

Light is OSRAM

18.05.2015

Dear Customer,

please find attached our OSRAM OS PCN:

OS-PCN-2015-016-A Introduction of BBOS wire bond process for MiniMIDLED

Important information for your attention:

Please respond to this PCN by indicating your decision on the approval form, sign it and return to your sales partner before **23.06.2015**.

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".

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 full acceptance to this proposed change and its implementation.

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.

Your attention and response to this matter is highly appreciated.

Please direct your inquiry to your local Sales office.

OS-PCN-2015-016-A

Introduction of BBOS wire bond process for MiniMIDLED

Subject of change:	Introduction of BBOS wire bond process for MiniMIDLED	
Affected products	SFH 4441, SFH 4451	
Reason for change:	Harmonization of wire bond methods within the MIDLED product family. Improvement of package robustness against external mechanical force.	
Description of change	<u>Current wire bond process on package side:</u> Ball stitch on ball (BSOB) bonding	<u>New wire bond process on package side:</u> Bump bond on stitch (BBOS) bonding
	For details refer to 2_cip_OS-PCN-2015-016-A	
Product identification:	Date code	
	Final qualification report	CW22 / 2015
	Samples available	available
Time schedule:	Production release	26.05.2015
	Start of delivery	18.08.2015 ^{*)} *) or earlier if released by customer
Assessment:	No change in data sheet No change in reliability Wirebond technique known for other high volume products from same production location	
Documentation:	2_cip_OS-PCN-2015-016-A	

Customer approval form

OS-PCN-2015-016-A

Introduction of BBOS wire bond process for
MiniMIDLED

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

Head Office:

Leibnizstrasse 4
93055 Regensburg, Germany
Phone +49 941 850-5
Fax +49 941 850-1002
www.osram-os.com

OSRAM
Opto Semiconductors



OS-PCN-2015-016-A

**Introduction of BBOS wire bond process for
MiniMIDLED**

Customer information package

OS QM CQM PS | 18.05.2015

Light is OSRAM

OS-PCN-2015-016-A

Overview

	Page
1. Reason for change	03
2. Description of change	04
3. Reliability test plan	05
4. Time schedule	06

OS-PCN-2015-016-A

Introduction of BBOS wire bond process for MiniMIDLED

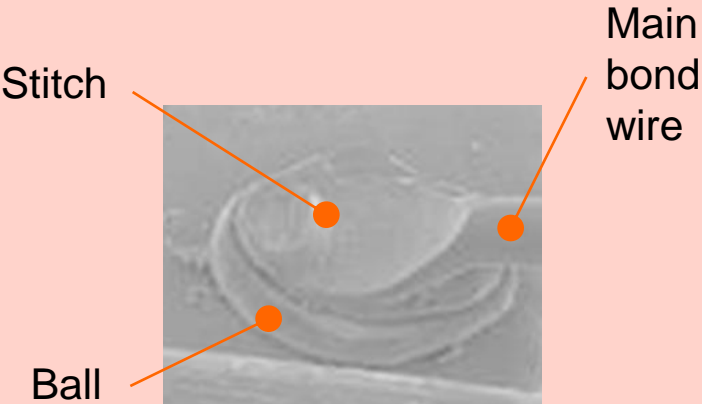
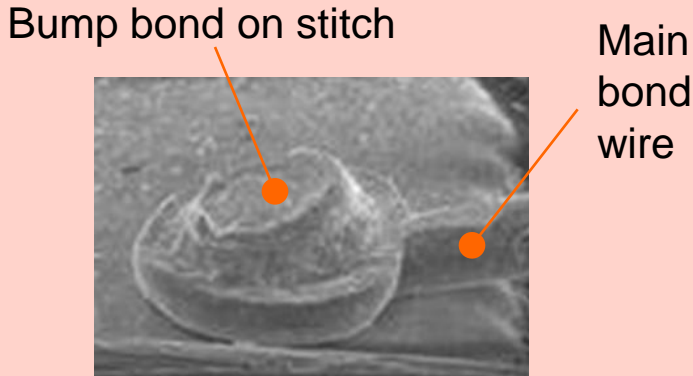
Reason for change

Harmonization of wire bond methods within the MIDLED product family.
Improvement of package robustness against external mechanical force.

OS-PCN-2015-016-A

Introduction of BBOS wire bond process for MiniMIDLED

Description of change

Current status	New status
<p>Wire bond process on package: Ball stitch on ball bonding (BSOB)</p> <p>→ Ball bond is formed on the housing bond pad. → Main bond wire is stitch bonded onto the ball.</p>  <p>Stitch</p> <p>Ball</p> <p>Main bond wire</p>	<p>Wire bond process on package: Bump bond on stitch bonding (BBOS)</p> <p>→ Main bond wire is stitch bonded to the housing bond pad. → Bump bond is bonded over the stitch.</p>  <p>Bump bond on stitch</p> <p>Main bond wire</p>

OS-PCN-2015-016-A

Introduction of BBOS wire bond process for MiniMIDLED

Reliability test plan

Test plan	Condition	Duration	Sample size
Resistance to soldering heat (RTSH)	Reflow soldering 260°C	3x	3 x 30
Temperature cycle (TC)	-40°C / +85°C 15 min. each extrem	300x	3 x 30

Preconditioning: MSL 2

Device under test: SFH 4451 or SFH 4441

OS-PCN-2015-016-A

Introduction of BBOS wire bond process for MiniMIDLED

Time schedule

- Qualification report CW 22 / 2015
 - Samples available
 - Production release 26.05.2015
 - Start of delivery 18.08.2015
- or earlier if released by customer

QUALITY
FIRST

Thank you.

Products Affected by Product Change Notification

Number: OS-PCN-2015-016-A

Name: Introduction of BBOS wire bond process for MiniMIDLED

Release Date: 5/18/2015

Response Due Date: 6/27/2015

Implementation Date: 8/18/2015

<i>Product</i>	<i>QNumber</i>	<i>QNumber Description</i>	<i>Part Number</i>
SFH 4441	Q65111A4266	SFH 4441	SFH 4441
SFH 4451	Q65111A2583	SFH 4451	SFH 4451
	Q65111A4223	SFH 4451-UV	SFH 4451-UV
	Q65111A6962	SFH 4451-V	SFH 4451-V