

April 30, 2010

CN-043010

## Customer Notification

### Cross Point Switch 35mm Flip Chip Package Substrate Change

Dear Valued Customer:

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

Mindspeed is converting the products listed below from the ceramic flip chip substrate to the CPCore flip chip substrate due to a last time buy that ASE issued on the BCB bumping die coat process. The BCB bumping die coat is compatible with ceramic substrates while the polyimide die coat is compatible with organic substrates including the CPCore. We expect that there will be two direct customer benefits from this change; the first is improved manufacturability. Unlike the current ceramic substrate, the CPCore substrate is an organic substrate with similar coefficient of thermal expansion as our customers' PCBs which could improve our customers' manufacturability. 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. Along with these manufacturability improvements, we expect that there will be reduced lead times on CPCore material versus those of ceramic.

|            |            |            |            |
|------------|------------|------------|------------|
| M21131-12  | M21136-12  | M21151-13  | M21161-15  |
| M21131G-12 | M21136G-12 | M21151-14  | M21161G-15 |
| M21131-13  | M21141-14  | M21151G-13 |            |
| M21131G-13 | M21141G-14 | M21151G-14 |            |

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 can begin receiving product with the CPCore substrate as the Ceramic substrate inventory is depleted. This may be as early as November 1, 2010.

Method to identify parts

Full traceability is maintained for this product; changeover datecodes and lot numbers will be provided.

Customer Impact

No customer impact is anticipated with this change. There is no modification required to our customers' PCBs. CPCore substrates have been fully qualified by Mindspeed. Qualification report is available upon request.

April 30, 2010

CN-043010

## Customer Notification

### Cross Point Switch 35mm Flip Chip Package Substrate Change

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.