PRODUCT / PROCESS CHANGE NOTIFICATION
PCN NO: PCN IN 210118-04

Issue Date: Feb. 8th, 2021

SUBJECT OF CHANGE:

Change of IC and Lead frame.

PRODUCTS AFFECTED:

IN-PI554FCH

PRODUCT SPEC NUMBER:

IN-PI554FCH
IN-PI554FCH-7488
IN-PI554FCH-7210
IN-PI554FCH-7161
IN-PI554FCH-R1016

REASON OF CHANGE:

Product enhancement for reliability and light efficacy.

DESCRIPTION OF CHANGE:

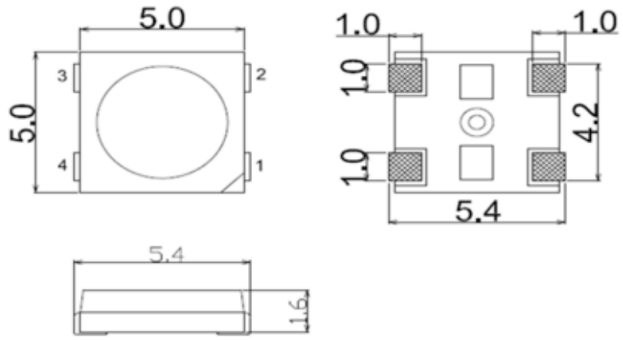
☑ **Major Change** ☐ **Minor Change**

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

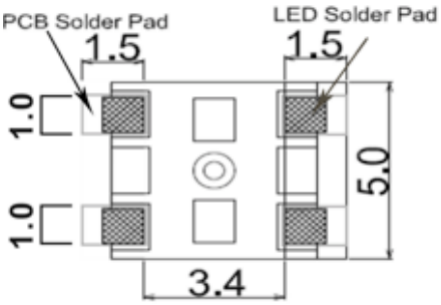
Inolux

Before

Mechanical Dimension



Soldering Pattern



PIN configuration

Number	Symbol	Function Description
1	VSS	Ground
2	DIN	Display data cascaded input (800k bps)
3	VDD	LED and Logic Power Supply
4	DO	Display data cascaded output (800k bps)

Electrical parameters （Ta=25℃,VSS=0V）

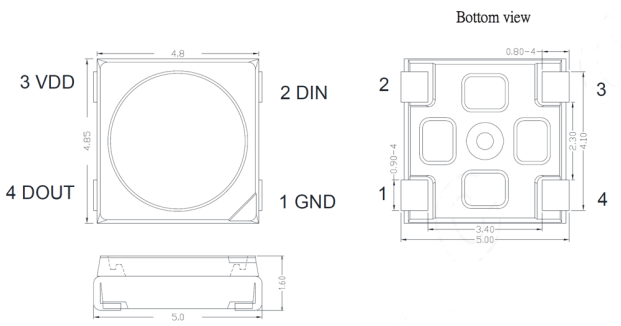
Parameter	Symbol	Range	Unit
Logic supply voltage	V_{DD}	+3.5～+5.5	V
Logic input voltage	V_{IN}	V_{DD}+0.5	V
Operating temperature	T_{OPT}	−45 to +85	°C
Storage temperature	T_{STG}	−50 to +150	°C
ESD pressure	V_{ESD}	4K	V

The IC electrical parameters

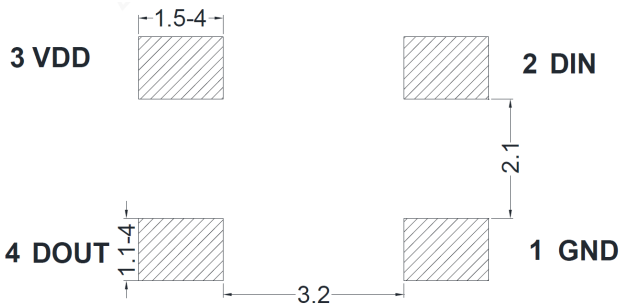
Parameter	Symbol	Min.	Typ.	Max	Unit	Test conditions
Supply voltage	*VDD*	-	5.2	-	V	-
R/G/B port pressure	*Vds,max*	-	-	26	V	-
DOUT drive capability	*IDOH*	-	49	-	mA	maximum source current
DOUT drive capability	*IDOL*	-	-50	-	mA	maximum sink current
High level input voltage	*VIH*	3.4	-		V	VDD=5.0V
Low level input voltage	*VIL*	-	-	1.6	V	VDD=5.0V
The frequency of PWM	*FPWM*	-	1.2	-	KHZ	-
Static power consumption	*IDD*	-	1	-	mA	-

After

Mechanical Dimension



Soldering Pattern



PIN configuration

Number	Symbol	Function Description
1	GND	Ground
2	DIN	Control data signal input
3	VDD	Power Supply LED
4	DOT	Control data signal output

Electrical parameters （Ta=25℃,VSS=0V）

Parameter	Symbol	Range	Unit
Logic supply voltage	V_{DD}	+3.7～+5.5	V
Logic input voltage	V_{IN}	-0.5~V_{DD}+0.5	V
Operating temperature	T_{OPT}	−40 to +85	° C
Storage temperature	T_{STG}	−40 to +85	° C
ESD pressure	V_{ESD}	2K	V

The IC electrical parameters

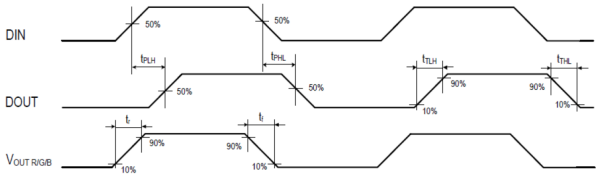
Parameter	Symbol	Min.	Typ.	Max	Unit	Test conditions
Supply voltage	*VDD*	-	5.2	-	V	-
High level input voltage	*VIH*	0.7*VDD	-		V	VDD=5.0V
Low level input voltage	*VIL*	-	-	0.3*VDD	V	VDD=5.0V
The frequency of PWM	*FPWM*	-	1.0	-	KHZ	-
Static power consumption	*IDD*	-	0.5	-	mA	-

Switching characteristics

Parameter	Symbol	Min.	Typ.	Max	Unit	Test conditions
The speed of data transmission	*FDIN*	-	800	-	KHZ	
DOUT transmission delay	*TPLH*	-	-	500	ns	DIN→DOUT
	TRPHL	-	-	500	ns	
IOUT Rise/Drop Time	*Tr*	-	100	-	ns	VDS=1.5 IOUT=13mA
	Tf	-	100	-	ns	

Switching characteristics

Parameter	Symbol	Min	Typical	Max	Unit	Test conditions
The speed of data transmission	fDIN	---	800	---	KHZ	The duty ratio of 67% (data 1)
DOUT transmission delay	TPLH	---	67	---	ns	The earth load capacitance of the dout port is 30pf, and the signal transmission delay from DIN to dout
	TPHL	---	82	---	ns	
Out R/B conversion time	Tr	---	22	---	ns	IOUT R / B= 5mA, out R / B port connected with 200 Ω resistor to VDD in series, load capacitance to ground
	Tf	---	75	---	ns	
Out G conversion time	Tr	---	18	---	ns	IOUT g = 5mA, out g port is connected with 200 Ω resistor to VDD in series, and the load capacitance to ground is 30pf
	Tf	---	110	---	ns	



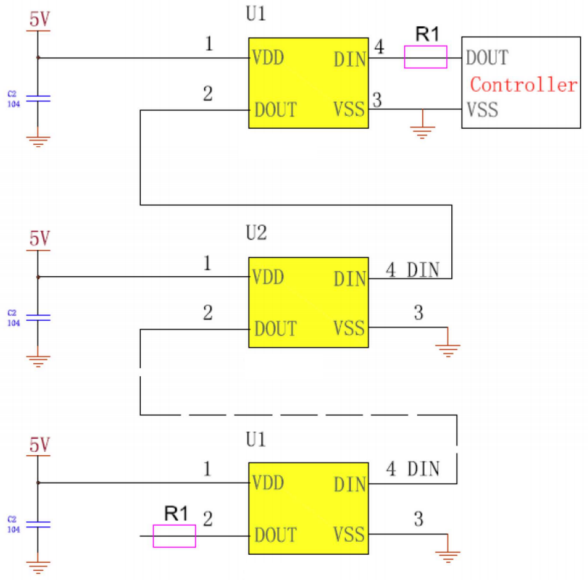
The data transmission time

Name	Description	Typ. value	error
T0H	0 code, high level time	0.3μs	±0.15μs
T1H	1 code, high level time	0.6μs	±0.15μs
T0L	0 code, low level time	0.9μs	±0.15μs
T1L	1 code, low level time	0.6μs	±0.15μs
Reset	Reset code, low level time	80μs	

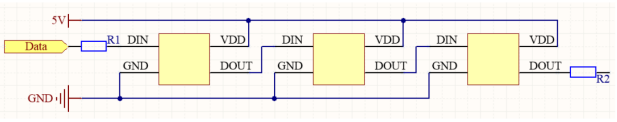
The data transmission time

Name		Min.	Standard value	Max.	Unit
T	Code period	1.20	--	--	μs
T0H	0 code, high level time	0.20	0.30	0.40	μs
T0L	0 code, low level time	0.80	--	--	μs
T1H	1 code, high level time	0.70	0.90	1.00	μs
T1L	1 code, low level time	0.20	--	--	μs
Trst	Reset code, low level time	200	--	--	μs

The typical application circuit



The typical application circuit



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
FAX No.: +1-408-8449618
Phone: +1-408-8843871
Name: Mr. William Chang
……..
Address: 3350 Scott Blvd.
Suite 4102
Santa Clara, CA,USA.

Customer Representative's name:

Date/Customer Representative's Signature