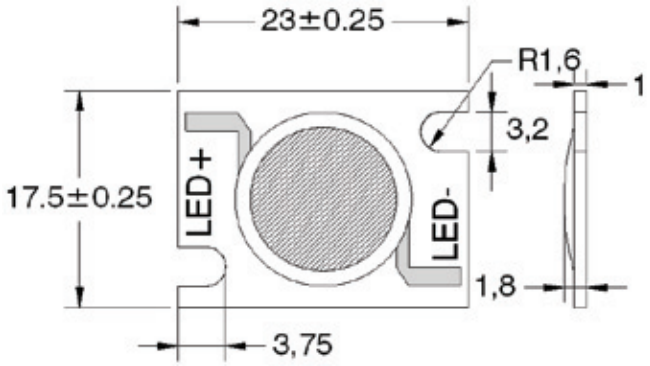
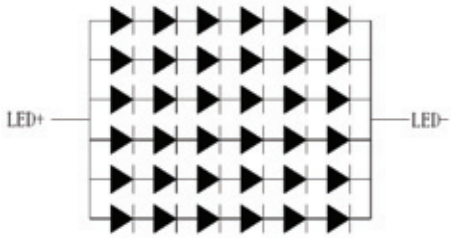
SPECIFICATION — CE-R14 SERIES

1. PRODUCT APPEARANCE

2. OUTLINE DRAWING





Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.25mm (0.01”) unless otherwised noted.
3. Specifications are subject to change without notice.

Part Number	Chip Material	Color of Emission	Lens Type	Viewing Angle
CE-R14	GaN	White	Yellow Tint	120°

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

ITEM	SYMBOL	RATING	UNIT
Power Dissipation	P	30.2	W
Forward Current	I_F	1440	mA
Reverse Voltage	V_R	30	V
Operating Temperature	T_{opr}	- 30 ~ + 85	
Storage Temperature	T_{stg}	- 40 ~ + 100	
Junction Temperature	T_{jmax}	125	
Thermal Resistance	RJ-C	3.5	/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.

ELECTRICAL-OPTICAL CHARACTERISTICS

(Ta=25℃)

**		PARAMETER	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
common		Forward Voltage *1	V_F	I_F=720mA	18.6	19.8	21	V
		Beam Angle	—		—	120	—	Deg
W	**	Color Temp.	—	I_F=720mA	2870	3045	3220	K
	**	Color Rendering Index *3	Ra		80	—	—	—
	W_1	Luminous Flux *2	Φ		1000	1125	—	lm
		Luminous Efficiency	η		75	87	—	lm/W
	W_2	Luminous Flux *2	Φ		1126	1250	—	lm
		Luminous Efficiency	η		86	95	—	lm/W
	W_3	Luminous Flux *2	Φ		1251	1375	—	lm
		Luminous Efficiency	η		96	105	—	lm/W
D	**	Color Temp.	—	I_F=720mA	4745	5028	5311	K
	**	Color Rendering Index *3	Ra		80	—	—	—
	D_1	Luminous Flux *2	Φ		1100	1225	—	lm
		Luminous Efficiency	η		83	93	—	lm/W
	D_2	Luminous Flux *2	Φ		1226	1350	—	lm
		Luminous Efficiency	η		94	103	—	lm/W
	D_3	Luminous Flux *2	Φ		1351	1475	—	lm
		Luminous Efficiency	η		104	110	—	lm/W
C	**	Color Temp.	—	I_F=720mA	6020	6530	7040	K
	**	Color Rendering Index *3	Ra		80	—	—	—
	C_1	Luminous Flux *2	Φ		1120	1245	—	lm
		Luminous Efficiency	η		85	95	—	lm/W
	C_2	Luminous Flux *2	Φ		1246	1370	—	lm
		Luminous Efficiency	η		96	105	—	lm/W
	C_3	Luminous Flux *2	Φ		1371	1495	—	lm
		Luminous Efficiency	η		106	115	—	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 , I_F = 720 mA × 1000 hours(with Al fin) T_a = 80 , T_j=120 , I_F = 720 mA × 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

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

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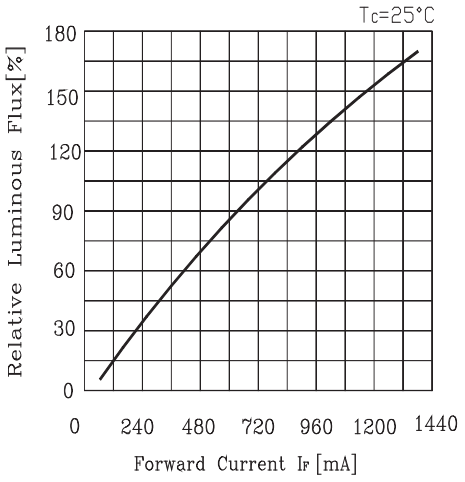
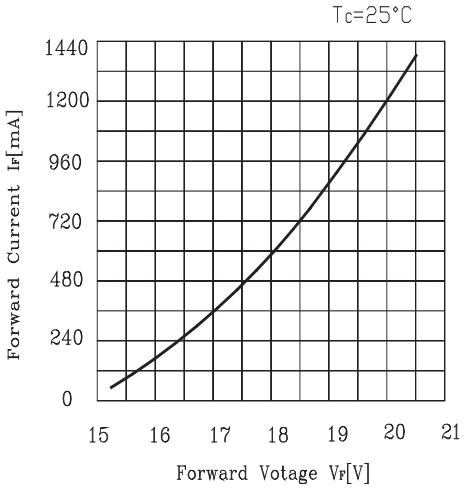
CHARACTERISITCS DIAGRAM (TYP.)

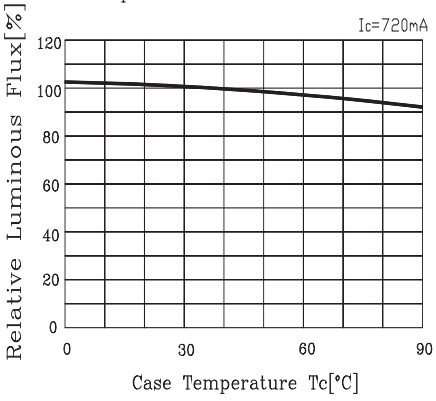
Forward Current Vs.Relative Luminous Flux



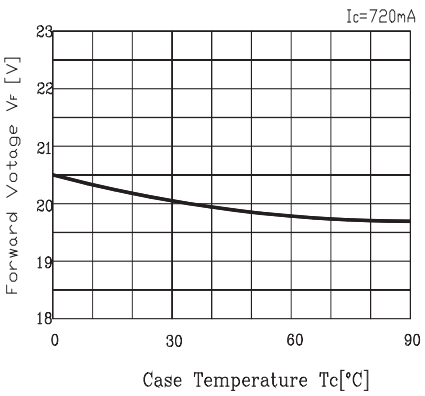
Forward Votage Vs. Forward Current



Case Temperature Vs. Relative Luminous Flux



Case Temperature Vs. Forward Votage



CHROMATICITY COORDINATES REGIONAL - 3000K

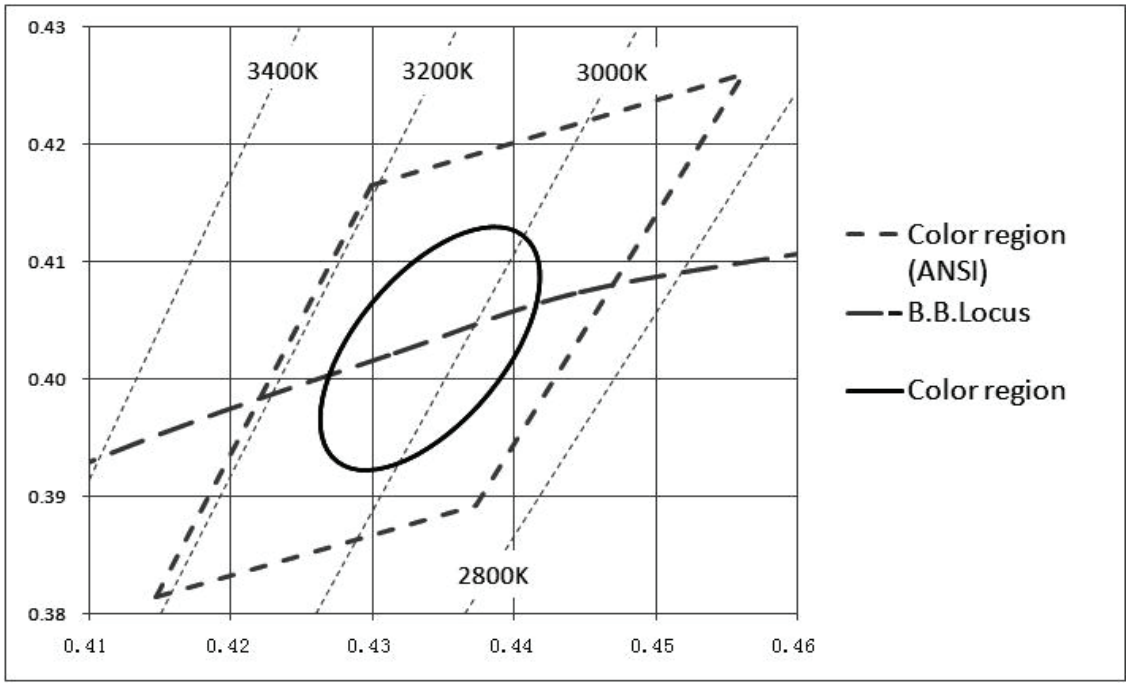
3000K CHROMATICITY COORDINATES

(Tolerance: x,y ± 0.005)

Chromaticity coordinates (IF =720mA, Tc= 25℃)

Range						
		NO.1	NO.2	NO.3	NO.4	NO.5
	x	0.4363	0.4305	0.432	0.434	0.4377
	y	0.4201	0.4206	0.4201	0.4188	0.4180

Chromaticity Diagram



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

CHROMATICITY COORDINATES REGIONAL - 5000K

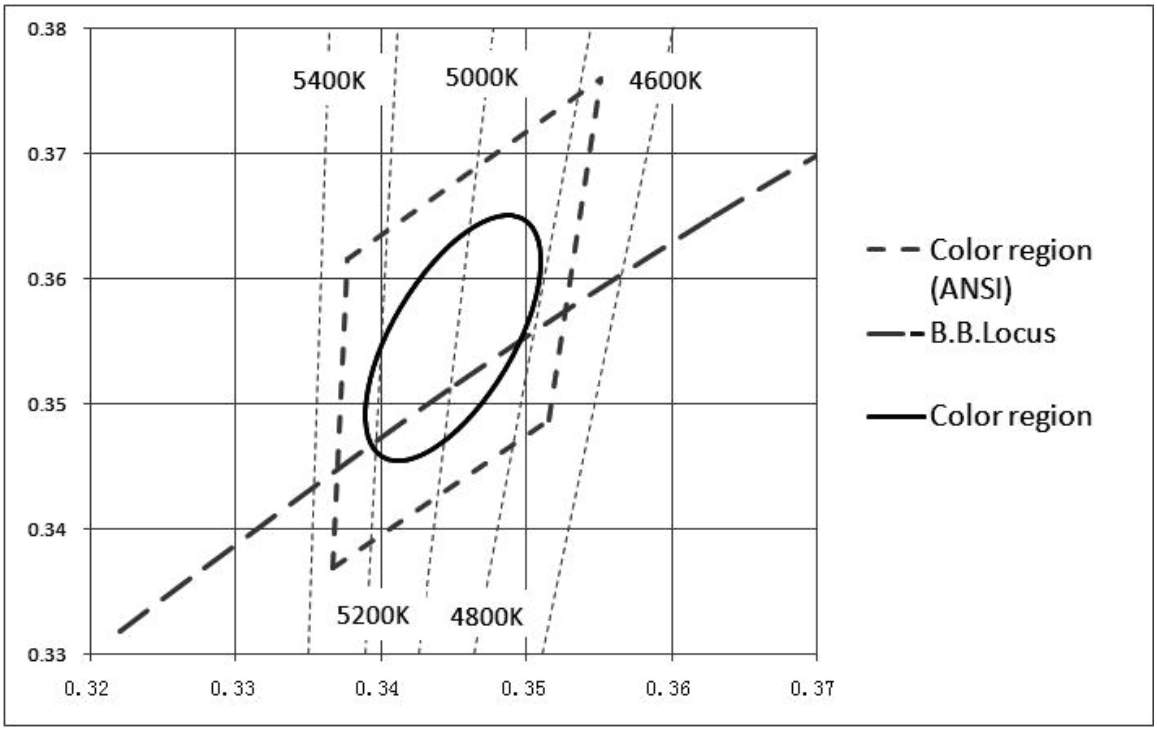
5000K CHROMATICITY COORDINATES

(Tolerance: x,y ± 0.005)

(I_F =400mA, T_c= 25℃)

Range		Chromaticity coordinates				
		NO.1	NO.2	NO.3	NO.4	NO.5
	x	0.3551	0.3376	0.3366	0.3515	0.3551
	y	0.376	0.3616	0.3369	0.3487	0.376

Chromaticity Diagram



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

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CHROMATICITY COORDINATES REGIONAL - 6500K

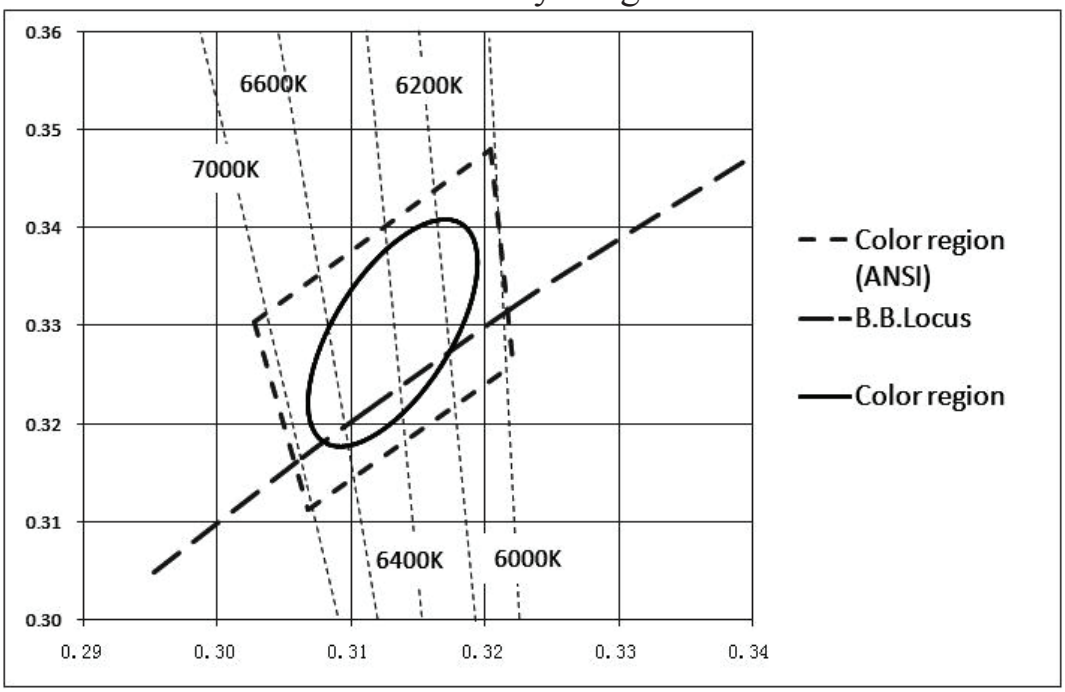
6500K CHROMATICITY COORDINATES

(Tolerance: x,y ± 0.005)
(IF =720mA, Tc= 25℃)

Range		Chromaticity coordinates				
		NO.1	NO.2	NO.3	NO.4	NO.5
	x	0.3205	0.3028	0.3068	0.3221	0.3205
	y	0.3481	0.3304	0.3113	0.3261	0.3481

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

Chromaticity Diagram



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