

Light is OSRAM

01.06.2018

Dear Customer,

please find attached our OSRAM OS PCN:

OS-PCN-2018-006-A

Introduction of additional Frontend production location Kulim for CERAMOS and OSOLON Black Flat

Important information for your attention:

Please review the **Customer approval form** at the end of the document and provide your feedback to your OSRAM OS sales partner before **07.07.2018**.

Your prompt reply will help OSRAM OS to assure a smooth and well executed transition. If OSRAM OS 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.

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

Your attention and response to this matter is highly appreciated.

Please direct your inquiries to your local Sales office.

*) OSRAM OS aligns with the widely-recognized JEDEC STANDARD "JESD46-B", which stipulates: "Lack of acknowledgement of the PCN within 30 days constitutes acceptance of the change".

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Introduction of additional Frontend production location Kulim for CERAMOS and OSLOM Black Flat

Subject of change:	Introduction of additional Frontend production location Kulim for CERAMOS and OSLOM Black Flat	
Affected products	CERAMOS family: CW CBLPM4.EN, CW CBLPM4.PU, CW CBLPM4.PW OSLOM Black Flat family: SFH 4735	
Reason for change:	<ul style="list-style-type: none"> • Secure continuous supply – lower risk of allocation • Increase chip production capacity to meet growing market demand with frontend production at new location Kulim (Malaysia) • Chips from all frontend locations (Regensburg, Penang and additionally Kulim) will be used for finished good assembly. • Therefore release of all chip production location sites is necessary to ensure deliveries. 	
Description of change	<u>Current status</u> Regensburg and Penang chip production	<u>New status</u> Regensburg, Penang and Kulim chip production Please refer to customer information package for details.
Product identification:	Date code	
Time schedule:	Final qualification report	available
	Samples	Please refer to customer information package.
	Start of delivery	01.08.2018 ^{*)} *) or earlier if released by customer
	Last time order date	01.08.2019 ^{**))} **) last date for ordering products of current production

01.02.2020^{***)}

Last time delivery date

***) last delivery for products of
current production

Assessment:

No changes in electrical and optical parameters.
No change in fit / form / function or reliability.
Chips from all production locations are fully mixable.

Documentation:

Customer information package:
2_cip_OS-PCN-2018-006-A_ext

Qualification report:
3_qual_OS-PCN-2018-006-A_ext

Customer approval form

OS-PCN-2018-006-A

Introduction of additional Frontend production location
Kulim for CERAMOS and OSLON Black Flat

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

Please check the appropriate box below:

Agreement: We agree with the proposed change and accept start of the shipment upon availability of the new version.

Objections: We have objections:

Information requested: We need the following information:

Samples requested: We need the following samples:

Sender

Company:

Address / Location:

Signature:

Date:

OSRAM Opto Semiconductors
GmbH

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PCN OS-PCN-2018-006-A

**Introduction of additional frontend production location
Kulim for CERAMOS and OSRON Black Flat**

OS QM CQM | 01.06.2018

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OS-PCN-2018-006-A

Introduction of additional frontend production location Kulim for CERAMOS and OSLON Black Flat



Overview

- Secure continuous supply – lower risk of allocation
- Increase chip production capacity to meet growing market demand with frontend production at new location Kulim (Malaysia)
- Chips from all frontend locations (Regensburg, Penang and additionally Kulim) will be used for finished good assembly.
- Therefore release of all chip production location sites is necessary to ensure deliveries.
- no change in fit / form / function or reliability
- Chips from all productions sites are fully mixable.

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Description of change

Current status	New status
<p>Chip production in</p> <ul style="list-style-type: none">• Regensburg / Germany• Penang / Malaysia	<p>Chip production in</p> <ul style="list-style-type: none">• Regensburg / Germany• Penang / Malaysia• Kulim / Malaysia

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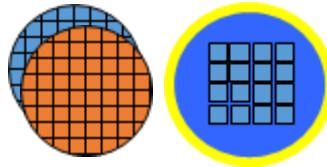
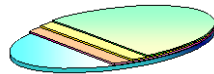
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Chip Manufacturing

Epitaxy*

Chip structuring

Probing, Separation and Die sorting



Electro-optical measurement and generation of wafer map

Regensburg / Penang / Kulim**

Backend Manufacturing

Packaging

Final measurement



Electro-optical measurement and binning

Final testing and packing on reel

Penang / Wuxi

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Certification

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CERTIFICATE

The Certification Body
of TÜV SÜD Management Service GmbH
certifies that

OSRAM Opto Semiconductors (Malaysia) SDN. BHD
Bayan Lepas Free Industrial Zone Phase 1
11900 Bayan Lepas, Penang
Malaysia

has established and applies
a Quality Management System for

Design, development and manufacturing of
opto semiconductor wafers, opto electronic components and displays
(with Product Design as per Chapter 7.3).

An audit was performed and has furnished proof
that the requirements according to

**ISO/TS 16949:2009
Third Edition 2009-06-15**

are fulfilled.

Issue date: 2016-10-06
Expiry date: 2018-09-14
Certificate Registration No.: 12 111 46091/08 TMS
IATF Certificate No.: 0249078
Part of the certificate is an appendix.



Product Compliance Management
Munich, 2017-09-26

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www.tuv-sud.de/certificates-validity-check



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Appendix of Certificate Registration No.:
12 111 46091/08 TMS
IATF Certificate No.: 0249078

OSRAM Opto Semiconductors (Malaysia) SDN. BHD
Bayan Lepas Free Industrial Zone Phase 1
11900 Bayan Lepas, Penang
Malaysia

The site is supported by the following remote locations:

Address	Supporting functions
OSRAM (Malaysia) Sdn Bhd. 36 Jalan Sultan Ahmad Shah Lot 11.02, 11th Floor, Bangunan KWSP 10050 Georgetown, Penang Malaysia	Finance, Human resources, Purchasing
OSRAM Opto Semiconductors GmbH Lehrstraße 4 93055 Regensburg Germany	Aftersales, Contract review, Customer service, Logistics, Marketing, Policy making, Product design, Purchasing, Quality system management, R&D, Sales, Strategic planning
OSRAM Opto Semiconductors, Inc. Killer Road, 1150 Sunnyvale, California, CA 94086 USA	Customer service, Logistics, Marketing, Sales USA

The site is supported by the following extended manufacturing site(s):

OSRAM Opto Semiconductor (Malaysia) Sdn. Bhd
Zon Industri Pasa 1, Trm. Perindustrian Hi-Tech Kulim,
09000 Kedah Darul Aman,
Malaysia



Product Compliance Management
Munich, 2017-09-26

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Note:
Kulim is a site
extension from
Penang

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List of affected products

CERAMOS	OSOLON Black Flat
CW CBLPM4.EN	SFH 4735
CW CBLPM4.PU	
CW CBLPM4.PW	

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PCN Samples

CERAMOS	OSOLON Black Flat
CW CBLPM4.EN	SFH 4735
CW CBLPM4.PU	
CW CBLPM4.PW	



available in June 2018
available in July 2018

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Time schedule

- Qualification report: available
- Start of delivery: 01.08.2018 *)
*) or earlier if released by customer
- Last time order date: 01.08.2019**)
**) last date for ordering products of current status
- Last time delivery date: 01.02.2020 ***)
***) last delivery of products of current status

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Thank you.

Products Affected by Product Change Notification

Number: OS-PCN-2018-006-A

Name: Introduction of additional Frontend production location Kulim for CERAMOS and OSLON Black Flat

Release Date: 6/1/2018

Response Due Date: 7/7/2018

Implementation Date: 8/1/2018

<i>Product</i>	<i>QNumber</i>	<i>QNumber Description</i>	<i>Part Number</i>
SFH 4735	Q65111A9885	SFH 4735	SFH 4735