PCN

AO-PCN-2022-036-A

Introduction of 6” InGaAlP Thinfilm Chip for Multi Chip LED

Published by ams-OSRAM AG
Tobelbader Strasse 30, 8141 Premstaetten, Austria
Phone +43 3136 500-0
ams-osram.com

02.01.2023

Dear Customer,

please review this **PCN** and provide your feedback in the **Customer approval form** (at the end of this PCN document) to your ams OSRAM sales partner before **06.02.2023** *).

Your prompt reply will help ams OSRAM to assure a smooth and well executed transition. If ams OSRAM does not hear from your side by the due date, we will assume your (if you are a Distributor: and your customer's) full acceptance to this proposed change and its implementation.

ams OSRAM understands the time requirements your organization needs to approve this PCN.
However, if you can provide ams OSRAM an estimated date your organization will have finalized this PCN review, ams OSRAM can use this date to plan continued production to secure your order needs during the transition time.

Your attention and response to this matter is highly appreciated.

Please direct your inquiries to your local Sales office.

*) ams OSRAM aligns with the widely recognized JEDEC/ECIA/IPC Joint Standard No. 46, which stipulates:

- Customers should acknowledge receipt of the PCN within 30 days of delivery of the PCN.
- Lack of acknowledgement of the PCN within 30 days constitutes acceptance of the change.
- After acknowledgement, lack of additional response within the 90 day period constitutes acceptance of the change. If the customer requires additional time to perform sample testing, beyond the 90 day review period, an extension must be negotiated with the supplier.

Subject of change:	Introduction of 6” InGaAlP Thinfilm Chip for Multi Chip LED	
Affected products:	LTRB RASF	
Reason for change:	• Introduction of latest 6” chip technology to secure continuous supply • Update of datasheet to latest format and correction of input, where needed.	
Description of change:	Current status	New status
	For details refer to document 2_cip_AO-PCN-2022-036-A	
Product identification:	Date code: 1423 (WWYY)	
Time schedule for PCN material: (after implementation of change):	Final qualification report:	02.01.2023
	Samples available:	02.01.2023
	Intended Start of delivery:	02.04.2023 *) *) or earlier if released by customer and upon mutual agreement
Time schedule for Pre-PCN material: (prior to implementation of change):	Last time order date (LTO):	31.01.2024 **) **) Lead time and LTO quantity shall be mutually agreed between OSRAM OS and customer.
	Last time delivery date (LTD):	30.04.2024 ***) ***) planned last date for delivery of products of current status
Assessment:	No change of product reliability	
Documentation:	Customer information package 2_cip_AO-PCN-2022-036-A; 3_cip_AO-PCN-2022-036-A_Rel	

Note:
Pre-PCN material: Products of current status, means before implementation of the changes as described in the PCN.
PCN material: Products with implementation of the changes as described in the PCN.

Customer approval form
AO-PCN-2022-036-A

Introduction of 6” InGaAlP Thinfilm Chip for Multi Chip LED

Please list product(s) affected in your application(s):

Please check the appropriate box below:

○ **Approval:** We agree with the proposed change and accept start of the shipment upon availability of PCN material	○ **Not relevant:** Change is not relevant for products in use.

○ **Change cannot be accepted:**

- ○ **We have objections:**
- ○ **We request following Information:**
- ○ **We request following Samples:**
- ○ **Expected approval date:**
- ○ **Volume requirements for Pre-PCN material:**

○ **Remarks:**

Sender:

Company:

Address / Location:

Signature: **Date:**

Please return this approval form to your Sales partner.

Published by ams-OSRAM AG
Tobelbader Strasse 30, 8141 Premstaetten, Austria
Phone +43 3136 500-0

Sensing is life

PCN
AO-PCN-2022-036-A
Introduction of 6” InGaAlP Thinfilm Chip for Multi Chip LED

Customer information package

R&D-PD-LED-TLM and OS Q CQM ICI
2023-01-02

Agenda

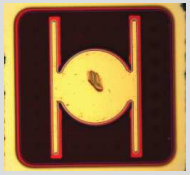
AO-PCN-2022-036-A
Introduction of 6” InGaAlP Thinfilm Chip for Multi Chip LED

Reason for change

Item	Description
1.	Introduction of latest 6” chip technology to secure continuous supply
2.	Update of datasheet to latest format and correction of input, where needed.

AO-PCN-2022-036-A
Introduction of 6” InGaAlP Thinfilm Chip for Multi Chip LED

Description of change: new red chip

Item	Current status	New status
Picture (exemplary)		
Wafer size [mm]	100 (4”)	150 (6”)
Chip carrier substrate	Ge	Si
Chip size [µm]	250 x 250	175 x 175
Height [µm]	150	120

AO-PCN-2022-036-A
Introduction of 6” InGaAlP Thinfilm Chip for Multi Chip LED

Changes in the datasheets:

Page	Change Item	Reason for change	Old	New
1	Applications	New layout	Gaming, Amusement, Gambling Textile Illumination	Entertainment
2	Typ. V_F at I_F = 20mA	Change of new chip	2.10V	2.15V

AO-PCN-2022-036-A
Introduction of 6” InGaAlP Thinfilm Chip for Multi Chip LED

Changes in the datasheets: Forward Voltage for Red

Old

Characteristics

I_F = 20 mA; T_S = 25 °C

Parameter	Symbol		Values ● true green	Values ● red	Values ● blue
Forward Voltage [2]	V_F	min.	2.20 V	1.80 V	2.70 V
I_F = 20 mA		typ.	2.65 V	2.10 V	2.90 V
		max.	3.10 V	2.40 V	3.30 V

New

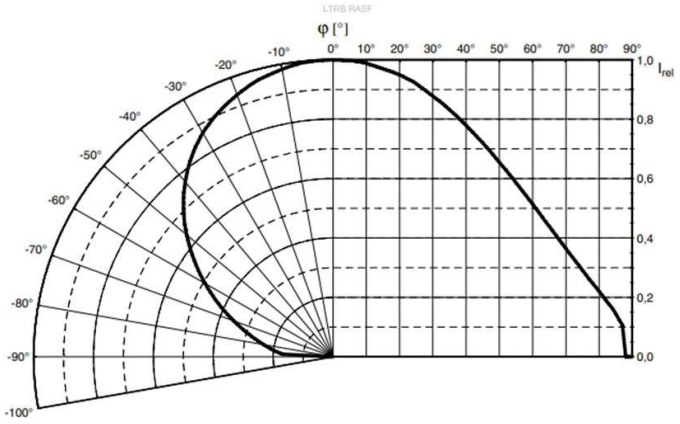
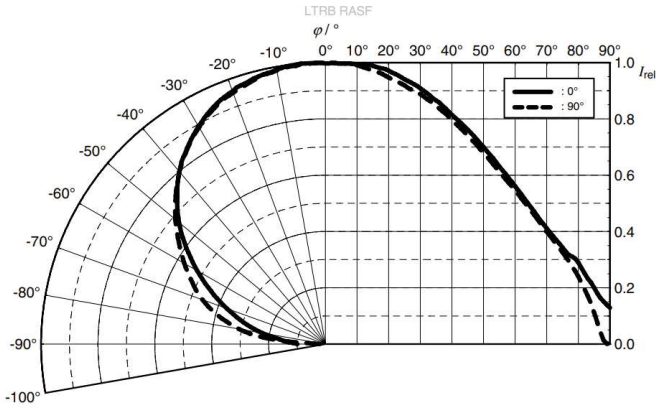
Characteristics

I_F = 20 mA; T_S = 25 °C

Parameter	Symbol		Values ● true green	Values ● red	Values ● blue
Forward Voltage [2]	V_F	min.	2.20 V	1.80 V	2.70 V
I_F = 20 mA		typ.	2.65 V	2.15 V	2.90 V
		max.	3.10 V	2.40 V	3.30 V

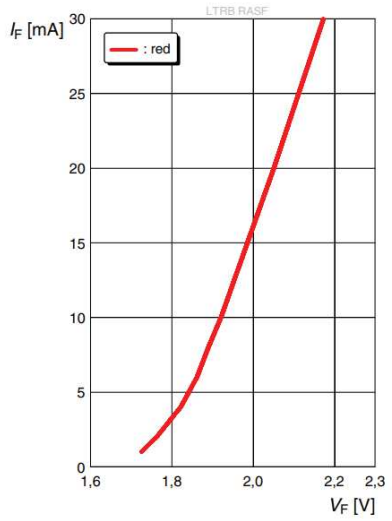
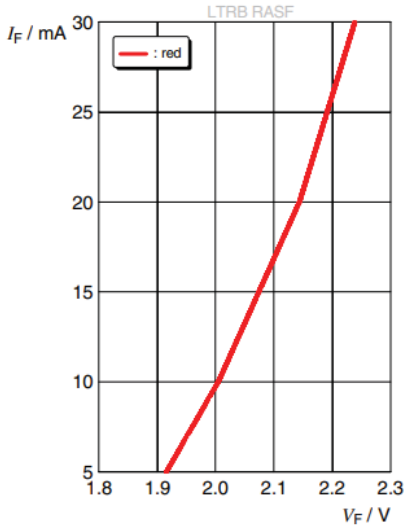
AO-PCN-2022-036-A
Introduction of 6” InGaAlP Thinfilm Chip for Multi Chip LED

Changes in the datasheets:

Old	New
Radiation Characteristics 6), 7) $I_{rel} = f(\phi)$; $T_S = 25$ °C 	**Radiation Characteristics** 6), 7) $I_{rel} = f(\phi)$; $T_S = 25$ °C 

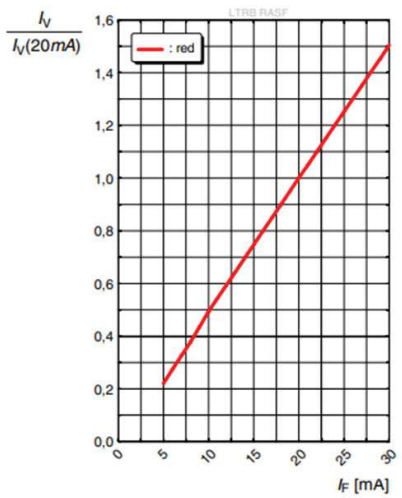
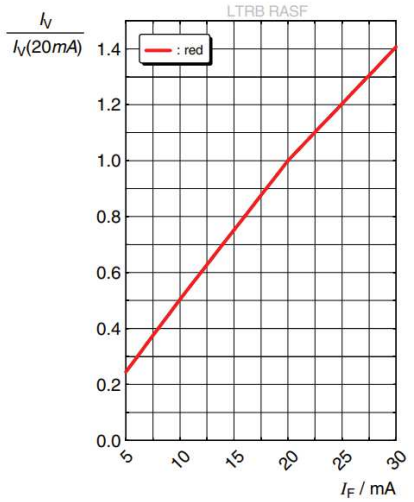
AO-PCN-2022-036-A
Introduction of 6” InGaAlP Thinfilm Chip for Multi Chip LED

Changes in the datasheets: Forward Current - Red

Old	New
Forward current [6] $I_F = f(V_F)$; T_S = 25 °C 	**Forward current** [6] $I_F = f(V_F)$; T_S = 25 °C 

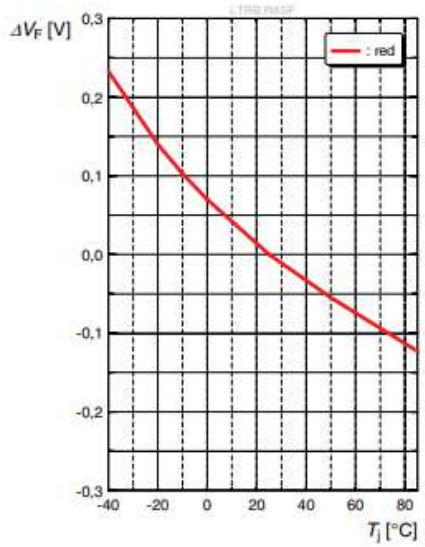
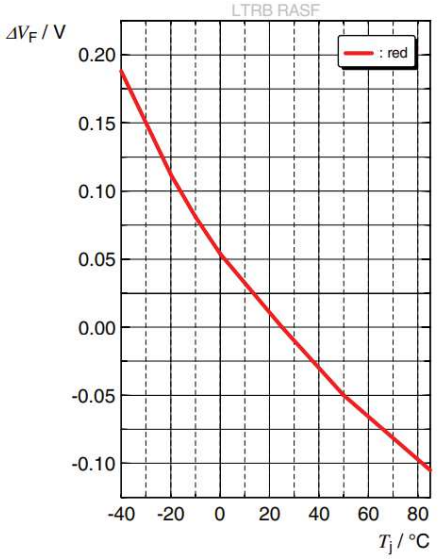
AO-PCN-2022-036-A
Introduction of 6” InGaAlP Thinfilm Chip for Multi Chip LED

Changes in the datasheets: Relative Luminous Intensity - Red

Old	New
Relative Luminous Intensity 6), 8) $I_V/I_V(20\ mA) = f(I_F);\ T_S = 25\ °C$  	**Relative Luminous Intensity** 6), 8) $I_V/I_V(20\ mA) = f(I_F);\ T_S = 25\ °C$ 

AO-PCN-2022-036-A
Introduction of 6” InGaAlP Thinfilm Chip for Multi Chip LED

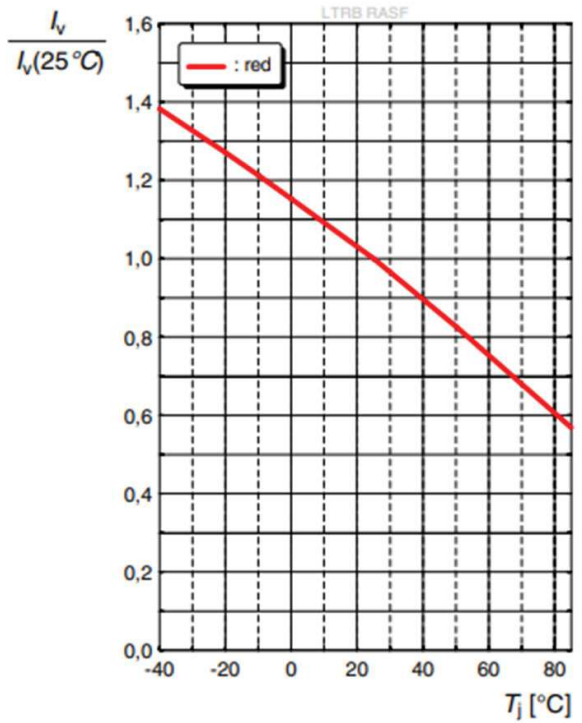
Changes in the datasheets: Forward Voltage - Red

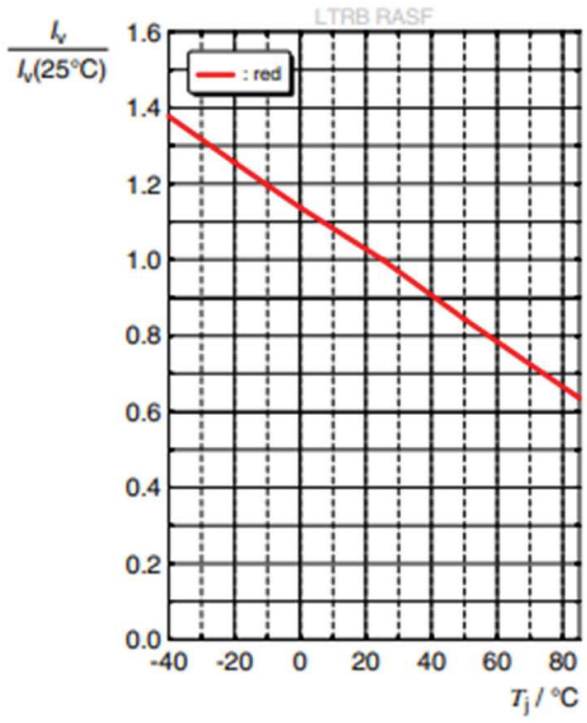
Old	New
Forward Voltage 6) $\Delta V_F = V_F - V_F(25\ °C) = f(T_j);\ I_F = 20\ mA$  	**Forward Voltage** 6) $\Delta V_F = V_F - V_F(25\ °C) = f(T_j);\ I_F = 20\ mA$ 

AO-PCN-2022-036-A
Introduction of 6” InGaAlP Thinfilm Chip for Multi Chip LED

Changes in the datasheets: Relative Luminous Intensity (Tj)

Old	New

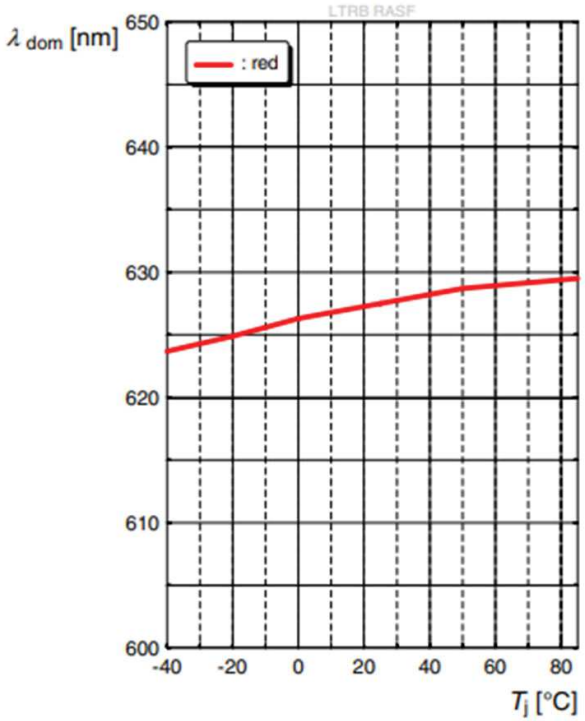


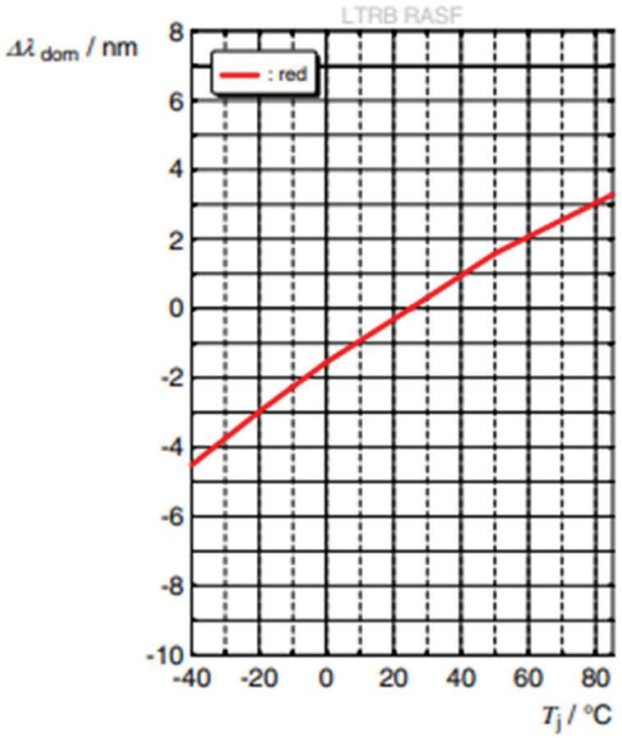


AO-PCN-2022-036-A
Introduction of 6” InGaAlP Thinfilm Chip for Multi Chip LED

Changes in the datasheets: Dominant Wavelength

Old	New





AO-PCN-2022-036-A
Introduction of 6” InGaAlP Thinfilm Chip for Multi Chip LED

Changes in the datasheets: Updated Datasheet Version

Product type	Data sheet version before PCN	Data sheet version after PCN
LTRB RASF	1.6	1.7

Note: After PCN approval and shipment of new material, the new data sheet versions will be valid.
Latest version of data sheet is accessible on the ams OSRAM homepage.

AO-PCN-2022-036-A
Introduction of 6” InGaAlP Thinfilm Chip for Multi Chip LED

List of affected products

Brand	
Multi Chip LED	LTRB RASF

AO-PCN-2022-036-A
Introduction of 6” InGaAlP Thinfilm Chip for Multi Chip LED

PCN Samples

Brand	
Multi Chip LED	LTRB RASF

Color code: available

AO-PCN-2022-036-A
Introduction of 6” InGaAlP Thinfilm Chip for Multi Chip LED

Time schedule

for PCN material (after implementation of change):		
Final qualification report	02.01.2023	
Samples available	02.01.2023	
Intended Start of delivery	02.04.2023*)	*) or earlier if released by customer and upon mutual agreement

for Pre-PCN material (prior to implementation of change):		
Last time order date (LTO)	31.01.2024 **)	**) Lead time and LTO quantity shall be mutually agreed between OSRAM OS and customer.
Last time delivery date (LTD)	30.04.2024***)	***) planned last date for delivery of products of current status

Note:
Pre-PCN material: Products of current status, means before implementation of the changes as described in the PCN.
PCN material: Products with implementation of the changes as described in the PCN.

Sensing is life