PRODUCT / PROCESS CHANGE NOTIFICATION
PCN NO: PCN IN 210118-03

Issue Date: Feb. 8th, 2021

SUBJECT OF CHANGE:

Change of IC.

PRODUCTS AFFECTED:

IN-PI55TBT(X)R(X)G(X)B
IN-PI556FCH

PRODUCT SPEC NUMBER:

IN-PI55TBTPRPGPB
IN-PI556FCH
IN-PI55TBTPRPGPB-7400

REASON OF CHANGE:

Product enhancement for reliability and light efficacy.

DESCRIPTION OF CHANGE:

☑ **Major Change** ☐ **Minor Change**

Change the IC to enhance the product reliability and light efficacy.

Before

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

After

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 ~VDD+0.5	V
Operating temperature	T_{OPT}	-45 ~ +85	° C
Storage temperature	T_{STG}	-45 ~ +85	° C
ESD pressure(HBM)	V_{ESD}	2K	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	-

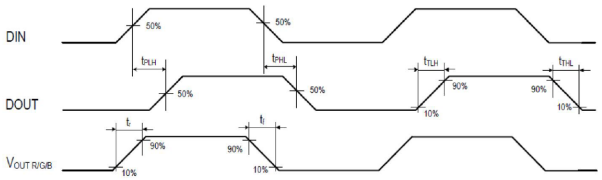
Switching characteristics

Parameter	Symbol	Min.	Typ.	Max	Unit	Test conditions
Supply voltage	V_{DD}	-	5.2	-	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}	-	1.0	-	KHZ	-
Static power consumption	I_{DD}	-	0.5	-	mA	-

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	

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

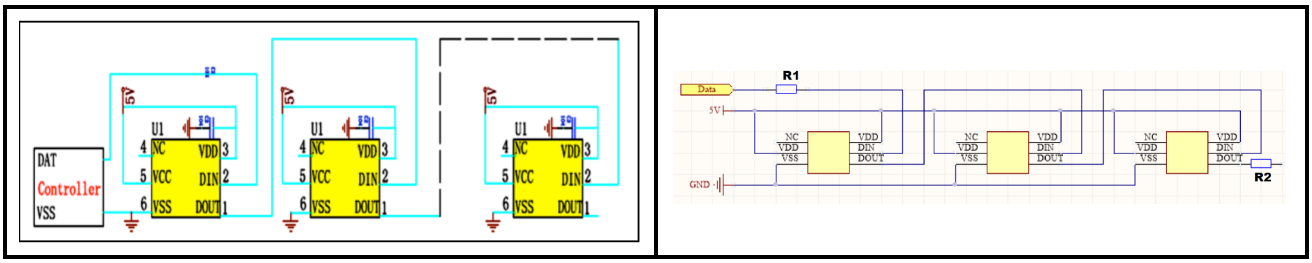
The data transmission time

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	

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: No Change

Specification: No Change

Material: IC Change

Datasheet: Update to new version

Please note this is a IC 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 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