

Customer Notification

Cross Point Switch 35mm Flip Chip Package Substrate Change

Dear Valued Customer:

Mindspeed is presenting this updated change notification, originally published on April 30, 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

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.

| Current | New | Current | New |
|------------|------------|------------|------------|
| M21131-12 | M21131-22 | M21151-13 | M21151-23 |
| M21131G-12 | M21131G-22 | M21151-14 | M21151-24 |
| M21131-13 | M21131-23 | M21151G-13 | M21151G-23 |
| M21131G-13 | M21131G-23 | M21151G-14 | M21151G-24 |
| M21136-12 | M21136-22 | M21161-15 | M21161-25 |
| M21136G-12 | M21136G-22 | M21161G-15 | M21161G-25 |
| M21141-14 | M21141-24 | | |
| M21141G-14 | M21141G-24 | | |

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 |

