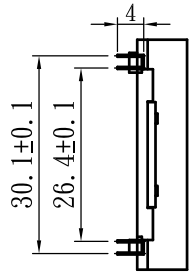
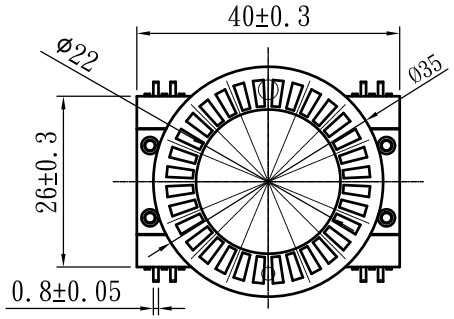
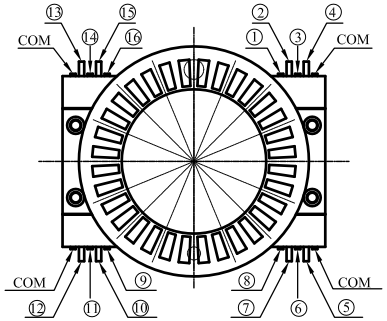


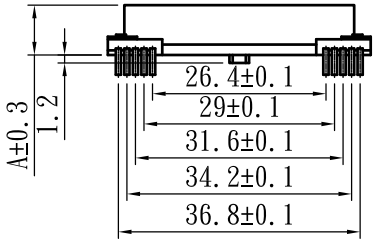


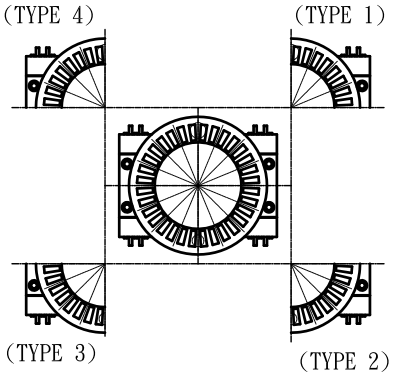
LED-CCL-A-□-□□□□-6H

Type 1~4:

Code	Color of LED
R	Red Orange
Y	Yellow
G	Pure Green
B	Blue

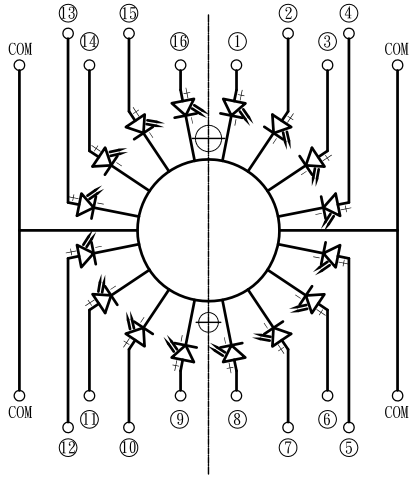




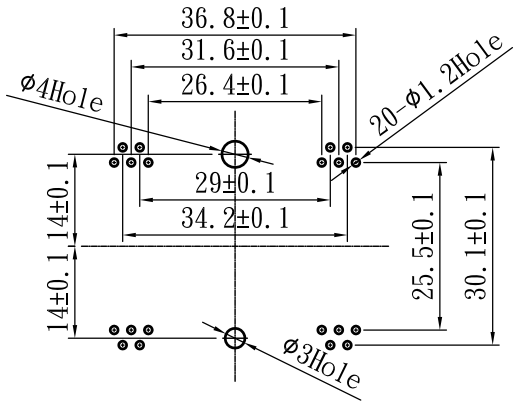


LED Color type

A
7.6mm
3.1mm



CIRCUIT DIAGRAM



P.C.B mounting hole dimensions

ROHS COMPLIANCE

NOTES:

TOLERANCES	
less than 6	±0.2
6 - 18	±0.25
18 - 50	±0.3
50 - 125	±0.4
Angular dimension	±1°

CODE NO.					MODEL NAME:	LED-CCL-A-□-□□□□-6H			
PATH:	LED-CCL/Part				DRAWING NO.				
MATERIAL		APPROVED SIGNATURES	DRAWN BY	CHECKED BY	APPROVED BY	UNIT	m/m	SCALE	1 / 1
FINISHING			鐘學峰	余 倩	鐘學峰				
TOLERANCES									
VERSION	A		2009.4.27	2009.4.27	2009.4.27				

△				Third Angle Projection
△				
△				
1	2009.4.27	Zhong xue feng	首次出圖	

可正欣部品圖框
TOP-UP INDUSTRY CORP.

LED-CCL SPECIFICATIONS

♦ SUPER PURE GREEN (AlGaInP/GaAs)

ABSOLUTE MAXIMUM RATING AT Ta=25°C

Parameter	Symbol	pure green
Power dissipation per dice	P_{AD}	70
Continuous forward current per dice	I_{AF}	25
Peak current per dice (duty cycle 1/10, 1kHz)	I_{PF}	90
Reverse voltage per dice	V_R	5
Operating temperature	T_{OPR}	-40°C to +105°C
Storage temperature	T_{STG}	-40°C to +105°C

ELECTRICAL – OPTICAL CHARACTERISTICS AT Ta=25°C

Characteristic		Symbol	Condition	Min.	Type	Max.	Unit
Forward Voltage		V_F	I_F=20mA	2.8	3.2	3.6	V
Reverse Current		I_R	V_R=5V	-	-	1	μA
Peak Wavelength		λ_P	I_F=20mA	-	517	-	nm
Dominant Wavelength		λd	I_F=20mA	500	-	535	nm
Luminous Intensity	Per segment	I_V	I_F=20mA	160	-	350	mcd
	Per Decimal Point			-	-	-	
Spectrum Radiation Bandwidth		Δλ	I_F=20mA	-	30	-	nm

♦ SUPER BRIGHT YELLOW (AlGaInP/GaAs)

ABSOLUTE MAXIMUM RATING AT Ta=25°C

Parameter	Symbol	Super Bright Yellow
Power dissipation per dice	P_{AD}	70
Continuous forward current per dice	I_{AF}	25
Peak current per dice (duty cycle 1/10, 1kHz)	I_{PF}	90
Reverse voltage per dice	V_R	5
Operating temperature	T_{OPR}	-40°C to +105°C
Storage temperature	T_{STG}	-40°C to +105°C

ELECTRICAL – OPTICAL CHARACTERISTICS AT Ta=25°C

Characteristic		Symbol	Condition	Min.	Type	Max.	Unit
Forward Voltage		V_F	I_F=20mA	-	2.05	2.4	V
Reverse Current		I_R	V_R=5V	-	-	10	μA
Peak Wavelength		λ_P	I_F=20mA	-	587	-	nm
Dominant Wavelength		λd	I_F=20mA	581	585	589	nm
Luminous Intensity	Per segment	I_V	I_F=20mA	-	-	-	mcd
	Per Decimal Point			-	-	-	
Spectrum Radiation Bandwidth		Δλ	I_F=20mA	-	15	-	nm

LED-CCL SPECIFICATIONS

♦ SUPER BRIGHT BLUE (InGaN)

ABSOLUTE MAXIMUM RATING AT Ta=25℃

Parameter	Symbol	Super Bright Blue
Power dissipation per dice	P_{AD}	120
Continuous forward current per dice	I_{AF}	30
Peak current per dice (duty cycle 1/10, 1kHz)	I_{PF}	100
Reverse voltage per dice	V_R	5
Operating temperature	T_{OPR}	-40°C to +105°C
Storage temperature	T_{STG}	-40°C to +105°C

ELECTRICAL – OPTICAL CHARACTERISTICS AT Ta=25°C

Characteristic		Symbol	Condition	Min.	Type	Max.	Unit
Forward Voltage		V_F	I_F=20mA	2.7	2.85	3.0	V
Reverse Current		I_R	V_R=5V	-	-	10	μA
Peak Wavelength		λ_P	I_F=20mA	-	465	-	nm
Dominant Wavelength		λd	I_F=20mA	450	465	480	nm
Luminous Intensity	Per segment	I_V	I_F=20mA	10	30	40	mcd
	Per Decimal Point			-	-	-	
Spectrum Radiation Bandwidth		Δλ	I_F=20mA	-	30	-	nm

♦ SUPER BRIGHT RED ORANGE (AlGaInP/GaAs)

ABSOLUTE MAXIMUM RATING AT Ta=25°C

Parameter	Symbol	Super Bright Red Orange
Power dissipation per dice	P_{AD}	70
Continuous forward current per dice	I_{AF}	25
Peak current per dice (duty cycle 1/10, 1kHz)	I_{PF}	90
Reverse voltage per dice	V_R	5
Operating temperature	T_{OPR}	-40°C to +105°C
Storage temperature	T_{STG}	-40°C to +105°C

ELECTRICAL – OPTICAL CHARACTERISTICS AT Ta=25°C

Characteristic		Symbol	Condition	Min.	Type	Max.	Unit
Forward Voltage		V_F	I_F=20mA	-	2.0	2.4	V
Reverse Current		I_R	V_R=5V	-	-	10	μA
Peak Wavelength		λ_P	I_F=20mA	-	632	-	nm
Dominant Wavelength		λd	I_F=20mA	619	624	629	nm
Luminous Intensity	Per segment	I_V	I_F=20mA	-	35	-	mcd
	Per Decimal Point			-	35	-	
Spectrum Radiation Bandwidth		Δλ	I_F=20mA	-	20	-	nm

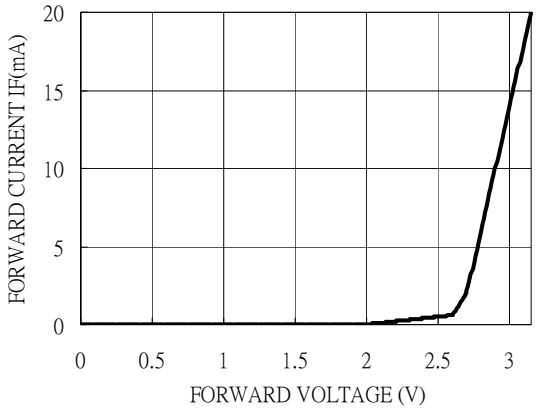
LED-CCL SPECIFICATIONS

♦ TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVES

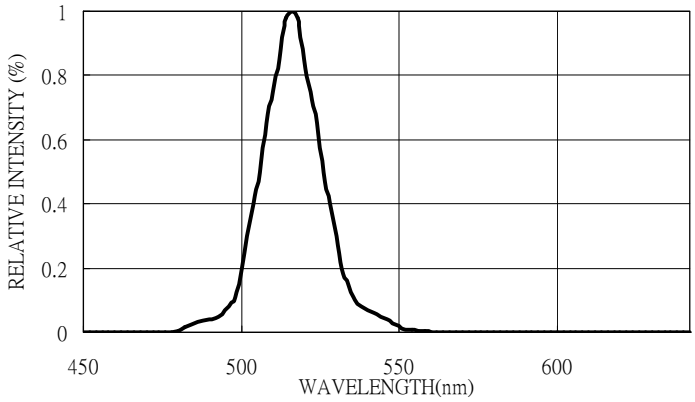
(25°C Free Air Temperature Unless Otherwise Specified)

Super Pure Green (AlGaInP/GaAs)

FORWARD CURRENT VS. FORWARD VOLTAGE

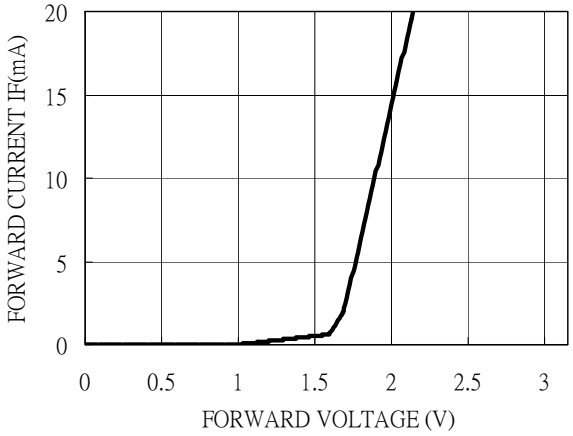


REALATIVE INTESITY VS. WAVELENGTH

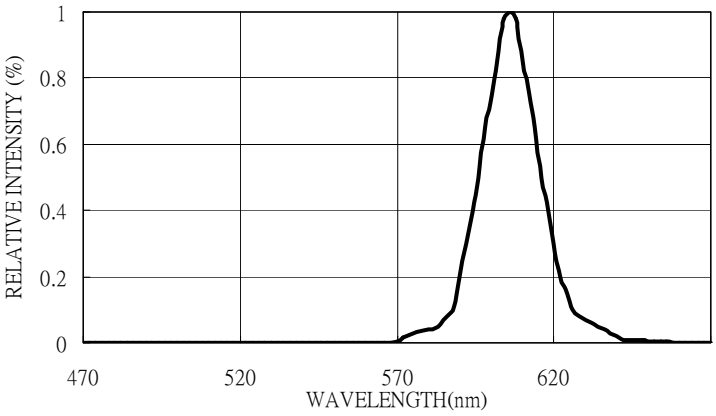


Super Bright Yellow (AlGaInP/GaAs)

FORWARD CURRENT VS. FORWARD VOLTAGE



REALATIVE INTESITY VS. WAVELENGTH



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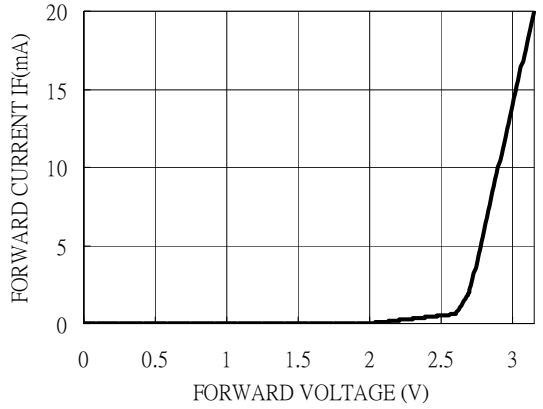
LED-CCL SPECIFICATIONS

♦ TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVES

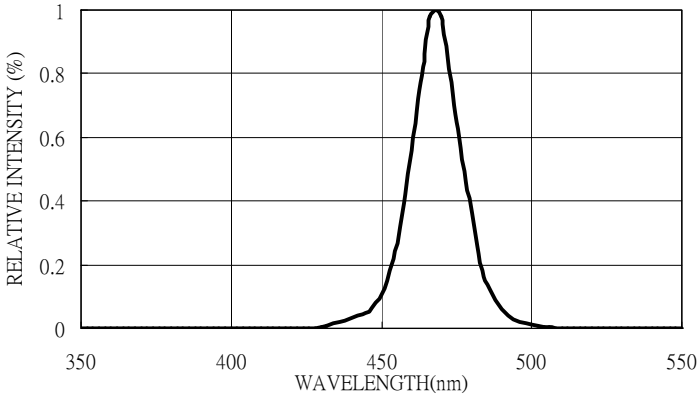
(25°C Free Air Temperature Unless Otherwise Specified)

Super Bright Blue (InGaN)

FORWARD CURRENT VS. FORWARD VOLTAGE

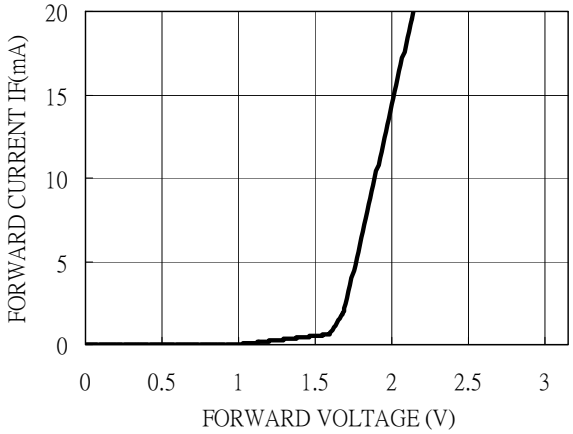


REALATIVE INTESITY VS. WAVELENGTH

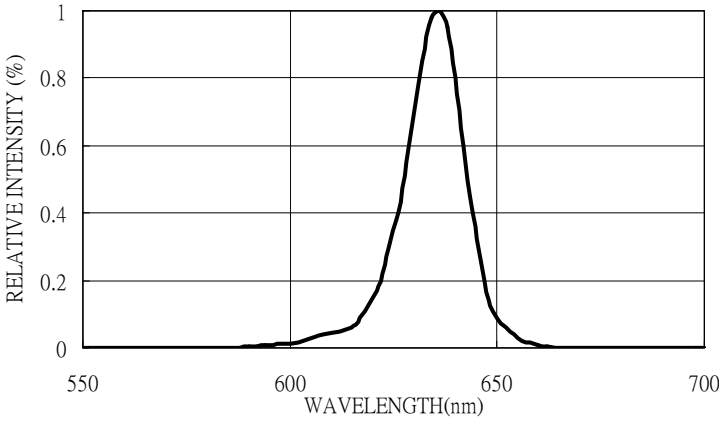


Super Bright RED ORANGE (AlGaInP/GaAs)

FORWARD CURRENT VS. FORWARD VOLTAGE



REALATIVE INTESITY VS. WAVELENGTH



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♦ RELIABILITY SPECIFICATION

The Reliability of Products shall be satisfied with items listed below

NO	Item	Test Conditions	Test Hours/Cycle	Accept/Reject
1	Solder Heat	TEMP: 260°C±5°C	10 Sec	0/1
2	Temperature Cycle	-40°C~105°C (15min. ~5min.~15min.)	300 Cycles	0/1
3	Thermal Shock	-10°C~105°C (15min. ~10sec.~15min.)	300 Cycles	0/1
4	High Temperature Storage	TEMP:105°C	1000Hrs	0/1
5	Low Temperature Storage	TEMP:-40°C	1000Hrs	0/1
6	DC Operating Life	TEMP: 25°C I_F =20mA	1000Hrs	0/1
7	High Temperature/High Humidity	85°C/85% RH	1000Hrs	0/1

Note: Failure Judgment Criteria is $Iv_{(initial)} \leqq Iv_{(final)} \times 0.5$ or $Vf_{(final)} \geqq Vf_{(max)}$

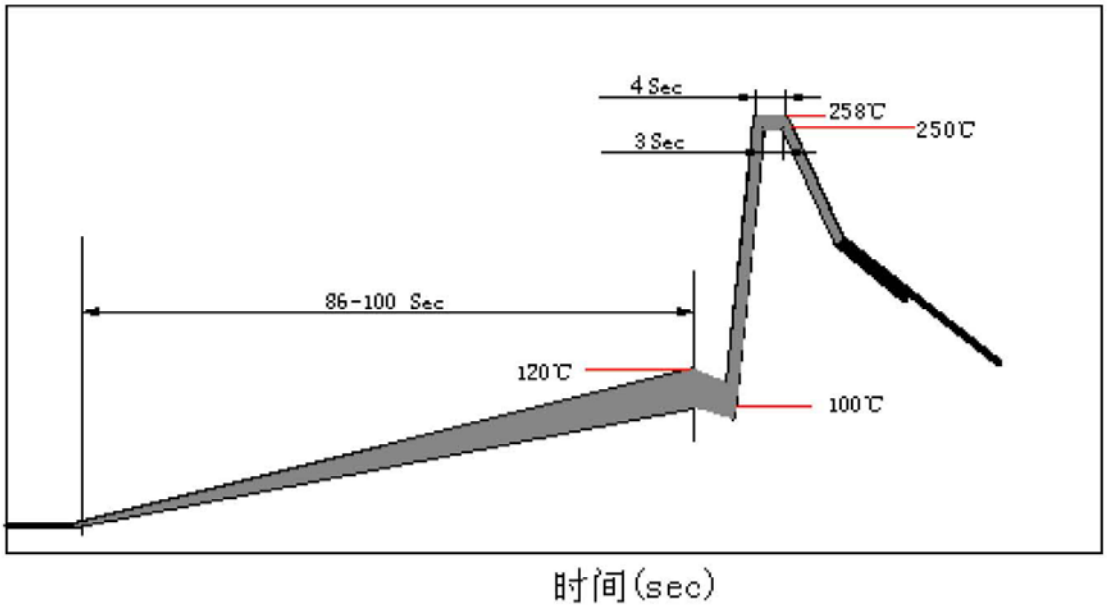
$Iv_{(initial)}$: To test Iv value of the chip before the reliablility test

$Iv_{(final)}$: The test value of the chip that has completed the reliablility test

$Vf_{(final)}$: The test value of the chip that has completed the reliablility test

$Vf_{(max)}$: Upper Specification Limit

♦ DIP soldering(Wave Soldering）：



Profile Feature	Dip Solder Assembly
Preheat Ramp-Up Rate	1~2℃/sec
Preheat Temperature Min	100℃
Preheat Temperature Min	120℃
Preheat Time	86~100sec
Peak/Classification Temperature	250~258℃
Time Within 5°C of Actual Peak Temperature	3~4sec
Ramp-Down Rate	1~3℃/sec
Time of All the Dip Solder Assembly	About 3.5 min

♦Storage Condition

● 7.1.Storage Environment

-20 to 30℃, 20 to 60%RH.

(Storage in high temperature and high humidity shall be avoided).

● 7.2.After this bag is opened , devices that will be applied to infrared reflow , vapor-phase reflow ,or equivalent soldering process must be:

a).Completed within 24hours. b).Stored at less than 30%RH.

● 7.3.Devices require baking mounting ,if：7.2 (a) or 7.2 (b) is not met.

● 7.4.If baking is required , devices must be baked under below conditions：

12hours at 60℃ ±3℃

LED-CCL SPECIFICATIONS

1. Scope

This specification covers the requirements of the tray packaging for LED-CCL standard type of LED diaphragm.

2. Packaging Materials

Item	Material
Package	Cartons.
Tray	PET

3. Packaging Quantity

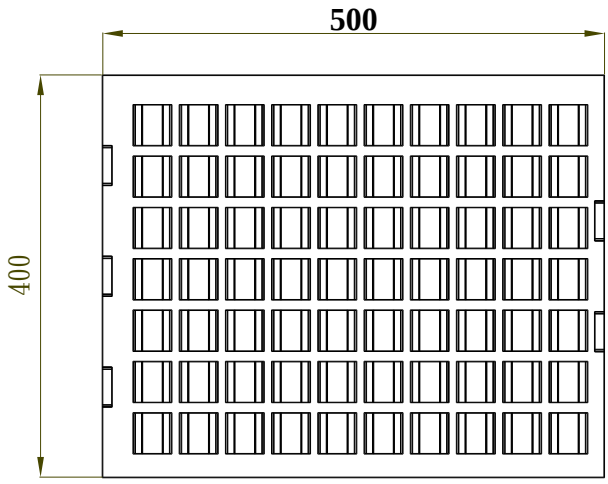
3.1. The number of the Package.

8 trays at maximum, which contain 560 LED diaphragms, shall be packed in a package.

3.2. The number of the LED diaphragms.

70 LED diaphragms shall be packed in a tray.

4. Tray Form and Dimensions



5. Storage Condition

5.1.Storage Environment

-20 to 30℃, 20 to 60%RH.

(Storage in high temperature and high humidity shall be avoided).

5.2.After this bag is opened , devices that will be applied to infrared reflow , vapor-phase reflow ,or equivalent soldering process must be:

a).Completed within 24hours. b).Stored at less than 30%RH.

5.3.Devices require baking mounting ,if：7.2 (a) or 7.2 (b) is not met.

5.4.If baking is required , devices must be baked under below conditions：

12hours at 60℃ ±3℃

ROHS COMPLIANCE

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