
PRODUCT / PROCESS CHANGE NOTIFICATION**PCN NO: PCN IN 210118-02**

Issue Date: Feb. 8th, 2021**SUBJECT OF CHANGE:****Change of IC and Lead frame.****PRODUCTS AFFECTED:**

IN-PI55QATPRPGBPBW-XX

PRODUCT SPEC NUMBER:

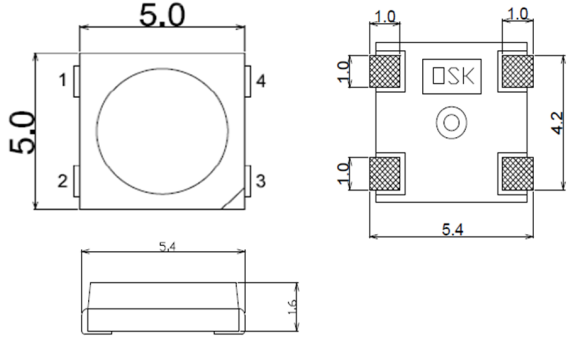
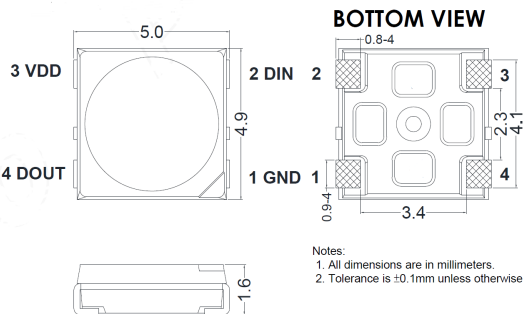
| |
|----------------------------|
| IN-PI55QATPRPGBPBW-30 |
| IN-PI55QATPRPGBPBW-40 |
| IN-PI55QATPRPGBPBW-60 |
| IN-PI55QATPRPGBPBW-40-7204 |
| IN-PI55QATPRPGBPBW-60-7439 |

REASON OF CHANGE:

Product enhancement for reliability and light efficacy.

DESCRIPTION OF CHANGE:**Major Change****Minor Change**

Change the IC and Lead-frame to enhance the product reliability and light efficacy.

| Before | After | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| <p style="text-align: center;">Mechanical Dimension</p> | <p style="text-align: center;">Mechanical Dimension</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  <p style="font-size: small;">Notes: 1. All dimensions are in millimeters. 2. Tolerance is ±0.1mm unless otherwise noted</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p style="text-align: center;">PIN configuration</p> | <p style="text-align: center;">PIN configuration</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Number | Symbol | Function Description | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | VDD | Power supply LED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | DOUT | Control data signal output | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | VSS | Ground | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | DIN | Control data signal input | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NO. | Symbol | Function description | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | GND | Ground | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | DIN | Control data signal input | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | VDD | Power supply LED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | DOUT | Control data signal output | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p style="text-align: center;">Electrical parameters (Ta=25°C, VSS=0V)</p> | <p style="text-align: center;">Electrical parameters (Ta=25°C, VSS=0V)</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Parameter | Symbol | Range | Unit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Power supply voltage | V _{DD} | +3.5 ~ +5.5 | V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Logic input voltage | V _{IN} | -0.5 ~ VDD+0.5 | V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Working temperature | T _{OPR} | -45 ~ +85 | °C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Storage temperature | T _{STG} | -50 ~ +150 | °C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ESD pressure(HBM) | V _{ESD} | 4K | V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ESD pressure(DM) | V _{ESD} | 200 | V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Parameter | Symbol | Range | Unit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Power supply voltage | VDD | +3.7 ~ +5.5 | V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Logic input voltage | V _{IN} | -0.5 ~ VDD+0.5 | V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Working temperature | Topt | -40 ~ +85 | °C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Storage temperature | Tstg | -40 ~ +85 | °C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ESD pressure(HBM) | V _{ESD} | 2K | V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ESD pressure(DM) | V _{ESD} | 200 | V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Parameter | Symbol | Min. | Typ. | Max | Unit | Test conditions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Supply voltage | V _{DD} | 3.5 | 5.2 | 5.5 | V | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R/G/B port pressure | V _{DS, MAX} | - | - | 26 | V | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DOUT drive capability | I _{OH} | - | 49 | - | mA | maximum source current | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DOUT drive capability | I _{OL} | - | -50 | - | mA | maximum sink current | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| The signal input flip threshold | V _{IN} | 0.7*VDD | - | - | V | VDD=5.0V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| The signal input flip threshold | V _{IL} | - | - | 0.3*VDD | V | VDD=5.0V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| The frequency of PWM | F _{PWM} | - | 1.2 | - | KHZ | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Static power consumption | I _{DD} | - | 1 | - | mA | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Parameter | Symbol | Min. | Typ. | Max | Unit | Test conditions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Supply voltage | V _{DD} | - | 5.2 | - | V | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| The signal input flip threshold | V _{IN} | 0.7*VDD | - | - | V | VDD=5.0V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| The signal input flip threshold | V _{IL} | - | - | 0.3*VDD | V | VDD=5.0V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| The frequency of PWM | F _{PWM} | - | 1.2 | - | KHZ | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Static power consumption | I _{DD} | - | 1 | - | mA | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Switching characteristics

| Parameter | Symbol | Min. | Typ. | Max | Unit | Test conditions |
|--------------------------------|-----------|------|------|-----|------|--|
| The speed of data transmission | f_{DIN} | - | 800 | - | KHZ | The duty ratio of 67% (data 1) |
| DOUT transmission delay | T_{PLH} | - | - | 500 | ns | DIN→DOUT |
| | T_{PHL} | - | - | 500 | ns | |
| I_{OUT} Rise/Drop Time | T_r | - | 100 | - | ns | VDS=1.5 I _{OUTR/G/R} =8 I _{OUTW} =16.5mA |
| | T_f | - | 100 | - | ns | |

Switching characteristics

| Parameter | Symbol | Min | Typical | Max | Unit | Test conditions |
|--------------------------------|-----------|-----|---------|-----|------|--|
| The speed of data transmission | f_{DIN} | --- | 800 | --- | KHZ | The duty ratio of 67% (data 1) |
| DOUT transmission delay | TPLH | --- | --- | 500 | ns | DIN→DOUT |
| | TPHL | --- | --- | 500 | ns | |
| IOUT Rise/Drop Time | Tr | --- | 100 | --- | ns | VDS=1.5 I _{OUTR/G/R} =8 I _{OUTW} =16.5mA |
| | Tf | --- | 100 | --- | ns | |

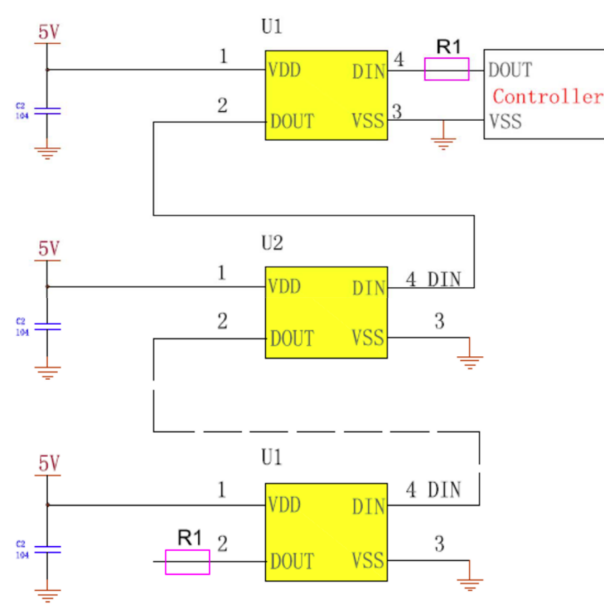
The data transmission time

| Name | Description | Typ. value | error |
|------|----------------------------|------------|---------|
| T0H | 0 code, high level time | 0.3μs | ±0.15μs |
| T0L | 0 code, low level time | 0.9μs | ±0.15μs |
| T1H | 1 code, high level time | 0.9μs | ±0.15μs |
| T1L | 1 code, low level time | 0.3μs | ±0.15μs |
| Trst | Reset code, low level time | 80μs | |

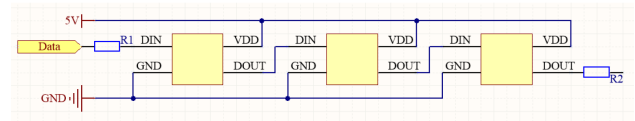
The data transmission time

| Name | Min. | Standard value | Max. | Unit |
|------|----------------------------|----------------|------|------|
| T | Code period | 1.20 | -- | μs |
| T0H | 0 code, high level time | 0.2 | 0.3 | μs |
| T0L | 0 code, low level time | 0.8 | -- | μs |
| T1H | 1 code, high level time | 0.62 | 0.75 | μs |
| T1L | 1 code, low level time | 0.2 | -- | μs |
| Trst | Reset code, low level time | >80 | -- | μs |

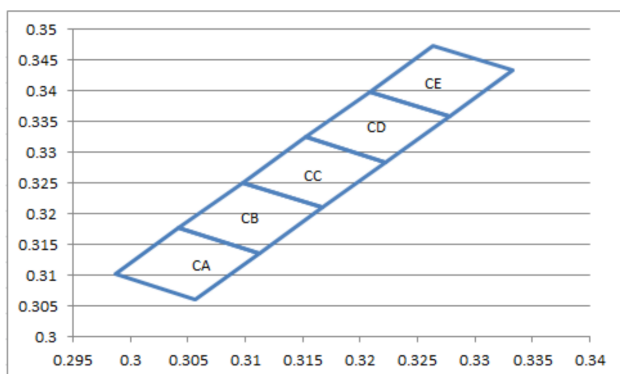
The typical application circuit



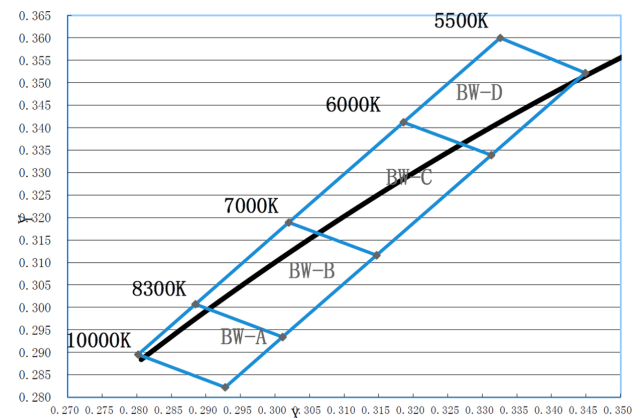
The typical application circuit



Color bin structures: 5000K~10000K

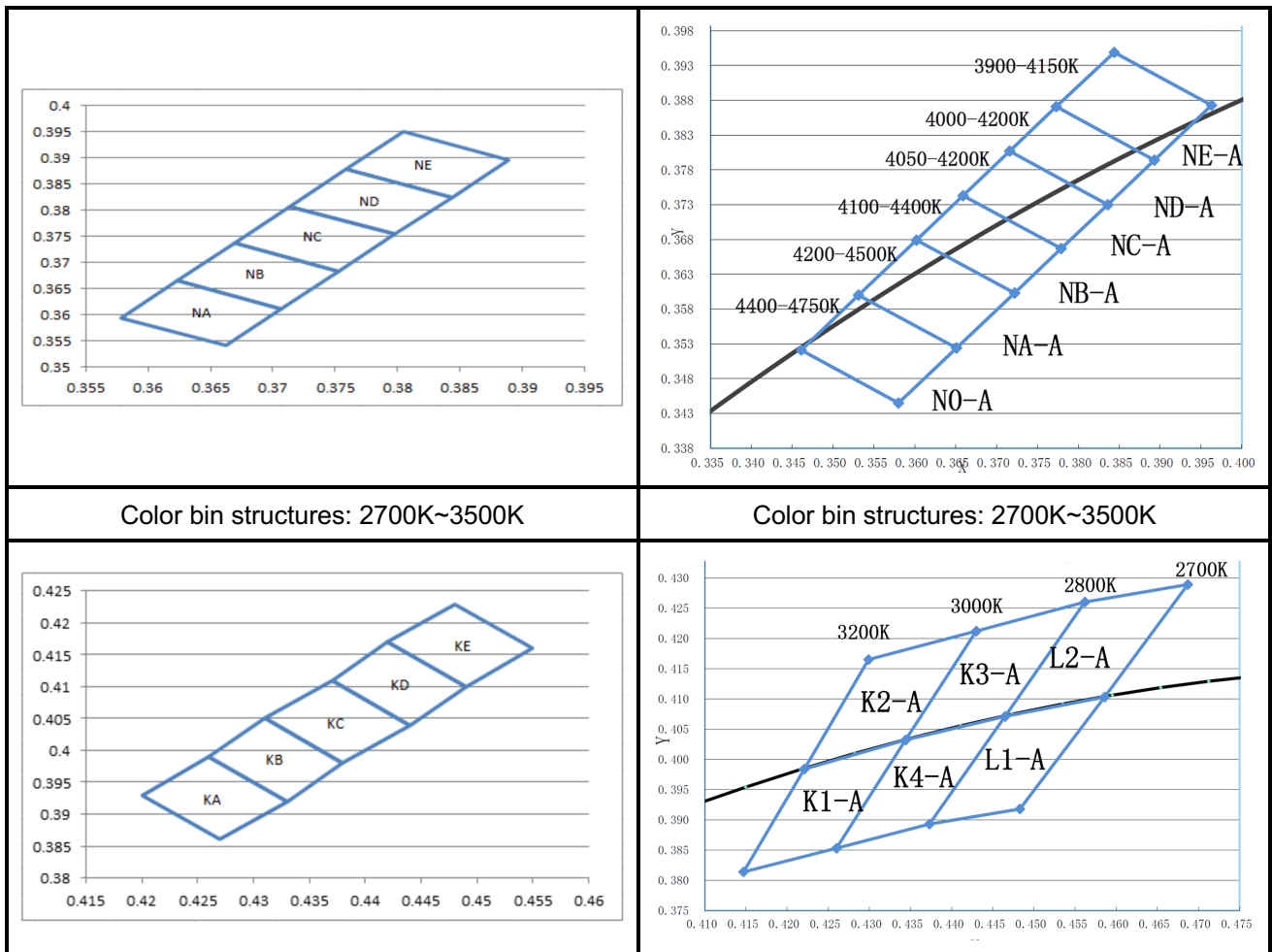


Color bin structures: 5000K~10000K



Color bin structures: 3500K~5000K

Color bin structures: 3500K~5000K



PRODUCT IDENTIFICATION TO INDICATE CHANGE:

Dimension: Refer to the drawing.

Specification: No Change

Material: IC & Lead-frame change

Datasheet: Update to new version

Please note this is IC and Lead-frame change PCN due to product reliability and efficacy enhancement. Replacement material will have the same optical and electrical specification. All reliability specifications remain the same.

DATE OF LAST TIME BUY OF ORIGINAL VERSION:

Mar. 31st, 2021

DATECODE OF CHANGE:

Apr. 4th, 2021

DATE TO BEGIN SHIPPING:

Apr. 4th, 2021



ASSESSMENT:

In case of any questions please contact us at:

| Issue By | Department | Telephone | Ext. | Fax |
|---------------|------------|----------------|------|----------------|
| William Chang | TM | +1-408-8843871 | | +1-408-8449618 |
| Holton Lee | GM | +1-408-8449698 | | +1-408-8449618 |



CUSTOMER FEEDBACK FORM
to INOLUX PCN

Inolux Corporation Change of IC and Lead-frame In Package

Dear Customer,

Your feedback is very much appreciated and will help us to realize this change without problems.
Thank you for your help.

Please tick and comment.

We agree with this change and the schedule.

We have the following objections :

In addition, we need the following information:

We need samples.

Type:

Quantity:

Special requirement:

Purpose of sample order:

Please feedback to: Inolux Corporation

Customer Representative's name:

FAX No.: +1-408-8449618

Phone: +1-408-8843871

Name: Mr. William Chang

.....

Address: 3350 Scott Blvd.

Suite 4102

Santa Clara, CA,USA.

**Date/Customer Representative's
Signature**