



# Micrel San Jose CA (SJ) to Microchip Colorado Springs CO (MCSO) Fab Transfer of BCD05 Frequently Asked Questions (FAQ)

Revision 2 – April 25, 2017

**Why is Microchip making this change?** The Micrel 6 inch fabrication facility in San Jose is closing. The Microchip 6 inch fabrication facility located at Colorado Springs CO, USA will provide more capacity that will ensure continuity of supply. Microchip’s fabrication sites have improved defect control/inspections and more efficient/diversified fab equipment.

## What is and what is not changing?

	<b>Pre Change</b>	<b>Post Change</b>
<b>Fabrication Location</b>	Micrel Fabrication Site (San Jose, CA, USA)	Microchip Fabrication Sites (Colorado Springs CO, USA)
<b>Wafer Diameter</b>	6 inches (150 mm)	6 inches (150 mm)
<b>Quality certification</b>	ISO9001	ISO/TS16949
<b>Data sheet / specifications</b>	No Change	No Change
<b>Design/layout</b>	No Change	No Change
<b>Die Size</b>	No Change	No Change
<b>Final test program</b>	No Change	No Change
<b>Package Type/MSL</b>	No Change	No Change

**Why is Microchip qualifying the MCSO 6” location in addition to the 8” locations for the BCD05 process technology?** The reason the MCSO 6” location is being qualified is because the fabrication equipment/processes are a better match between the SJ and MCSO fab and will provide better efficiencies for sustaining inventories of BCD05 products. While the 8” locations will provide a suitable backup location which can be used if there is some sort of critical issue and to ensure inventory levels can keep up with demand.

**What products are affected and what is the notification strategy?** Microchip has identified the parts affected and is implementing a notification strategy with a three phase Product/Process Change Notice (PCN) approach.

Phase 1: Microchip will issue an initial PCN. The PCN number is [JAON-20BQVK768](#) and it will include the following information:

- a. Qualification plan.
- b. Anticipated quarter and year for availability of the qualification report.
- c. Affected parts list

Phase 2: Microchip will issue an intermediate PCN after qualification has completed. Included in this PCN is:

- a. Qualification report
- b. Complete list of Catalog Part Numbers (CPN) for the qualified BCD05 process technology.

The objective of this PCN is to notify customers that the BCD05 process technology has completed qualification and provide the report.

Phase 3: Microchip will issue Final PCNs as Microchip fabricated CPNs are released to production. Each of these PCNs will include:

- a. The Estimated First Ship Date (EFSD) of each CPN.

Please note that there will be multiple PCNs issued over several months/years before implementation on all products has completed. Products from Microchip Fabs will not ship until after a phase 3 PCN has been issued and applicable CPN listed.

**How does Microchip issue PCN's to customers?** Microchip provides a PCN service. As part of this service customers have the option to receive PCNs via email if they register for PCN email service or view PCNs without registration on Microchips website. For information about how to register for PCN email service and all PCN services please view our PCN policy. The link to Microchip's PCN policy is:

[http://ww1.microchip.com/downloads/en/DeviceDoc/PCN\\_EOL%20Policy\\_MCHP.pdf](http://ww1.microchip.com/downloads/en/DeviceDoc/PCN_EOL%20Policy_MCHP.pdf)

## **What is Microchip's fabrication transfer qualification strategy?** Microchip is using the following approach:

1. Copy functional (i.e. match the fab process films/design rules and device structures). There will be no changes to the product datasheet specifications.
2. Follow Micrel's original qualification guidelines (JEDEC JC14 compliant). The qualification plan will be included in the initial PCN as referenced above.

## **How does the qualification data pertain to my device?**

Numerous catalog part numbers of various product types are produced from the BCD05 process technology. Since it is not practical to qualify each individual part number, Microchip verifies the functionality and parametrics of each individual underlying product type. For the BCD05 process technology qualification, a representative CPN was selected to be the primary qualification device.

For primary qualification devices, the following methodology is used: Three fab lots go through high temperature operation life (HTOL)/package level qualification testing and one fab lot goes through electrostatic discharge (ESD) and latch up (LU) testing to represent when the technology is qualified for production.

All lots must pass high temperature operation life (HTOL), ESD, LU, preconditioning, temperature cycling, unbiased HAST, biased HAST, pressure pot, and high temperature storage testing per JEDEC guidelines. Please note that for ESD & LU tests, the acceptance criteria is to meet or exceed current Micrel San Jose 6" fabbed product. All CPNs will be represented by the BCD05 qualification report that will be included in the phase 2 intermediate PCN.

**How will Microchip verify functionality of the Microchip fabricated material?** To ensure that the Microchip fabricated devices behave statistically the same as the respective Micrel fabricated material, Microchip will perform production ATE testing and/or bench testing using Micrel SJ and MCSO fabricated samples. Then Microchip will compare the electrical distributions for the critical test parameters with the expectation that they are statistically equivalent.

**Will the Catalog Part Number (CPN) change?** No. The CPN will not change.

**How can I determine if a product was fabricated in the Micrel or Microchip Fab?** The trace code can be used to determine the difference between Micrel SJ and MCSO fabricated material. The customers will be required to provide the trace codes to the local Microchip sales office for assistance in determining the die source. The trace code is located on the product's top marking.

**What is Microchip's experience with Fab transfers?** Microchip has successfully completed several Fab transfers over the last 16 years representing millions of devices shipped to a large variety of customers within the automotive, medical, aerospace, industrial, and commercial segments.

**Can I obtain Microchip fabricated samples for evaluation and/or qualification?** Yes, customers should contact their authorized Microchip support channel to enter a request for samples.

**How will Microchip manage stability of supply during the transition?** Microchip has built Micrel San Jose fabricated inventory based on historic monthly ship rates to fulfill customer orders until Microchip fabricated inventory is available.