



**PARA LIGHT ELECTRONICS CO., LTD.**

4F, No.1, Lane 93, Chien Yi Road, Chung Ho City, Taipei, Taiwan

Tel: 886-2-2225-3733

Fax: 886-2-2225-4800

E-mail: [para@para.com.tw](mailto:para@para.com.tw)

<http://www.para.com.tw>

**DATA SHEET**

**PART NO. : CS40C-P1C28-CB000**

**REV : A/0**

CUSTOMER'S APPROVAL : \_\_\_\_\_

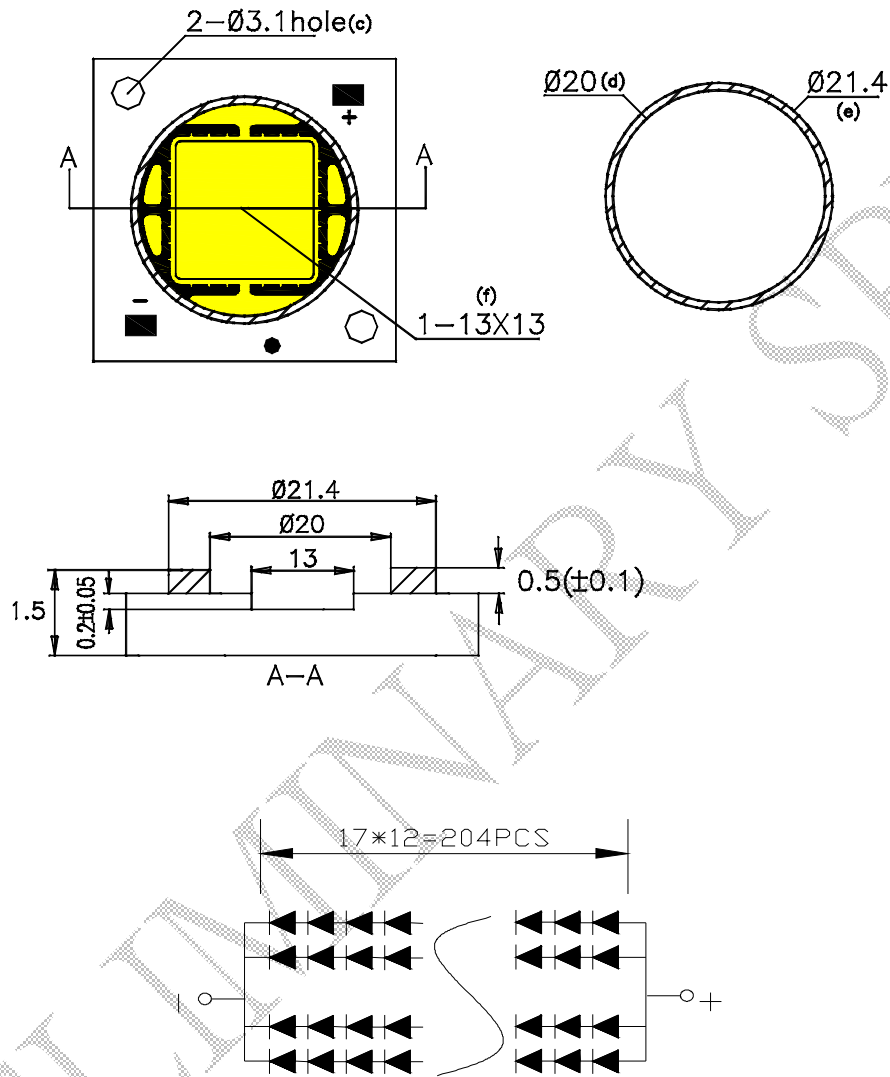
DCC : \_\_\_\_\_

DRAWING NO. : DS-83-11-0002

DATE : 2011-12-12

Page : 1

●Package Dimension



Note:

1. All dimensions are in millimeters.
2. Tolerance is  $\pm 0.2$ mm (.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

CS40C-P1C28-CB000

REV:A/0

## ●Absolute Maximum Rating(Ta=25°C)

Symbol	Parameter	Rating	Unit
W	Power Dissipation	41	W
IF	DC Forward Current	1.1	A
Tj	LED Junction Temperature(at IF=1.02mA)	120	°C
*Topr	Operating Temperature	-30 ~ +100	°C
*Tstg	Storage Temperature	-40 ~ +100	°C

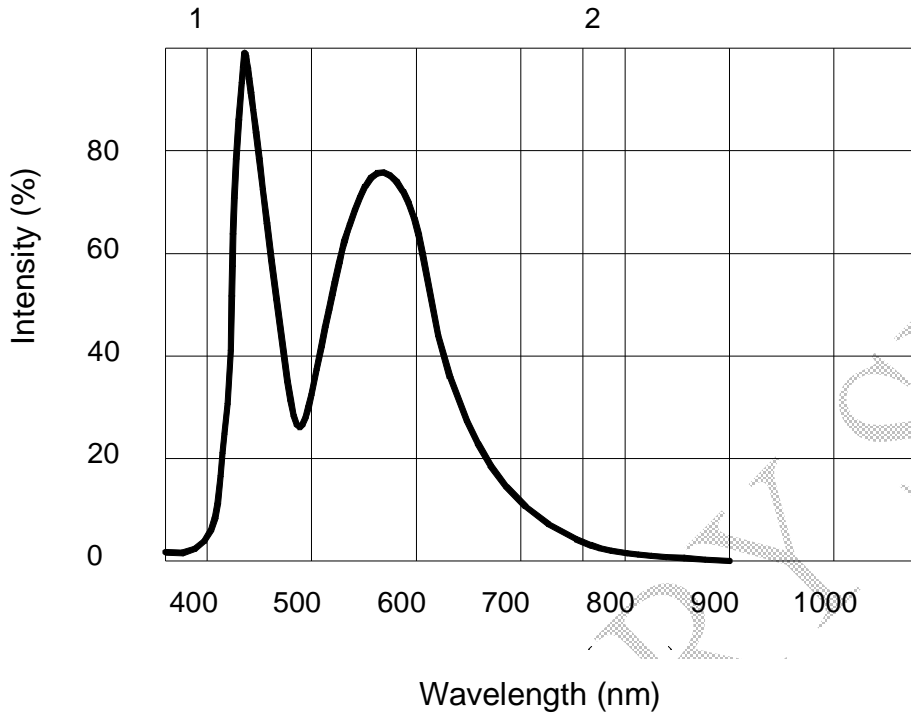
Note :

\* : Temperature for using with aluminum board.

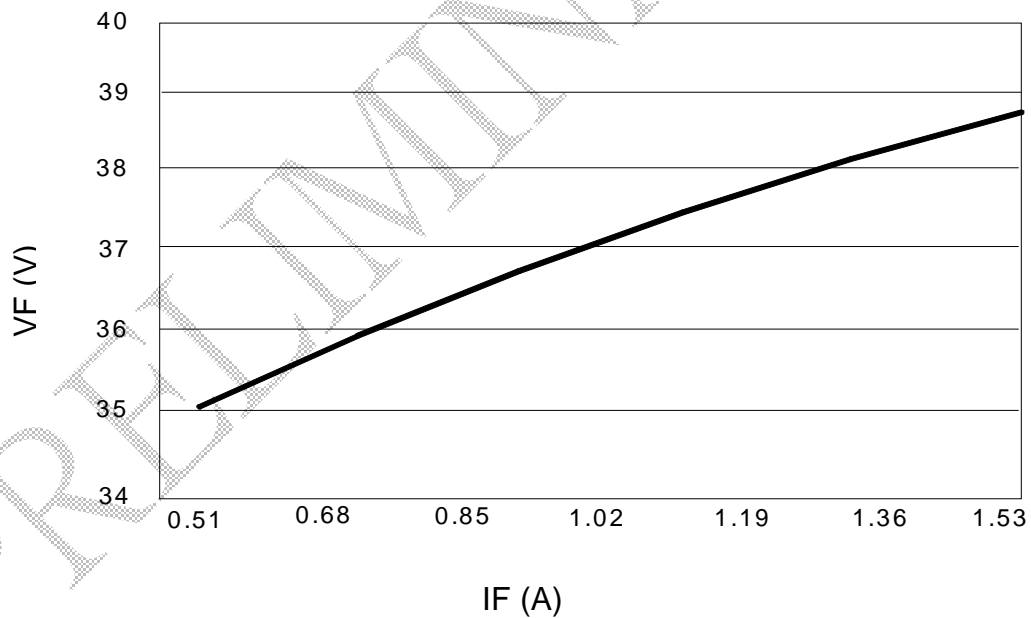
## ●Electro-Optical Characteristic(Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous Flux	$\Phi$	--	3300	---	lm	IF=1.1A
Viewing Angle	2 $\theta$ 1/2	---	130	--	deg	
Color Temperature	CCT	---	5000	----	K	IF=1.1A
Forward Voltage	VF	---	37	39	V	IF =1.1A
Power Dissipation	P	---	40	---	W	IF =1.1A
Lumimous efficacy	$\eta$	----	82	----	Lm/ W	IF =1.1A

• Typical Optical and Electrical

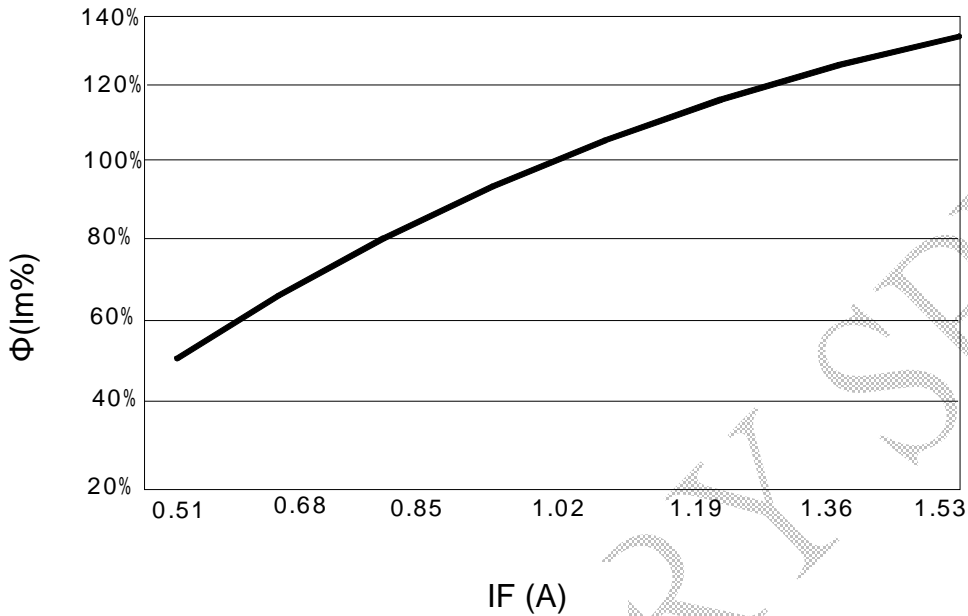


Relative Intensity VS Wavelength



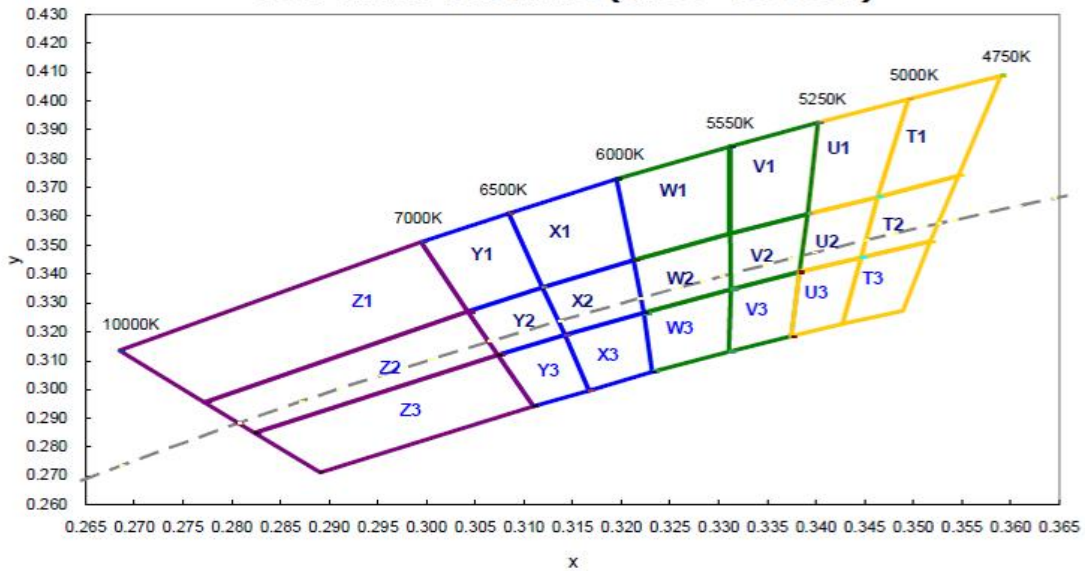
Forward Current VS Forward Voltage

● Typical Optical and Electrical



Forward Current VS Luminous Flux%

Cool White Bin Table (4750~10000K)



CIEX

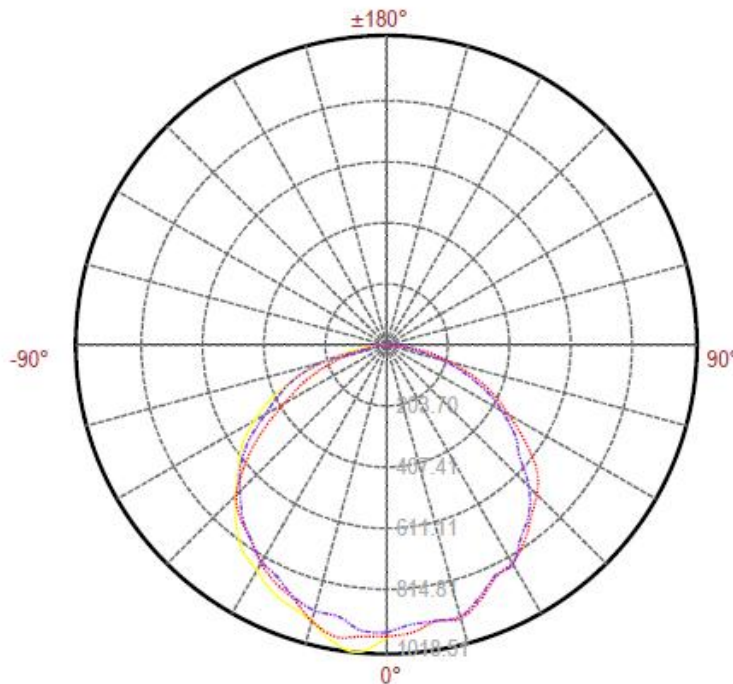
Cool-white Bin Structure

**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 ( $\Phi$ ),(Unit: lm ,IF=1.1A)		
Bin Code	Min	Max
M	1420	1860
N	1860	2430
P	2430	3180
Q	3180	4160
R	4160	5450

Including test tolerance  $\pm 10\%$

Forward Voltage(VF),(Unit: V , IF=1.1A)		
Bin Code	Min	Max
VH	35	40
VI	40	45
VJ	45	50

Including test tolerance $\pm 0.1V$



COB LED

CS40C-P1C28-CB000

REV:A/0

●Label Explanation

P/N: \_\_\_\_\_ CS40C-P1C28-CB000 \_\_\_\_\_  
 QTY: \_\_\_\_\_ XXXX \_\_\_\_\_ PCS  
 LOT NO.: \_\_\_\_\_  
 BIN NO.: \_\_\_\_\_ Q/U1/5000/VH \_\_\_\_\_

PART NO: CR07C-P1C54-EC000

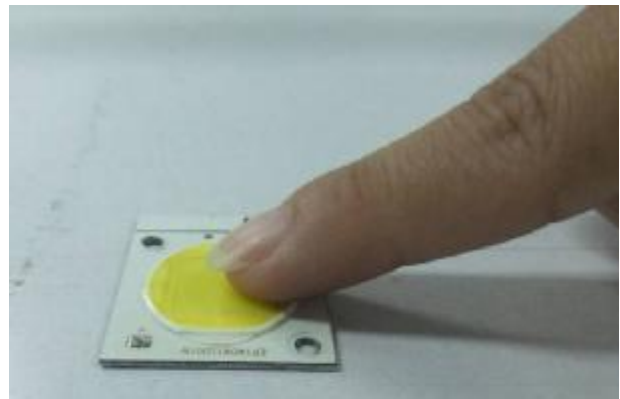
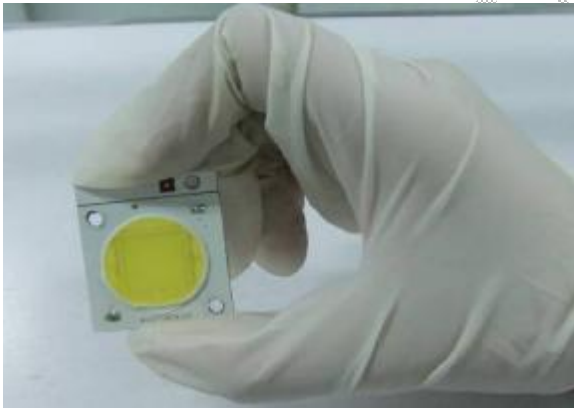
LOT NO:   L     C     11     11     001    
             A     B     C     D     E  

- A---L: Local
- B---C:COB
- C--- Year
- D---Month
- E--- For series number

BIN NO: Bin Code

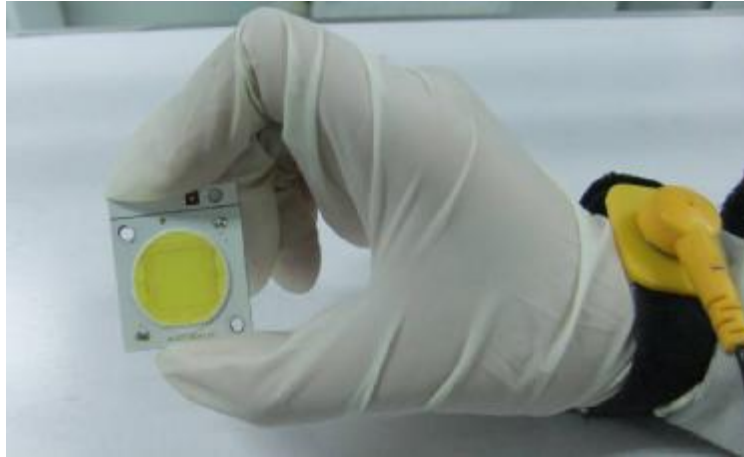
●Caution

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

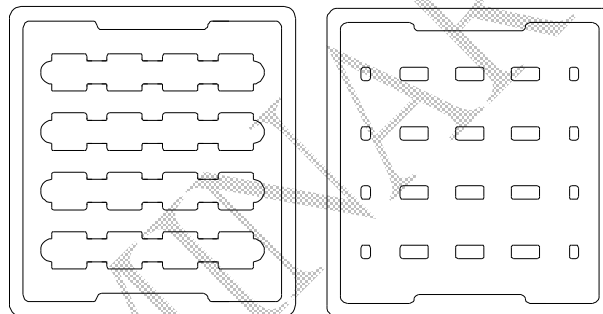




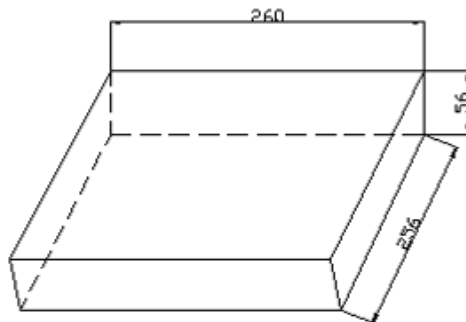
(2) Please wear anti-static wrist strap and gloves to prevent ESD damage when handling.



### ●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 40W series products should be operated at 1.1A for ideal performance, but not more than 1.1A.
2. COB 40W 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 40W 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

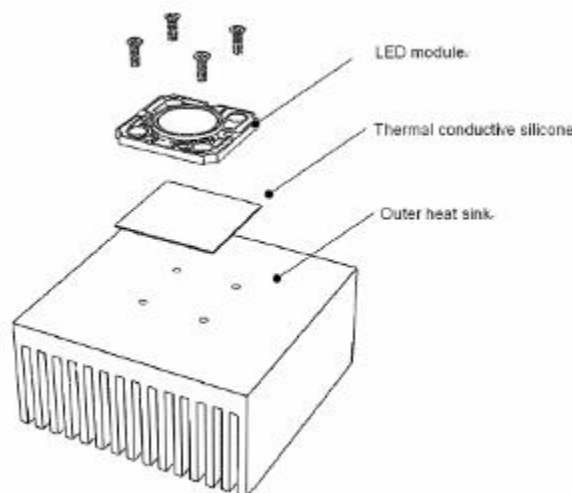


Figure 1



# COB LED

CS40C-P1C28-CB000

REV:A/0

## ●Reliability Test

Test Item	number	Test Condition	Test Period	Failure Criteria	Pass or Fail
High Temperature Storage Test	20pcs	100℃	1000hours	Note 1, 3, 4	Pass
Low Temperature Storage Test	20pcs	-40℃	1000 hours	Note 1, 3, 4	Pass
Room Temperature Operation	20pcs	Ta= 25℃ IF =1.1A	1000hours	Note 1, 2, 4	Pass
Temperature Cycle	20pcs	-20℃/100℃ 30min dwell/ fer 5min 5min	200 Cycles	Note 1, 2, 4	Pass
High Temperature High Humidity Operation	20pcs	Ta=60℃ RH= 85% IF=1.1A	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

CS40C-P1C28-CB000

REV:A/0

## ● Part NO. System of E-Power LED

C S 40 C -P1 C 28-C 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

40: 40W

S: Square ;R: Round ;  
L : Line

C: COB