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Unterpemstatten, August 13, 2013

Customer Notification PCN19-2013
Implementation of a Second Source PCB / Substrate Supplier

Proposed Supplier: APCB
Package Affected: Optical Module (TMD)

Dear Customer,

Part of ams AG's commitment to the customer and a Key Performance Index is to ensure the product's availability. This can be achieved by having an alternative and ready solution for issues like tight-line capacity situation, on-allocation situation, and any other manufacturing issues like process related, material related, including raw material's availability and others that can arise and potentially prevent ams AG from meeting the customer demand on time.

As a result, this will reasonably protect and ensure the product supply without the compromise of Quality.

Therefore, ams AG is proposing for a second source PCB / Substrate Supplier on the aforementioned affected package.

With this, Hana Semiconductor Co., Ltd., ams AG's assembly and test partner for the aforementioned affected package (Optical Module (TMD)) is highly recommending "APCB" and is fully supported by ams AG as it is already a fully qualified supplier, including the material, in Hana and is already in-production mode on their other customers.

The existing supplier for standard as well as for HD PCB is LG Innotek.

**Bankverbindungen/
Bankaccounts**
UniCredit Bank Austria AG, Graz

IBAN EUR AT28 1200 0763 1316 1100
BIC BKAUATWW
IBAN USD AT60 1200 0763 1316 1106

BIC BKAUATWW
Firmenbuchgericht Graz
Firmenbuch Nr. FN 34109k

DVR 0420352
UID/VAT ATU 28560205



APCB, Second Source PCB / Substrate Supplier

Based on our manufacturing and quality test results we are releasing to production the following materials :

- a. Implementation of APCB's High Density (HD) Substrate Format.
- b. Wire size change to 0.8 Mil Diameter Gold (Au) Wire

Details:

A. APCB High Density (HD) PCB / Substrate

The substrate's dimensions, in terms of length and width, will not be changed as compared to the old substrate's supplier. Therefore, there will be no difference between the old substrate format and the new high-density substrate format with respect to the physical dimensions.

With regard to the assembly equipment, there will be specific modifications to be able to accommodate the new substrate format both at front-of-line station and at end-of-line station. The modifications will be and limited only to the Clamp and Insert for Wire Bond Station and Mold Tool for the Plastic Encapsulation / Mold Station, as these process steps are highly dependent on the substrate's number of units (rows and columns) on the strip. As for the remaining equipment, there will be neither changes nor modifications needed.

B. Conversion to 0.8 Mil Diameter Gold (Au) Wire

From the existing 1.0 mil wire diameter, the wire size will be changed and optimized to 0.8 mil Au wire diameter. The gold wire supplier will not be changed. Therefore, it will still be supplied by Tanaka.

Bill of Materials

The bill of materials will remain the same.

Assembly Process Flow

There is no change in the existing assembly process steps.



Package Outline Drawing

The new HD Substrate's unit external dimensions are all within the specified Package Outline Drawing and identical to the old Substrate's unit external dimensions.

Purpose of Change

- a. To reasonably protect the supply of customers' products.
- b. To allow more flexibility to meet diversified and changing customer demands.
- c. To assure the delivery performance in terms of responsiveness and on-time delivery.

Affected Products

product list	
TMD26711	TMD27713
TMD26713	TMD27721
TMD26721	TMD27723
TMD26723	TMD37823
TMD27711	

Table 1. Products Affected

Impact on Product

No impact on the product as there will be no change in terms of form, fit and function of the device.



Reliability Test Reports

REL Testings were performed and completed. Reports are available upon request.

Target Date of Implementation: Q3 2013

Upon customer approval, ams AG will define a cut-off period to when exactly the above changes will be implemented for traceability purposes.

Please be advised that unless we received your written refusal concerning this notification within 30 days, this PCN shall be deemed accepted.

If you do have further questions, please do not hesitate to contact me.

Best Regards,

A handwritten signature in black ink, appearing to read 'Herwig Klimesch'.

Herwig Klimesch
ams AG
Vice President Quality & Environment