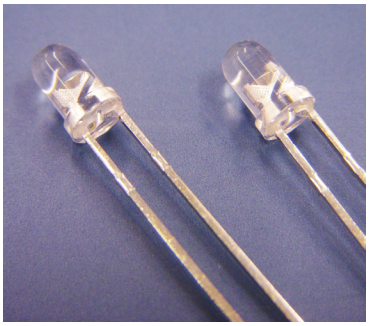
Cree® 3-mm Round LED
C374T-WNS/WNN
C374T-WPS/WPN
C374T-WQS/WQN
Data Sheet



Round LEDs offer superior light output for excellent readability in sunlight and dependable performance. They provide extremely stable light output over long periods of time.

These lamps are made with an advanced optical-grade epoxy that offers superior high-temperature and high-moisture-resistance performance in lighting and illumination applications.

FEATURES

- Size (mm): 3
- Color Temperatures (K):
  - Cool White :Min.(4600) / Typical (9000)
- Luminous Intensity (mcd)
  - C374T-WNS/WNN (3000-12000)
  - C374T-WPS/WPN (2130-8200)
  - C374T-WQS/WQN (1100-4180)
- Viewing Angle:
  - C374T-WNS/WNN: 25 degrees
  - C374T-WPS/WPN: 35 degrees
  - C374T-WQS/WQN: 65 degrees
- Lead-Free
- RoHS-Compliant

APPLICATIONS

- Advertising Signs
- Indicators
- LCD Backlight
- Illuminations

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Absolute Maximum Ratings (T_A = 25°C)

Items	Symbol	Absolute Maximum Rating	Unit
		Cool White	
Forward Current	I_F	25	mA
Peak Forward Current [Note]	I_{FP}	100	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_D	100	mW
Operation Temperature	T_{opr}	-40 ~ +95	°C
Storage Temperature	T_{stg}	-40 ~ +100	°C
Lead Soldering Temperature	T_{sol}	Max. 260°C for 3 sec. max. (3 mm from the base of the epoxy bulb)	

Note: Pulse width ≤0.1 msec, duty ≤1/10.

Typical Electrical & Optical Characteristics (T_A = 25°C)

Characteristics		Symbol	Condition	Unit	Minimum	Typical	Maximum
Forward Voltage	Cool White	V_F	I_F = 20 mA	V		3.4	4.0
Forward Voltage	Cool White	V_F	I_F = 1.0 µA	V	1.7		2.5
Reverse Current	Cool White	I_R	V_R = 5 V	µA			100
Luminous Intensity	WNS/WNN	I_V	I_F = 20 mA	mcd	3000	4700	
	WPS/WPN	I_V	I_F = 20 mA	mcd	2130	3800	
	WQS/WQN	I_V	I_F = 20 mA	mcd	1100	1800	
Chromaticity Coordinates	Cool White	x	I_F = 20 mA			0.3100	
		y	I_F = 20 mA			0.3200	
50% Power Angle	WNS/WNN	2θ½H-H	I_F = 20 mA	deg		25	
	WPS/WPN	2θ½H-H	I_F = 20 mA	deg		35	
	WQS/WQN	2θ½H-H	I_F = 20 mA	deg		65	

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Intensity Bin Limit (I_F = 20 mA)

C374T-WNS/WNN

Bin Code	Min. (mcd)	Max. (mcd)
W0	3000	4180
X0	4180	5860
Y0	5860	8200
Z0	8200	12000

C374T-WPS/WPN

Bin Code	Min. (mcd)	Max. (mcd)
V0	2130	3000
W0	3000	4180
X0	4180	5860
Y0	5860	8200

C374T-WQS/WQN

Bin Code	Min. (mcd)	Max. (mcd)
T0	1100	1520
U0	1520	2130
V0	2130	3000
W0	3000	4180

Tolerance of measurement of luminous intensity is ±15%.

VF Bin Limit (I_F = 20 mA)

Cool White

Bin Code	Min. (V)	Max. (V)
27	2.8	3.0
28	3.0	3.2
29	3.2	3.4
2a	3.4	3.6
2b	3.6	3.8
2c	3.8	4.0

Tolerance of measurement of VF is ±0.05V.

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Color Bin Limit (I_F = 20 mA)

Bin Code	Sub-bin	x	y
W1	Wa	0.2545	0.2480
		0.2633	0.2410
		0.2545	0.2245
		0.2450	0.2290
	Wb	0.2633	0.2410
		0.2720	0.2340
		0.2640	0.2200
		0.2545	0.2245
	Wc	0.2545	0.2480
		0.2640	0.2670
		0.2720	0.2575
		0.2633	0.2410
	Wd	0.2633	0.2410
		0.2720	0.2575
		0.2800	0.2480
		0.2720	0.2340
W2	We	0.2640	0.2670
		0.2735	0.2860
		0.2808	0.2740
		0.2720	0.2575
	Wf	0.2720	0.2575
		0.2808	0.2740
		0.2880	0.2620
		0.2800	0.2480
	Wg	0.2735	0.2860
		0.2830	0.3050
		0.2895	0.2905
		0.2808	0.2740
	Wh	0.2808	0.2740
		0.2895	0.2905
		0.2960	0.2760
		0.2880	0.2620

Bin Code	Sub-bin	x	y
W3	Wj	0.2830	0.3050
		0.2950	0.3210
		0.2998	0.3028
		0.2895	0.2905
	Wk	0.2895	0.2905
		0.2998	0.3028
		0.3045	0.2865
		0.2960	0.2760
	Wm	0.2950	0.3210
		0.3070	0.3370
		0.3100	0.3150
		0.2998	0.3028
	Wn	0.2998	0.3028
		0.3100	0.3150
		0.3130	0.2970
		0.3045	0.2865
W4	Wp	0.3070	0.3370
		0.3185	0.3485
		0.3200	0.3270
		0.3100	0.3150
	Wq	0.3100	0.3150
		0.3200	0.3270
		0.3215	0.3075
		0.3130	0.2970
	Wr	0.3185	0.3485
		0.3300	0.3600
		0.3300	0.3390
		0.3200	0.3270
	Ws	0.3200	0.3270
		0.3300	0.3390
		0.3300	0.3180
		0.3215	0.3075

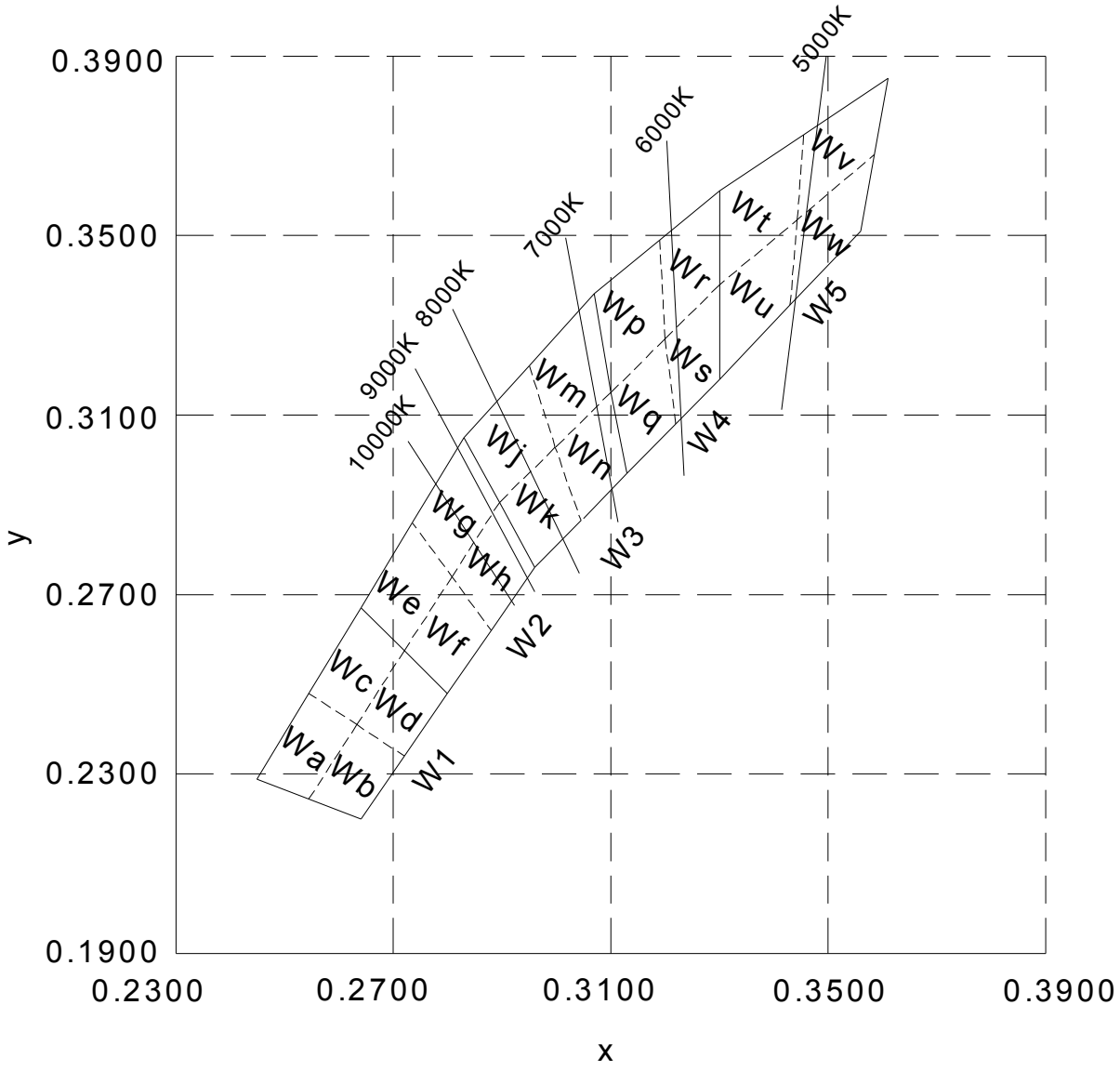
Bin Code	Sub-bin	x	y
W5	Wt	0.3300	0.3600
		0.3455	0.3725
		0.3443	0.3535
		0.3300	0.3390
	Wu	0.3300	0.3390
		0.3443	0.3535
		0.3430	0.3345
		0.3300	0.3180
	Wv	0.3455	0.3725
		0.3610	0.3850
		0.3585	0.3680
		0.3443	0.3535
	Ww	0.3443	0.3535
		0.3585	0.3680
		0.3560	0.3510
		0.3430	0.3345

Tolerance of measurement of the color coordinates is ±0.01.

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CIE Chromaticity Diagram



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Graphs

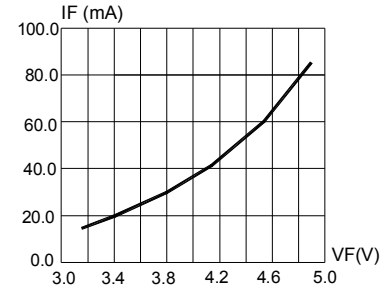


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

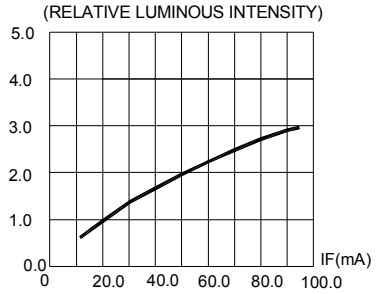


FIG.2 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

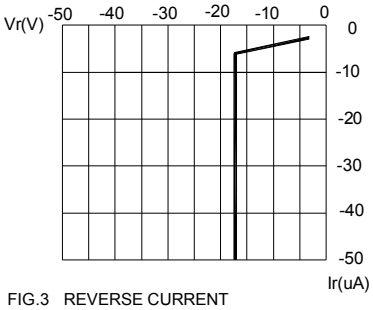


FIG.3 REVERSE CURRENT VS. REVERSE VOLTAGE.

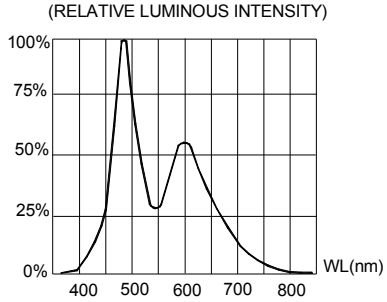


FIG.4 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH.

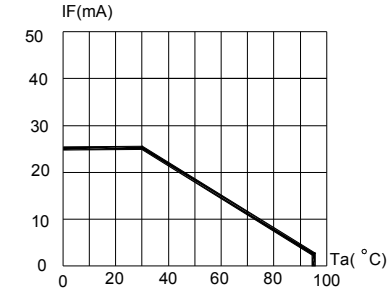


FIG.5 MAXIMUM FORWARD DCCURRENT VS AMBIENT TEMPERATURE (Tjmax=105°C)

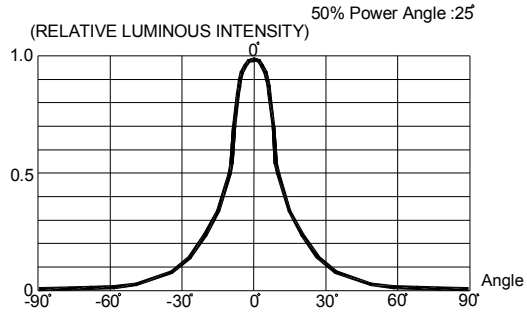


FIG.6 FAR FIELD PATTERN

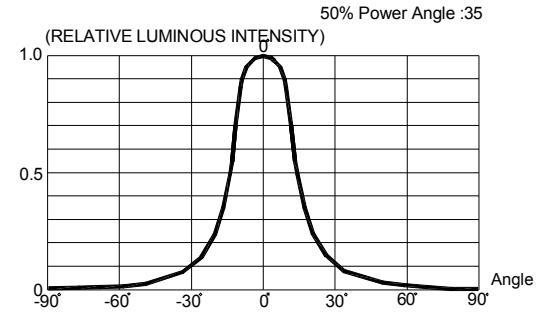


FIG.7 FAR FIELD PATTERN



FIG.8 FAR FIELD PATTERN

The above data are collected from statistical figures that do not necessarily correspond to the actual parameters of each single LED. Hence, these data will be changed without further notice.

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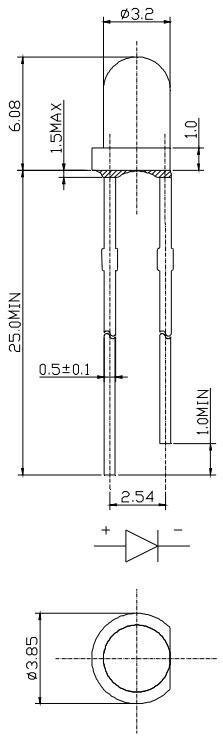
Mechanical Dimensions

All dimensions are in mm. Tolerance is ±0.25 mm unless otherwise noted.

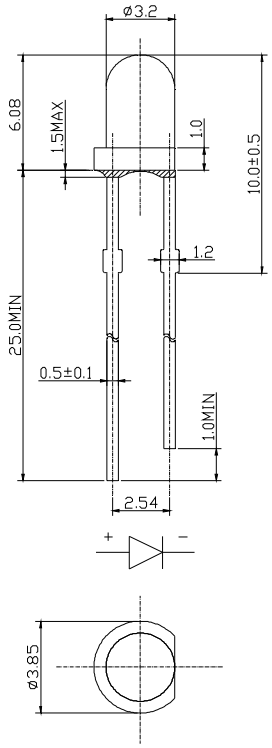
An epoxy meniscus may extend about 1.5 mm down the leads.

Burr around bottom of epoxy may be 0.5 mm max.

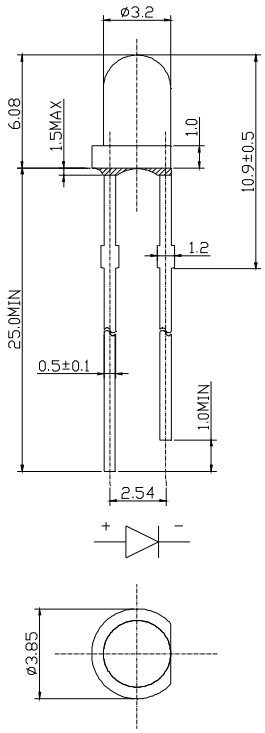
C374T-WNN&WPN&WQN:



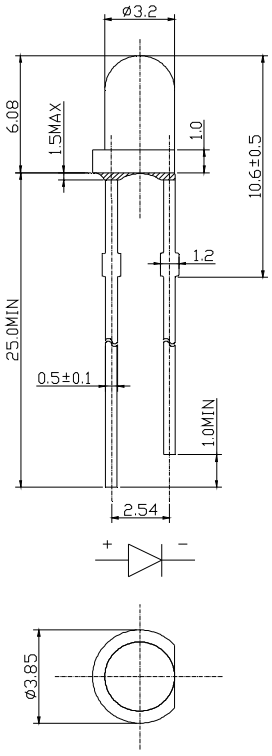
C374T-WQS:



C374T-WNS:



C374T-WPS:



Notes

RoHS Compliance

The levels of environmentally sensitive, persistent biologically toxic (PBT), persistent organic pollutants (POP), or otherwise restricted materials in this product are below the maximum concentration values (also referred to as the threshold limits) permitted for such substances, or are used in an exempted application, in accordance with EU Directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS), as amended through April 21, 2006.

Vision Advisory Claim

Users should be cautioned not to stare at the light of this LED product. The bright light can damage the eye.

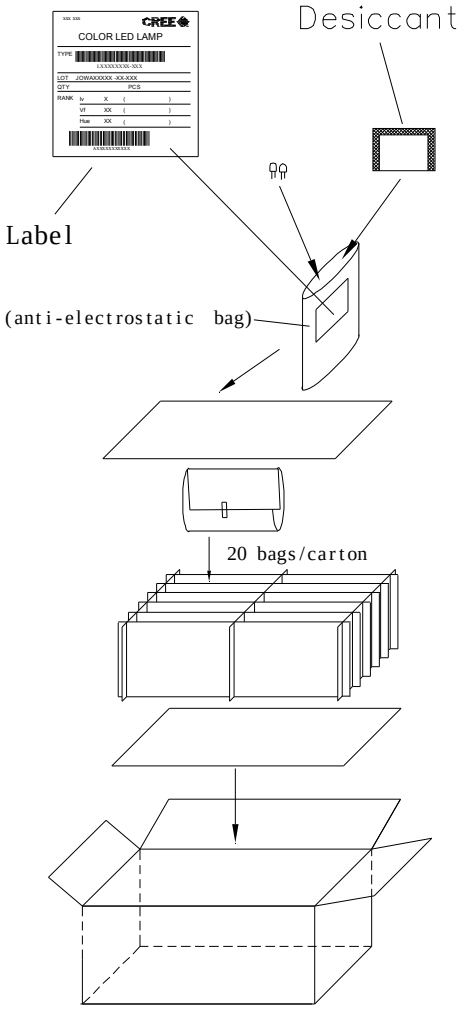
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Package

Features:

- The LEDs are packed in cardboard boxes after packaging in normal or anti-electrostatic bags.
- Cardboard boxes will be used to protect the LEDs from mechanical shock during transportation.
- The boxes are not water-resistant, and they must be kept away from water and moisture.
- The Bulk Pack types of packaging.
- Max 500 pcs per bag.



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