

July20, 2010

CN-021610

## Customer Notification

### M21156-13 and M21156G-13 Package Substrate Change

Dear Valued Customer:

Mindspeed is presenting this updated change notification, originally published on February 16, 2010, due to customer requests to change the part number for the affected products. The table shown below lists both the current part number, and the new part number associated with each device.

This notification is for the purpose of informing you of a change to the substrate used for manufacturing the cross point switch products in 35mm flip chip packages.

#### Purpose

To reduce manufacturing lead times, Mindspeed is converting the M21156-13 and M21156G-13 from the ceramic flip chip substrate to the CPCore flip chip substrate. To further improve lid adhesion, this CPCore substrate package will also use the one piece lid that was presented in PCN 211XX-PCN-001-B on May 6, 2009.

Current	New
M21156-13	M21156-23
M21156G-13	M21156G-23

Both the ceramic and the CPCore substrates are manufactured by Kyocera. The following table shows the comparisons between the products manufactured with the ceramic substrate and CPCore substrate:

Substrate	Ceramic	CPCore
X dimension (mm)	35 +0.15/-0.20	35 +/-0.1
Y dimension (mm)	35 +0.15/-0.20	35 +/-0.1
Z dimension (mm)	3.85 +/-0.26	3.16 +/-0.25
Ball size (mm)	0.60 +/-0.05	0.60 +/-0.05
Ball pitch (mm)	1.00 typ	1.00 typ
Underfill	UA02	UA03
Die coat	BCB	Polyimide
Lid	One piece	One piece
Lid adhesive	SE4450	SE4450
Marking	Laser	Laser

#### Change Schedule

Customers will begin receiving product on May 18, 2010, unless, customers inform us these changes are technically unacceptable. Mindspeed will provide samples for the customer to evaluate and approve the change before we ship the products in this new substrate. Samples are currently available.

#### Method to identify parts

New part numbers, as identified above, will be marked on the product to identify the CPCore substrates.

#### Customer Impact

No customer impact is anticipated with this change. Qualification reports will be available upon request.

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We are confident this change will allow Mindspeed Technologies to maintain its high standards for quality and reliability. We will be managing this change very closely to ensure minimum disruption to our customers. If, at any time, you have a need for further information, please contact your local Sales Representative.

The indicated Customer Notification letter was received and acknowledged by the undersigned authority.

Name: \_\_\_\_\_  
Signature \_\_\_\_\_ Print \_\_\_\_\_

Company: \_\_\_\_\_  
Name \_\_\_\_\_ Location \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Comments/additional requests: \_\_\_\_\_

Thank you for your attention on this matter.

Please return the acknowledgment form to the attention of Dan McCarville at Mindspeed Technologies Inc., 4000 MacArthur Blvd, Newport Beach, Ca, 92660; [daniel.mccarville@mindspeed.com](mailto:daniel.mccarville@mindspeed.com).