PRODUCT / PROCESS CHANGE NOTIFICATION
PCN NO: PCN IN 210118-01

Issue Date: Feb. 8th, 2021

SUBJECT OF CHANGE:

Change of IC and Lead frame.

PRODUCTS AFFECTED:

IN-PI55TAT Series

PRODUCT SPEC NUMBER:

IN-PI55TATPRPGPB	IN-PI55TATPRPGPB-7323
IN-PI55TATPRPGPB-7110	IN-PI55TATPRPGPB-7329
IN-PI55TATPRPGPB-7181	IN-PI55TATPRPGPB-S
IN-PI55TATPRPGPB-7184	IN-PI55TATPRPGPB-S-7286
IN-PI55TATPRPGPB-7184B	IN-PI55TATPURPUGPUB
IN-PI55TATPRPGPB-7257	IN-PI55TATPURPUGPUB-7300
IN-PI55TATPRPGPB-7262	IN-PI55TATPWPWPW-90

REASON OF CHANGE:

Product enhancement for reliability and light efficacy.

DESCRIPTION OF CHANGE:

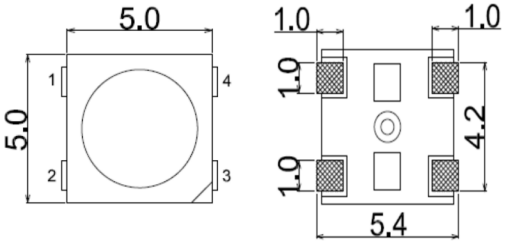
☑ **Major Change** ☐ **Minor Change**

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

Inolux

Before

Mechanical Dimension



PIN configuration

Number	Symbol	Function Description
1	VDD	Power supply LED
2	DOUT	Control data signal output
3	VSS	Ground
4	DIN	Control data signal input

Electrical parameters （Ta=25℃,VSS=0V）

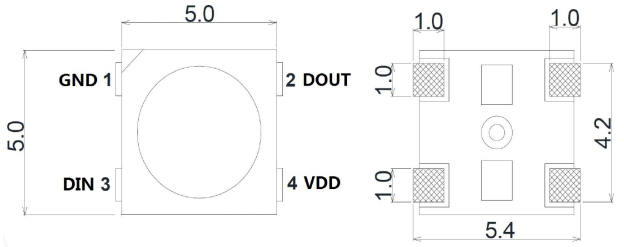
Parameter	Symbol	Range	Unit
Logic supply voltage	V_{DD}	+3.5～+5.5	V
Logic input voltage	V_{IN}	-0.5 ~VDD+0.5	V
Operating temperature	T_{OPT}	−45 ~ +85	°C
Storage temperature	T_{STG}	−50 ~ +150	°C
ESD pressure(HBM)	V_{ESD}	4K	V
ESD pressure(DM)	V_{ESD}	200	V

The IC electrical parameters

Parameter	Symbol	Min.	Typ.	Max	Unit	Test conditions
Supply voltage	V_{DD}	-	5.2	-	V	-
R/G/B port pressure	$V_{DS,MAX}$	-	-	26	V	-
DOUT drive capability	ID_{OH}	-	49	-	mA	maximum source current
DOUT drive capability	ID_{OL}	-	-50	-	mA	maximum sink current
High level input voltage	V_{IH}	3.4	-		V	VDD=5.0V
Low level input voltage	V_{IL}	-	-	1.6	V	VDD=5.0V
The frequency of PWM	F_{PWM}	-	1.2	-	KHZ	-
Static power consumption	I_{DD}	-	1	-	mA	-

After

Mechanical Dimension



PIN configuration

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

Electrical parameters （Ta=25℃,VSS=0V）

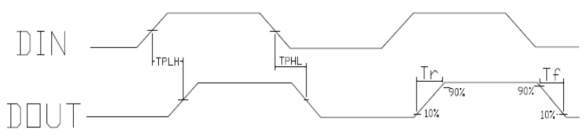
Parameter	Symbol	Range	Unit
Logic supply voltage	V_{DD}	+3.7～+5.4	V
Logic input voltage	V_{IN}	-0.4 ~VDD+0.4	V
Operating temperature	T_{OPT}	−30 ~ +85	° C
Storage temperature	T_{STG}	−40 ~ +90	° C
ESD pressure(HBM)	V_{ESD}	4K	V
ESD pressure(DM)	V_{ESD}	200	V

The IC electrical parameters

Parameter	Symbol	Min.	Typ.	Max	Unit	Test conditions
Supply voltage	V_{DD}	-	5.0	-	V	-
High level input voltage	V_{IH}	0.7*VDD	-		V	VDD=5.0V
Low level input voltage	V_{IL}	-	-	0.3*VDD	V	VDD=5.0V
The frequency of PWM	F_{PWM}	-	1.2	-	KHZ	-
Static power consumption	I_{DD}	-	0.5	-	mA	VDD=4.5V Iout "OFF"

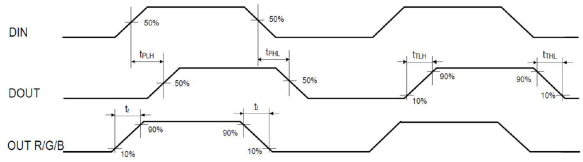
Switching characteristics

Parameter	Symbol	Min.	Typ.	Max	Unit	Test conditions
The speed of data transmission	*fDIN*	-	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_{OUT}=5/13mA
	T_f	-	100	-	ns	



Switching characteristics

Parameter	Symbol	Min.	Typ.	Max	Unit	Test conditions
The speed of data transmission	*fDIN*	-	800	-	KHZ	The duty ratio of 67% (data 1)
DOUT transmission delay	T_{PLH}	-	80	-	ns	The earth load capacitance of the dout port is 30pf.
	T_{PHL}	-	80	-	ns	
I_{OUT} Rise/Drop Time	T_r	-	50	-	ns	IOUT R/G/B = 12mA, out port is connected with 200 Ω resistor to VDD in series, and the load capacitance to ground is 30pf
	T_f	-	100	-	ns	



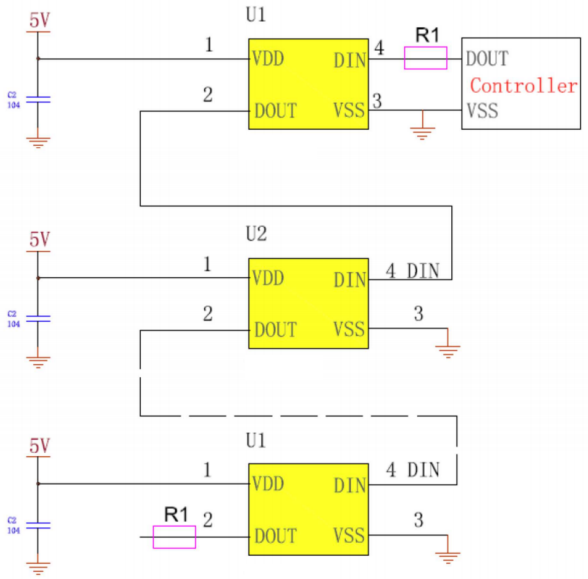
The data transmission time

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	

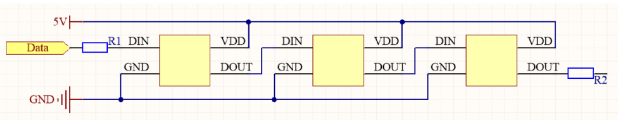
The data transmission time

Name	Description	Min.	Typ.	Max.	Unit
T0H	0 code, high level time	-	0.3μs	-	μs
T0L	0 code, low level time	-	0.9μs	-	μs
T1H	1 code, high level time	-	0.6μs	-	μs
T1L	1 code, low level time	-	0.6μs	-	μs
Trst	Reset code, low level time	200	80μs	-	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