

PRODUCT ADVISORY NOTICE

KEEPING YOU INFORMED OF PRODUCT CHANGES

To: All Customers, Sales Representatives and Distributors

Date: August 10, 2016

Subject: Change of Manufacturing Equipment

This Product Advisory Notice is to alert you that there is a coming process change in our Grayhill Shenzhen production facility.

Description of Change

We are purchasing a new pick and place line and will be installing it next to the existing pick and place line during the second week of September. In the short term, both lines will be available to support your production requirements.

For the new equipment, our Quality Control group will be performing full equipment evaluation including installation qualification (IQ), operational qualification (OQ) and performance qualification (PQ).

The Performance Qualification (PQ) will include results from running an existing part number on the new equipment, and ensuring that the new equipment capability is equal to or greater than the current equipment. These results will include: visual inspection of all solder joints to IPC class II, placement accuracy, placement completeness, and critical dimensions. For each PCBA being transferred to the new line, our Quality Control group will conduct a Level 2 PPAP on 10 representative samples (5 each built on separate days). Visual inspection (where possible) and test instruments will be used to verify proper placement of the proper component in each location. The PCBA's will be assembled into finished units and tested with the end of line tester. Representative finished units will be subjected to a 10 cycle thermal shock test.

The production cells that assemble the PCBA's into the final product will not be impacted by this change.

Reason for Change

Expanded capacity and risk mitigation. The existing pick and place line is nearing 85% production capacity which does not comply with our manufacturing objective is to maintain 20% excess production capacity to allow for expedited orders or unplanned downtime. By adding this line, we will be below our threshold and will be positioned for our planned growth in 2017. A second line also provides backup in the event a line is down for an extended period of time.

Effective Date

Our target date is October 21, 2016.

Part Numbers Affected

The table on the next page lists the standard Grayhill part numbers that will be impacted by the change:



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70-IAC15A	70-ODC24B	70G-IDC5	70G-ODC5B	70L-OACA-L	70M-OAC5
70-IAC24	70-ODC24R	70G-IDC5B	70G-ODC5R	70L-OAC-L	70M-OAC5A
70-IAC24A	70-ODC5	70G-IDC5G	70GRCK16-HL	70L-ODC	70M-OAC5-L
70-IAC5	70-ODC5A	70G-IDC5NP	70GRCK16-HS	70L-ODC5R	70M-ODC15
70-IAC5A	70-ODC5R	70G-IDC5S	70GRCK16I	70L-ODCA	70M-ODC24
70-IDC15	70RCK16	70G-ISW1	70GRCK16I-DIN	70L-ODCB	70M-ODC24B
70-IDC15NP	70RCK16-HL	70G-OAC15	70GRCK24-HL	70LRCK16-HL	70M-ODC24R
70-IDC24	70RCK16-HS	70G-OAC24	70GRCK4	70LRCK24-HL	70M-ODC5
70-IDC24NP	70RCK24	70G-OAC24A	70GRCK4-DIN	70LRCK8-HL	70M-ODC5A
70-IDC5	70RCK24-HS	70G-OAC24-L	70GRCK4R	70M-IAC15	70M-ODC5B
70-IDC5B	70RCK32-HL	70G-OAC5	70GRCK4R-DIN	70M-IAC15A	70M-ODC5R
70-IDC5K	70RCK4	70G-OAC5A	70GRCK8-HL	70M-IAC24	70MRCK16-EC
70-IDC5NP	70RCK4R	70G-OAC5A-L	70GRCK8-HS	70M-IAC24A	70MRCK16-HL
70-OAC15	70RCK8	70G-OAC5-L	70GRCKM32-HL	70M-IAC5	70MRCK16-HS
70-OAC15A	70RCK8-HL	70G-OAC5MA	70GRCKQ24-HL	70M-IAC5A	70MRCK24-DIN
70-OAC24	70RCK8-HS	70G-OAC5RLY	70GRCKQ24-HS	70M-IDC15	70MRCK24-EC
70-OAC24A	70G-IAC15A	70G-ODC15	70GRCKQ32-HL	70M-IDC24	70MRCK24-HL
70-OAC5	70G-IAC24	70G-ODC15B	70L-IAC	70M-IDC5	70MRCK24-HS
70-OAC5A	70G-IAC24A	70G-ODC24	70L-IACA	70M-IDC5G	70MRCK24-RL
70-OAC5A-L	70G-IAC5	70G-ODC24A	70L-IDC	70M-IDC5N	70MRCK8-EC
70-OAC5-L	70G-IAC5A	70G-ODC24B	70L-IDCB	70M-IDC5NP	70MRCK8-HL
70-ODC15	70G-IDC15	70G-ODC24R	70L-IDCNP	70M-OAC15	70MRCKQ24-EC
70-ODC15B	70G-IDC15NP	70G-ODC5	70L-OAC	70M-OAC24	70MRCKQ24-HL
70-ODC24	70G-IDC24	70G-ODC5A	70L-OACA	70M-OAC24A	70MRCKQ24-HS

Data Availability

IQ, OQ and PQ documentation will be available on-line at <http://www.grayhill.com/about-us/product-advisory-notice/> on September 27, 2016. The PPAP warrant and associated placement analysis report will be available approximately 10 days later.

Action Required

No action is required. If you have questions, please contact your Grayhill, Inc. sales associate at 708.354.1040.

