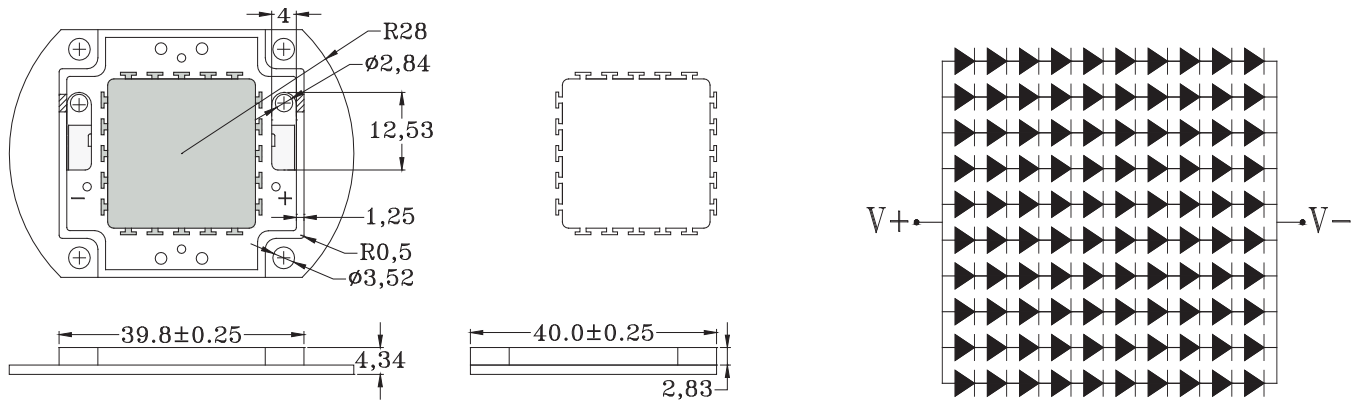


SPECIFICATION CTP-2424-100X SERIES
1. PRODUCT APPEARANCE

2. OUTLINE DRAWING


- Notes:
1. All dimensions are in millimeters (inches).
 2. Tolerance is $\pm 0.25\text{mm}$ (0.01") unless otherwise noted.
 3. Specifications are subject to change without notice.

Part Number	Chip Material	Color of Emission	Lens Type	Viewing Angle
CTP-2424-100X	GaN	White	Yellow Tint	120°



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PERFORMANCE PARAMETERS - ABSOLUTE MAXIMUM RATINGS (TA=25°C)
3. PERFORMANCE PARAMETERS
3-1. ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	RATING	UNIT
Power Dissipation	P	170	W
Forward Current	I _F	5000	mA
Reverse Voltage	V _R	50	V
Operating Temperature	T _{opr}	- 30 ~ + 85	°C
Storage Temperature	T _{stg}	- 40 ~ + 100	°C
Junction Temperature	T _{jmax}	+ 125	°C
Thermal Resistance	RJ-C	3.5	°C/W

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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ELECTRICAL-OPTICAL CHARACTERISTICS
3-2. ELECTRICAL-OPTICAL CHARACTERISTICS

 (T_a=25°C)

**	PARAMETER	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
common	Forward Voltage ^{*1}	V _F	I _F =3150mA	29	31	34	V
	Beam Angle	—		—	120	—	Deg
W	** Color Temp.	—	I _F =3150mA	4745	5028	5311	K
	** Color Rendering Index ^{*3}	R _a		70	—	—	—
	W ₁ Luminous Flux ^{*2}	Φ		7812	8393	—	lm
	Luminous Efficiency	η		80	86	—	lm/W
	W ₂ Luminous Flux ^{*2}	Φ		8588	9276	—	lm
	Luminous Efficiency	η		88	95	—	lm/W
D	** Color Temp.	—	I _F =1350mA	4745	5028	5311	K
	** Color Rendering Index ^{*3}	R _a		70	—	—	—
	D ₁ Luminous Flux ^{*2}	Φ		7812	8835	—	lm
	Luminous Efficiency	η		80	93	—	lm/W
	D ₂ Luminous Flux ^{*2}	Φ		8930	9500	—	lm
	Luminous Efficiency	η		94	100	—	lm/W
C	** Color Temp.	—	I _F =1350mA	6020	6530	7040	K
	** Color Rendering Index ^{*3}	R _a		70	—	—	—
	C ₁ Luminous Flux ^{*2}	Φ		7812	9310	—	lm
	Luminous Efficiency	η		80	98	—	lm/W
	C ₂ Luminous Flux ^{*2}	Φ		9405	9975	—	lm
	Luminous Efficiency	η		99	105	—	lm/W

(Note) Parameters is formulated based on shipping samples

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

*2. Monitored by ChromeLED 1m integrating sphere, after 20ms drive, measurement tolerance: ±10%.

*3. Monitored by ChromeLED 1m integrating sphere, after 20ms drive, measurement tolerance: ±2



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RELIABILITY
TEST ITEMS AND TEST CONDITIONS

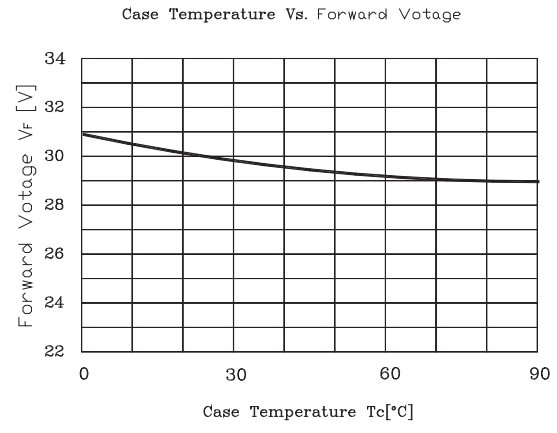
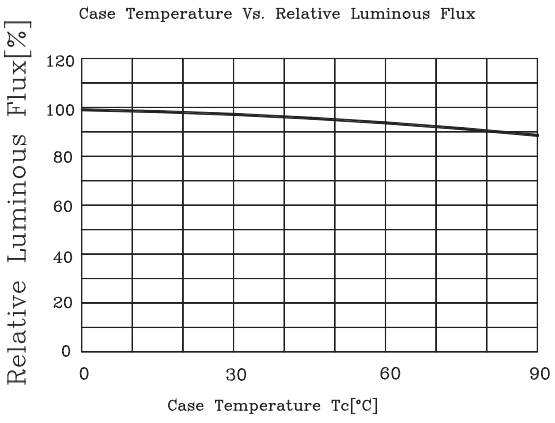
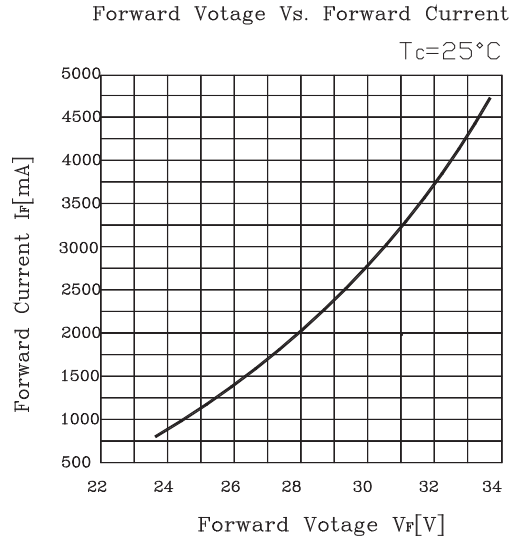
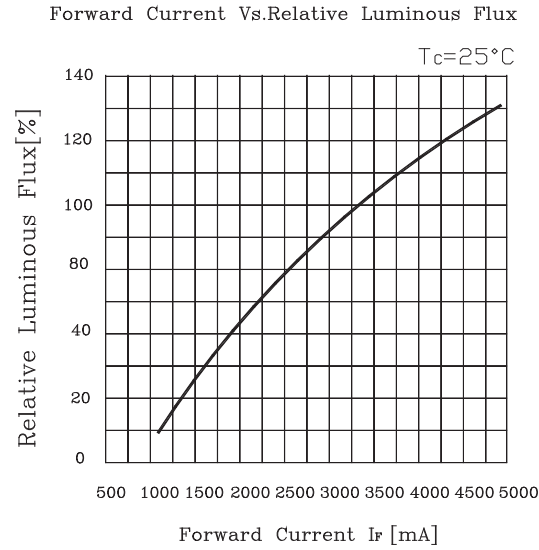
NO.	TEST ITEM	TEST CONDITIONS	RESULT
1	Continuous operation test	$T_a = 25^{\circ}\text{C}$, $I_F = 3150\text{mA} \times 1000$ hours(with Al fin)	PASS
		$T_a = 80^{\circ}\text{C}$, $T_j = 120^{\circ}\text{C}$, $I_F = 3150 \text{ mA} \times 1000$ hours(with Al fin)	
2	Low temperature storage	$T_a = -40^{\circ}\text{C} \times 1000$ hours	PASS
3	High temperature storage	$T_a = 100^{\circ}\text{C} \times 1000$ hours	PASS
4	Moisture resistance	$T_a = 60^{\circ}\text{C}$, 90%RH for 1000 hours	PASS
5	Thermal shock	$T_a = -40^{\circ}\text{C} \times 30$ minutes $\sim 100^{\circ}\text{C} \times 30$ minutes, 100 cycle	PASS

FAILURE CRITERIA

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



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CHARACTERISTICS DIAGRAM (TYP.)
3-3. Characteristics diagram (TYP.)


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CHROMATICITY COORDINATES REGIONAL - 3000K

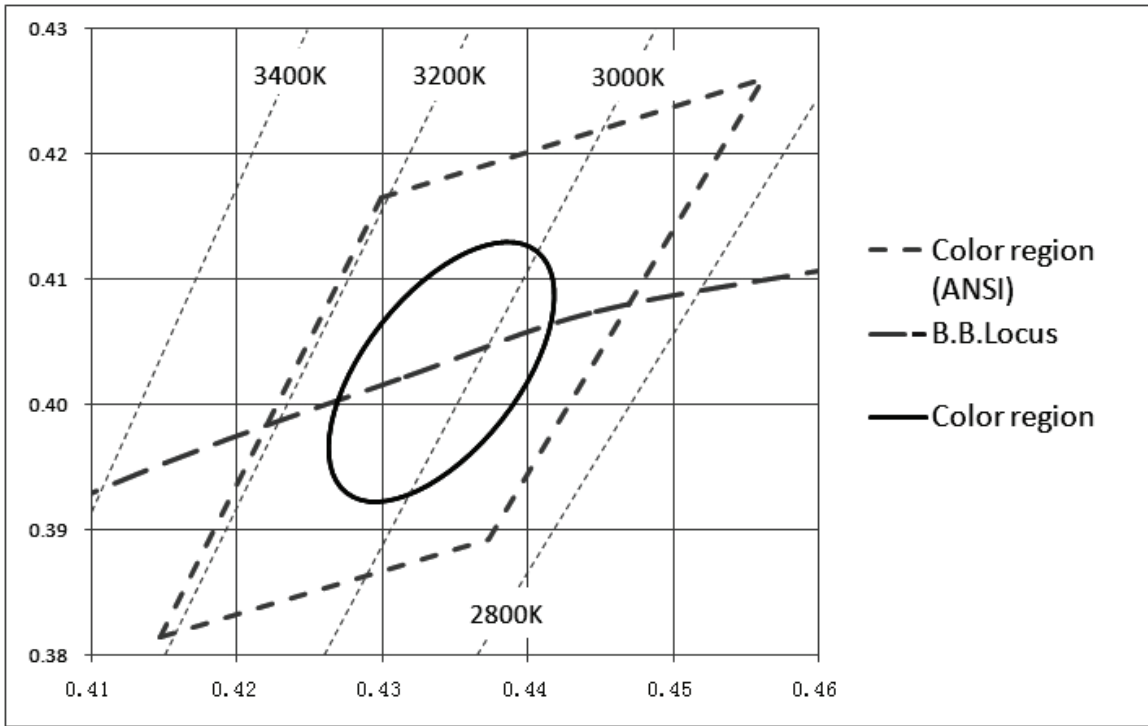
3000K CHROMATICITY COORDINATES

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

($I_F = 3150\text{mA}$, $T_c = 25^\circ\text{C}$)

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

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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CHROMATICITY COORDINATES REGIONAL - 5000K

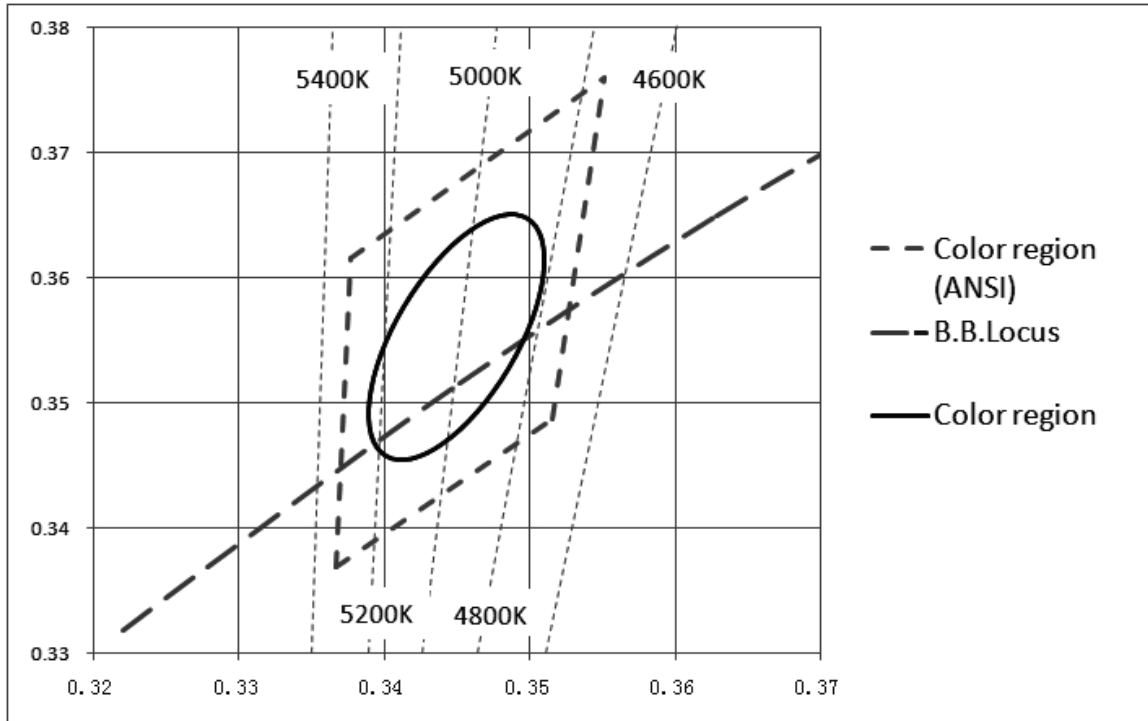
5000K CHROMATICITY COORDINATES

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

($I_F = 3150\text{mA}$, $T_c = 25^\circ\text{C}$)

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

Chromaticity Diagram



Note: The tolerance of measurement at our tester is $V_F \pm 3\%$, $D_v \pm 10\%$, Chromaticity $(x, y) \pm 0.005$.



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CHROMATICITY COORDINATES REGIONAL - 6500K

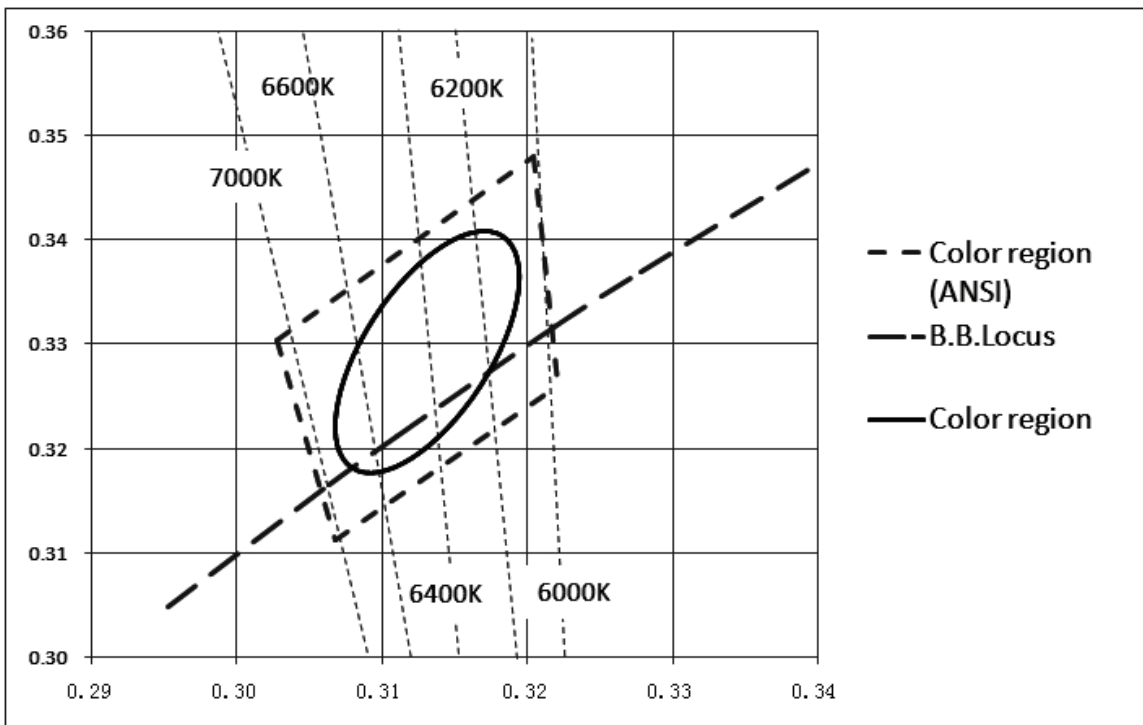
6500K CHROMATICITY COORDINATES

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

($I_F = 3150\text{mA}$, $T_c = 25^\circ\text{C}$)

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

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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