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DATA SHEET

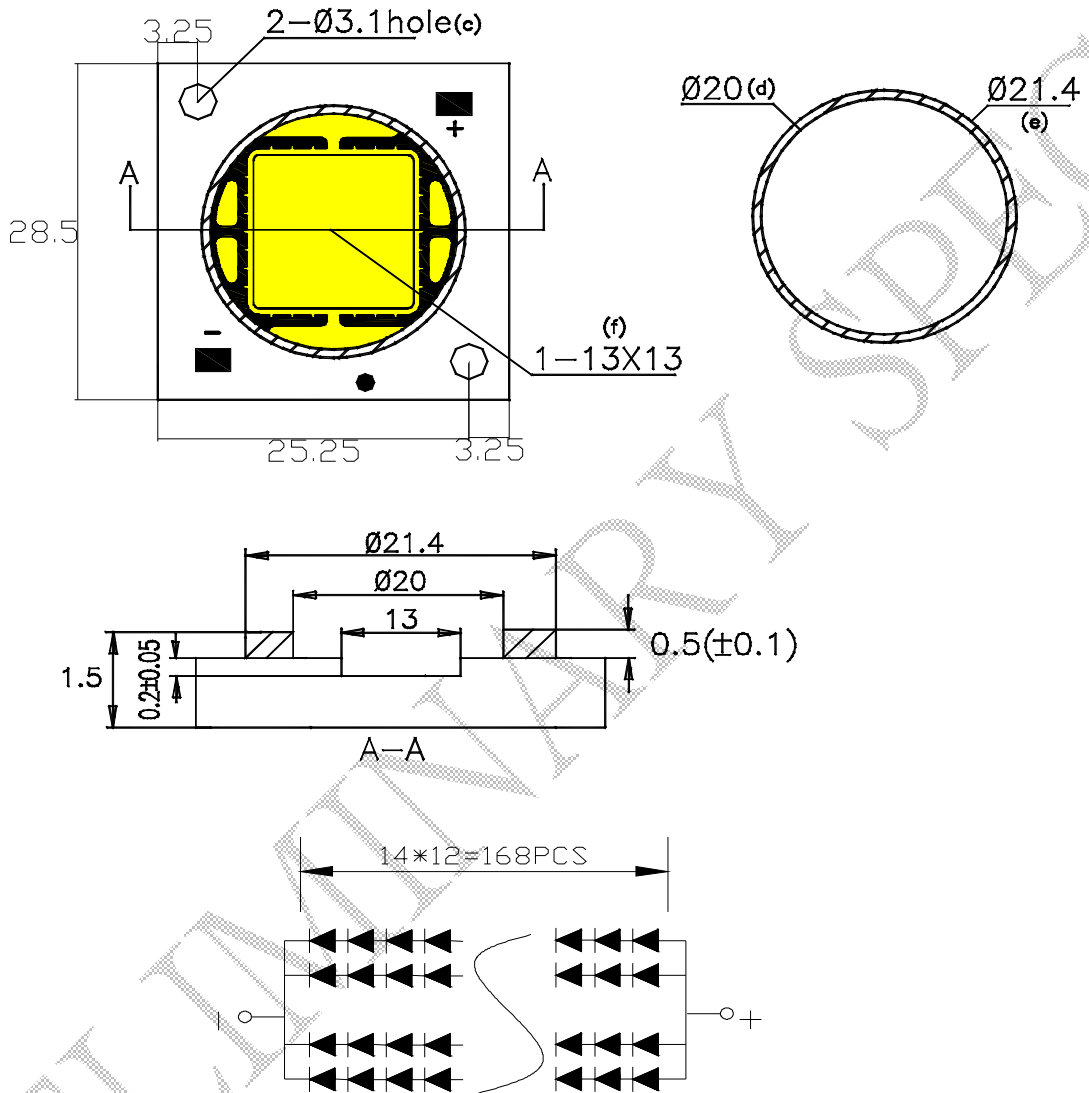
PART NO. : CS20C-P1C28-DB000

REV : A/1

CUSTOMER'S APPROVAL : _____

DCC : _____

●Package Dimension



Note:

1. All dimensions are in millimeters.
2. Tolerance is ± 0.2mm (.010") unless otherwise noted

●Features

1. Uniform high quality illumination
2. Streamlined thermal path
3. Compact high flux density light source
4. Low voltage DC operated.
5. Instant light
6. RoHS Compliant.



COB LED

CS20C-P1C28-DB000

REV:A/1

●Absolute Maximum Rating(Ta=25°C)

Symbol	Parameter	Rating	Unit
W	Power Dissipation	30	W
IF	DC Forward Current	840	mA
Tj	LED Junction Temperature(at IF=560mA)	120	°C
*Topr	Operating Temperature	-30 ~ +100	°C
*Tstg	Storage Temperature	-40 ~ +100	°C

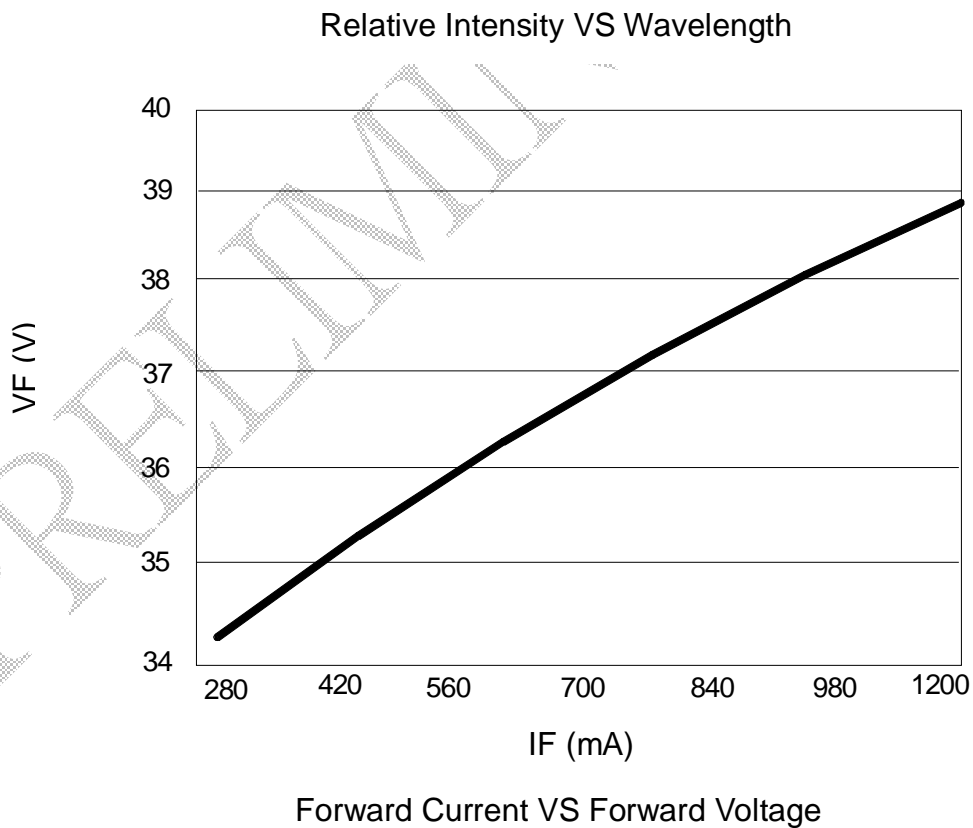
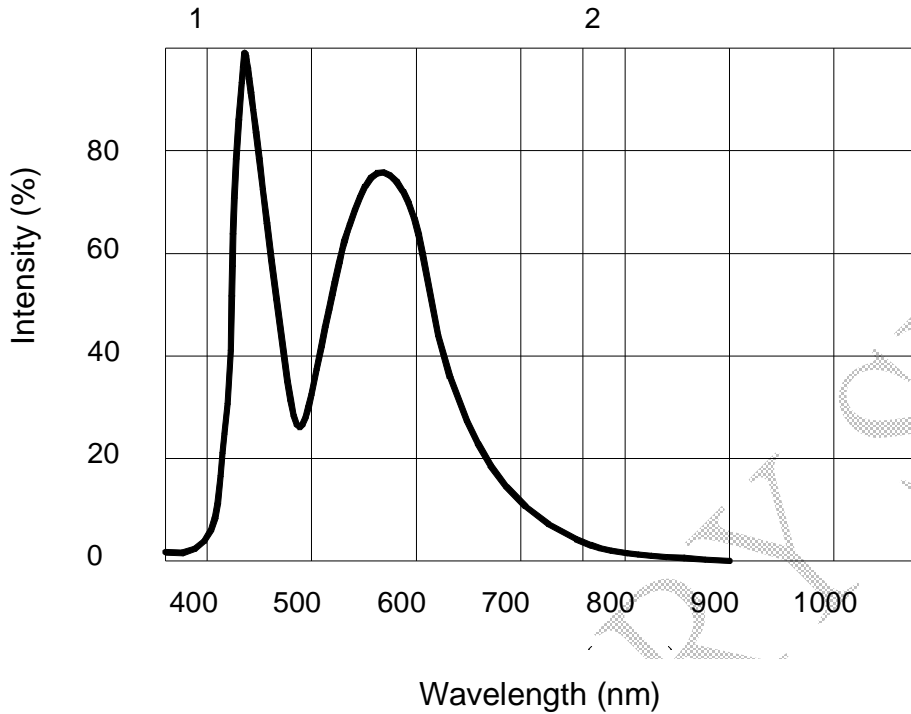
Note :

* : Temperature for using with aluminum board.

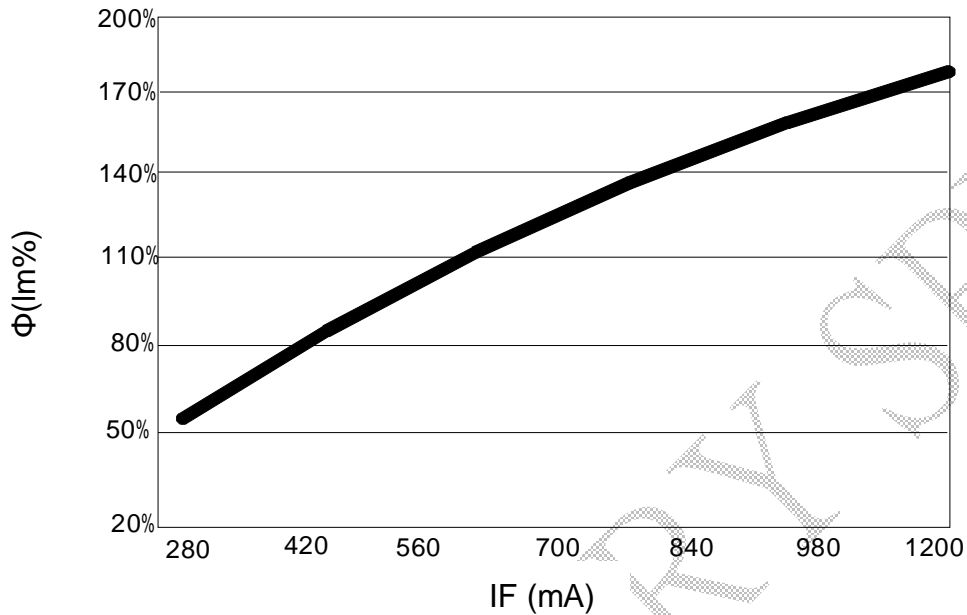
●Electro-Optical Characteristic(Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous Flux	Φ	--	1920	---	lm	IF=560mA
Viewing Angle	2 θ 1/2	---	130	--	deg	
Color Temperature	CCT	---	5000	---	K	IF=560mA
Forward Voltage	VF	---	35	39	V	IF =560mA
Power Dissipation	P	--	20	---	W	IF =560mA
Lumimous efficacy	η	---	95	---	Lm/ W	IF =560mA

•Typical Optical and Electrical

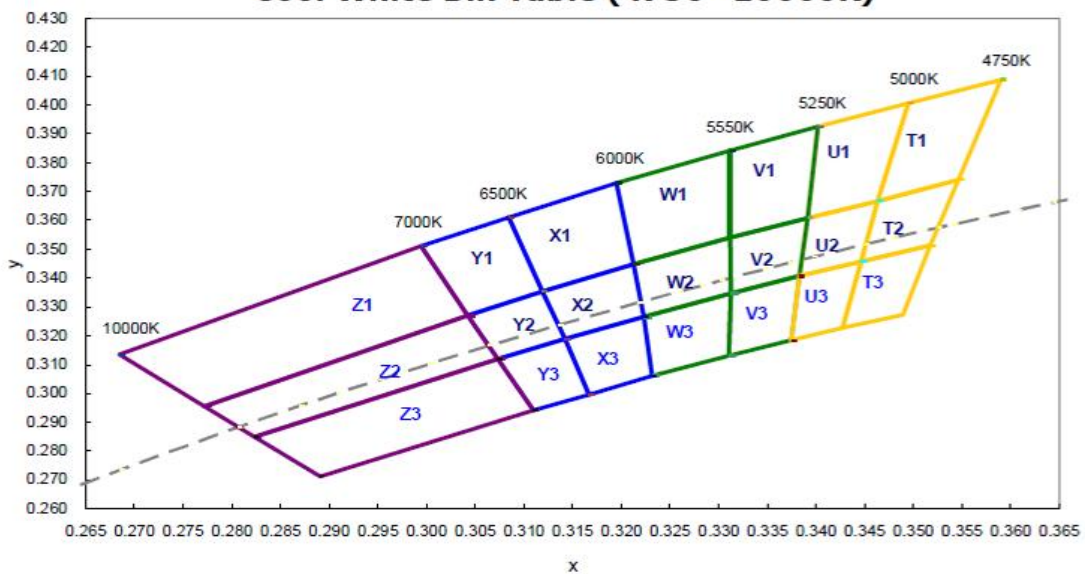


● Typical Optical and Electrical



Forward Current VS Luminous Flux%

Cool White Bin Table (4750~10000K)



CIEX

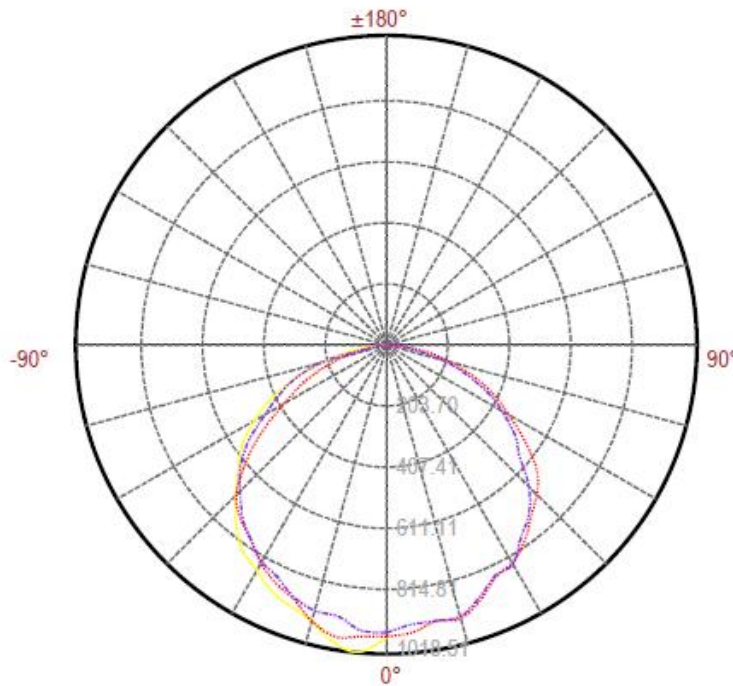
Cool-white Bin Structure

COROMATICITY COORDINATE (CIE1931_XY)

BIN Code	Chromaticity Coordinate (CIE 1931-xy)							
	x1	y1	x2	y2	x3	y3	x4	y4
T1	0.3590	0.4088	0.3546	0.3741	0.3463	0.3667	0.3495	0.4005
T2	0.3546	0.3741	0.3518	0.3513	0.3446	0.3458	0.3463	0.3667
T3	0.3518	0.3513	0.3490	0.3272	0.3428	0.3227	0.3446	0.3458
U1	0.3495	0.4005	0.3463	0.3667	0.3392	0.3608	0.3403	0.3924
U2	0.3463	0.3667	0.3446	0.3458	0.3383	0.3406	0.3392	0.3608
U3	0.3446	0.3458	0.3428	0.3227	0.3374	0.3184	0.3383	0.3406
V1	0.3403	0.3924	0.3392	0.3608	0.3313	0.3540	0.3313	0.3841
V2	0.3392	0.3608	0.3383	0.3406	0.3313	0.3346	0.3313	0.3540
V3	0.3383	0.3406	0.3374	0.3184	0.3311	0.3132	0.3313	0.3346
W1	0.3313	0.3841	0.3312	0.3540	0.3213	0.3448	0.3195	0.3730
W2	0.3313	0.3540	0.3313	0.3346	0.3223	0.3266	0.3213	0.3448
W3	0.3313	0.3346	0.3311	0.3132	0.3232	0.3061	0.3223	0.3266
X1	0.3195	0.3730	0.3213	0.3448	0.3119	0.3354	0.3085	0.3610
X2	0.3213	0.3448	0.3223	0.3266	0.3142	0.3188	0.3119	0.3354
X3	0.3223	0.3266	0.3232	0.3061	0.3167	0.2997	0.3142	0.3188
Y1	0.3085	0.3610	0.3119	0.3354	0.3042	0.3270	0.2995	0.3510
Y2	0.3119	0.3354	0.3142	0.3188	0.3073	0.3120	0.3042	0.3270
Y3	0.3142	0.3188	0.3167	0.2997	0.3110	0.2941	0.3073	0.3120
Z1	0.2995	0.3510	0.3042	0.3270	0.2772	0.2955	0.2685	0.3135
Z2	0.3042	0.3270	0.3073	0.3120	0.2824	0.2850	0.2772	0.2955
Z3	0.3073	0.3120	0.3110	0.2941	0.2892	0.2713	0.2824	0.2850

Typical Optical and Electrical

Typical polar radiation pattern for lambertion



•Bin Code List

Luminous Flux (Φ),(Unit: lm ,IF=560mA)		
Bin Code	Min	Max
L	1090	1420
M	1420	1860
N	1860	2430
P	2430	3180
Q	3180	4160

Including test tolerance $\pm 10\%$

Forward Voltage(VF),(Unit: V, IF=560mA)		
Bin Code	Min	Max
VH	35	40
VI	40	45
VJ	45	50

Including test tolerance $\pm 0.1V$



COB LED

CS20C-P1C28-DB000

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●Label Explanation

P/N: CS20C-P1C28-DB000
QTY: XXXX PCS
LOT NO.: LC1111001
BIN NO.: N/U1/5000/VH

PART NO: CR07C-P1C54-EC000

LOT NO: L C 11 11 001
 A B C D E

A---L: Local

B---C:COB

C--- Year

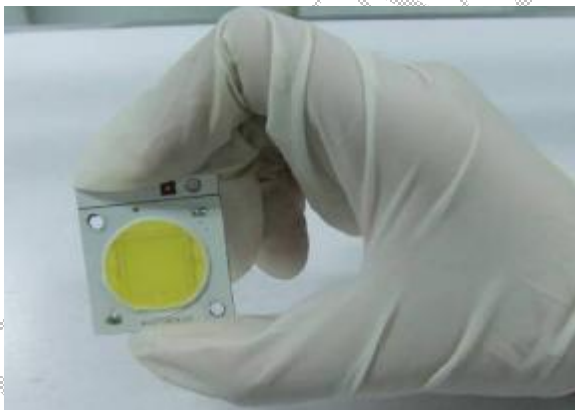
D---Month

E--- For series number

BIN NO: Bin Code

●Caution

(1).Handling note: Do not touch LED's surface.



(2)Please wear anti-static wrist strap and gloves to prevent ESD damage when handling.

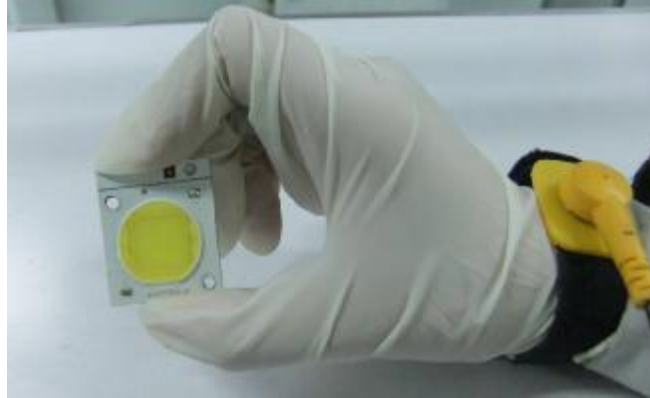


COB LED

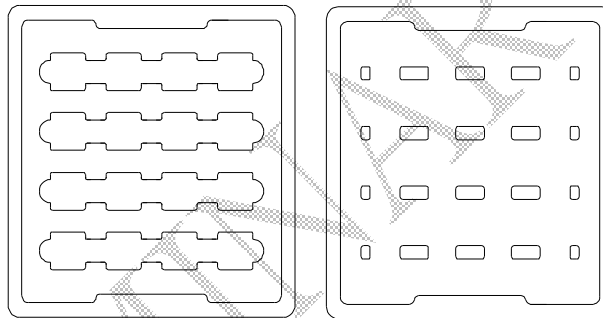
CS20C-P1C28-DB000

REV:A/1

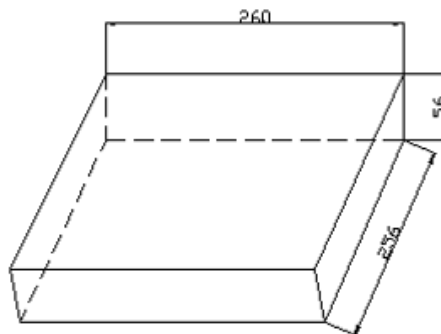
(2) Please wear anti-static wrist strap and gloves to prevent ESD damage when handling.



● Packing Specification



Carton A (1 pcs \times 16 = 16 pcs)



Carton B (16 pcs \times 2 = 32 pcs)

Note:

1. All dimensions are in millimeters.
2. Normal packing Quantity: 16 pcs.
3. The carton B contains 2 cartons A at maximum.

●Storage

1. Do not open the moisture proof bag before the devices are ready to use.
2. Before the package is opened, LED should be stored at temperatures less than 30°C and humidity less than 50%.
3. LED may be stored for 6 months. When the storage time has reached more than 6 months, LED should be stored in a sealed container filled with Nitrogen gas.
4. After the package is opened, LED should be stored at temperatures less than 30°C and humidity less than 30%.
5. LED should be used within 168 hours (7 days) after the package is opened.

●Operating Procedure

1. COB 20W series products should be operated at 560mA for ideal performance, but not more than 840Ma.
2. COB 20W series products are sensitive to static. Operators must wear static wristband (wireless static wristband is prohibited) and be well grounded while working in the environment with an ionizing air blower. Anti-static requirement should be under ESD 2000V.
3. Sufficient thermal management must be applied, Large LED forward current will cause high junction temperature and reduce LED life.
4. Recommended Assembly Method is shown in Figure 1, COB 20W series products must be used in conjunction with heat-sinking devices and a thin layer of thermal grease should be applied to the bottom surface of the LED source

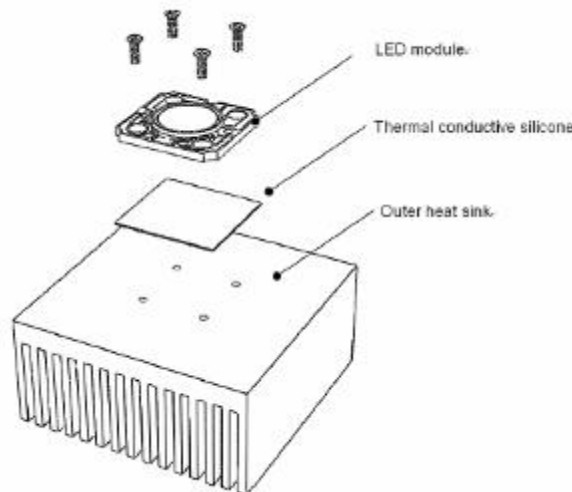


Figure 1



COB LED

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●Reliability Test

Test Item	number	Test Conditions	Test Period	Failure Criteria	Pass or Fail
High Temperature Storage Test	20pcs	100°C	1000hours	Note 1, 3, 4	Pass
Low Temperature Storage Test	20pcs	-40°C	1000 hours	Note 1, 3, 4	Pass
Room Temperature Operation	20pcs	Ta= 25°C IF =560mA	1000hours	Note 1, 2, 4	Pass
Temperature Cycle	20pcs	-20°C/100°C 30min dwell/ fer 5mins	200 Cycles	Note 1, 2, 4	Pass
High Temperature High Humidity Operation	20pcs	Ta=60°C RH= 85% IF=560mA	500 hours	Note 1, 2, 4	Pass

With heat sink, in a good thermal-exchange surrounding.

Note:

1. No catastrophic(LED fail)
2. Lumen maintenance > 85%
3. Lumen maintenance > 70%
4. Change in Vf < 10%.



COB LED

CS20C-P1C28-DB000

REV:A/1

● Part NO. System of E-Power LED

C S 20 C -P1 C 28-D B0 00

Special code : 00, Regular code 01 , 02...Special photoelectric code

Ra: B0: 60-70 ;C0: 70-80;
D0: 80-90

A: 60-70lm/w ; B: 70-80lm/w;
C: 80-90lm/W; D:90-100lm/W
E: 100-110lm/W; F:110-120lm/W

Size

C: Coating;
L: Lens

P1: Aluminum Substrate;
P2: Copper ;Substrate:
P3: Ceramic; P4: Others

C: Cool White ;
N: Netural White;W: Warm White

20: 20W ;40: 40W...

S: Square ;R: Round ;
L: Line

C: COB