CUSTOMER ADVISORY

ADV1820

Transition to Laser Marking for Bare Die and Molded Flip Chip Ball Grid Array Packages

Change Description:

Intel Programmable Solutions Group ("Intel PSG", formerly Altera) is notifying customers of a transition from ink marking to laser marking for products in bare die (lidless) and Molded Thermal Composite Flip Chip Ball Grid Array (BGA) packages.

To improve marking quality and efficiency, these products will convert from ink marking to laser marking. The laser marking process is already qualified and used successfully to mark Intel PSG process since 2003.

Fig 1: Marking Change

<table>
<thead>
<tr>
<th>Change From</th>
<th>Change To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ink Marking</td>
<td>Laser Marking</td>
</tr>
</tbody>
</table>

![Fig 1: Marking Change](image-url)
**Recommended Action**

Customers are being notified to take note of this marking process change. The component mark content and layout will remain the same. This change does not affect customer specific/custom top mark requirements.

**Products Affected:**

The list of affected OPNs can be downloaded in Excel form: https://www.intel.com/content/dam/www/programmable/us/en/pdfs/literature/pcn/adv1820-opn-list.xlsx

**Reason for Change:**

Converting from ink marking to laser marking improves production efficiency of marking process. Additionally, laser marking is proven to result in more consistent quality of marking.

**Change Implementation**

<table>
<thead>
<tr>
<th><strong>Milestone</strong></th>
<th><strong>Date</strong></th>
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<tbody>
<tr>
<td>Date Conversion is in Effect</td>
<td>Now</td>
</tr>
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**Contact**

For more information, please submit a Service Request at the [My Intel](https://www.intel.com/content/dam/www/programmable/us/en/pdfs/literature/pcn/adv1820-opn-list.xlsx) support page.
Customer Notifications Subscription

Customers that have subscribed to Intel PSG's customer notification mailing list will receive the ADV document automatically via email.

If you would like to receive customer notifications by email, please subscribe to our customer notification mailing list at: https://www.intel.com/content/www/us/en/programmable/my-intel/mail-emaillist/technical-updates.html

Revision History

<table>
<thead>
<tr>
<th>Date</th>
<th>Rev</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>10/05/2018</td>
<td>1.0.0</td>
<td>Initial Release</td>
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