To all HiRel Customers March 3, 2009

This letter serves to provide product transition details concerning International Rectifier's Wafer Fab move from El Segundo (both Fab 5 and Fab 3) to Temecula (Hexam Fab 2) California. First, note that International Rectifier's Fab 2 has been certified to produce JANTX type parts for the past 15 years and was re-certified in 2005 to produce JANS parts. Second, the Wafer Fab product transition process was developed in conjunction with DSCC-VQE and includes qualification elements to ensure part interchangeability and mitigation against supply disruption to customers.

The Fab transition process approach taken includes the following steps:

1. Building Inventory to Sustain the Transfer Period
2. Replicate Fab 5 and 3 Processes and Product Performance
3. Conduct Formal Platform and Derivative Qualification with DSCC

The transfer from Fab 5 to Fab 2 started January 2007, which included building a 2 year parts inventory to sustain the transfer period. In April 2008 Fab 5 closed. Similarly, the transfer from Fab 3 to Fab 2 started in November 2008, which included building a 3 year parts inventory to sustain the transfer period. Fab 3 is scheduled to close June 2009 and product transition is schedule to begin July 2009.

While the goal was to replicate Fab 5 and 3 processes and product performance, some changes did take place in the transfer. These changes do not cause any degradation to product performance or quality; in fact some changes will enhance product stability through use of more capable tools. The changes include 1) back side metallization from TiNiAg to CrNiAg, 2) front metallization thickness from 8um to 6um, 3) change from wet etch to dry etch process using new tools, 4) new masks due to the dry etch method, 5) redesign of the pad mask to assure all metal is passivated. As for G4 product, it will be transferred from Fab 3 to Fab 2 as-is. No process changes will be necessary.

To ensure part interchangeability, each QPL-19500 product platform is being qualified for each die technology (R5, R6, R7, G4), voltage and type (n or p channel). The qualification includes SEE, TID, JANS packaging, test and screening, QCI groups A, B, C, D and E performance for each platform (see table 1 herein for R5 technology platforms for example). All other parts within the platform (package derivatives) are qualified by similarity, including test and screening, and QCI group A and D.

The wafer qualifications include a confirmation lot that is run for each platform qualification. All confirmation lots and derivatives must meet the following:

1. Same process steps as the qualification lot
2. No process splits, except for Vth adjust
3. Pass a minimum yield based on the Fab defect density criteria.

In December 2008 the first platform was qualified by DSCC. International Rectifier projects the final Qualification for R5, R6 and R7 will be completed in October 2009. Based on the product transfer activities completed to date, we do not envision significant problems with the Fab 2 transition.

For further technical information and discussion, please contact me directly at 978.514.6180.

Regards,

Paul Hebert
Director, Quality Assurance
International Rectifier

Table 1 – R5 Platforms (12 full qualifications)

Die Platforms			
Gen.	**Size**	**Voltage**	**Type**
R5	3	200V	N-ch
R5	3	100V	N-ch
R5	3	130V	N-ch
R5	6	60V	N-ch
R5	3	30V	N-ch
R5	3	250V	N-ch
R5	1	100V	N-P
R5	3	100V	P-ch
R5	3	200V	P-ch
R5	6	200V	P-ch
R5	3	30V	P-ch
R5	3	60V	P-ch