



Product Change Notification



Product Group: Vishay Siliconix/November 26, 2013/PCN-SIL-0492013 rev 0

Additional Commercial Wafer Fabrication Capacity for High Voltage MOSFETS in TO-220 Package

DESCRIPTION OF CHANGE: To meet increasing demand for Power MOSFET products in TO220 packages, Vishay Siliconix has completed qualification of wafer fabrication on select commercial High Voltage MOSFET products in the Siliconix wafer fab located in Itzehoe, Germany (VSIG).

Please note that the list of parts below includes parts that are in the current production plan. This PCN covers the notification for all Generation 3 High Voltage MOSFET products produced by Vishay-Siliconix.

CLASSIFICATION of CHANGE: Additional wafer fabrication capacity

EXPECTED INFLUENCE ON QUALITY/RELIABILITY/PERFORMANCE: There will be no effect on quality, reliability, and/or performance. There will be no changes in minimum and maximum values on the data sheets.

PRODUCT CATAGORY: Commercial High Voltage Power MOSFETs

PART NUMBERS/SERIES/FAMILIES AFFECTED: See Table 1 on page 2 of this PCN.

VISHAY BRAND(s): Vishay Siliconix

TIME SCHEDULE: Shipments with products containing VSIG die will begin March, 2014 for those products having completed transfer.

SAMPLE AVAILABILITY: Samples of the parts listed in Table 2 will be available P12, 2013. Samples of additional part numbers will be available once qualification-for-transfer by part number has completed. Please contact your regional Vishay Sales office for sample availability. When requesting samples please be sure to reference this PCN number.

QUALIFICATION DATA: Qualification data begins on page 3 of this PCN.

PRODUCT IDENTIFICATION: Products containing VSIG Die will be identified by a C in the 4th character position of the part marking date-code.

This PCN is considered approved, without further notification, unless we receive specific customer concerns before February 24, 2014 or as specified by contract.

ISSUED BY: Don Larson, Vishay Siliconix, Technical Marketing. E-mail address: Don.larson@Vishay.com

For further information, please contact your regional Vishay office.

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Vishay Intertechnology, Inc.

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ONE OF THE WORLD'S LARGEST MANUFACTURERS OF DISCRETE SEMICONDUCTORS AND PASSIVE COMPONENT



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Table 1. Part Number List

| Material |
|---------------|
| IRF730PBF |
| IRF740APBF |
| IRF740LCPBF |
| IRF740PBF |
| IRF820PBF |
| IRF830APBF |
| IRF830PBF |
| IRF840APBF |
| IRF840LCPBF |
| IRF840PBF |
| IRFB11N50APBF |
| V961-0002-E3 |

Table 2. Sample Part List

| Material | Package |
|-----------|---------|
| IRF740PBF | TO220 |
| IRF830PBF | TO220 |
| IRF840PBF | TO220 |

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Qualification for Wafer Fabrication Technology Transfer

All Wafer Fabrication Technology transfers receive a full qualification based on MIL-STD-883 and MIL-STD-750 criteria using 3 lots. After a Wafer Fabrication Technology is qualified all subsequent devices released related to this platform technology will have been qualified by *Extension* – 1 lot tested to HTRB, HTGB, and ESD.

Qualification Test Table for Generation 3 High Voltage MOSFET Wafer Technology Transfer to VSIG Semiconductor and Assembled in TO220 Packages

| Test | Qualification test | Conditions | # of Lots, # of samples per lot | Time Scale Hours/Cycles | Results: samples tested/# of failures |
|------|---------------------|---|---|----------------------------|--|
| 0 | Visual Inspection | N/A | All Lots | 0 hr | |
| 1 | HTRB | Ta = 150°C Vds = 80% rating of Vds | 3 Lots, 77 samples per lot | 1000 Hours | 231/0 |
| 2 | HTGB | Ta = 150°C Vgs = 100% rating of Vgs | 3 Lots, 77 samples per lot | 1000 Hours | 231/0 |
| 3 | Temperature Cycling | -65°C to +150°C air to air | 3 Lots, 80 samples per lot | 1000 Cycles | 240/0 |
| 4 | HAST | 130 °C, 85%RH, Vds = 80%Vds, 42V max | 3 Lots, 80 samples per lot | 100 Hours | 240/0 |
| 5 | Pressure Pot | +121°C, 15 PSIG | 3 Lots, 80 samples per lot | 96 Hours | 240/0 |
| 6 | Solder Dunk | 260 ± 5 °C, 10 sec in solder, 1 min in air | 1 Lot, 55 samples | Pre/post | 30/0 |
| 7 | Bond Integrity | 150C Bake Pull strength : 8 grams minimum | 1 Lot, 40 wires | 1000 Hours | 40/0 |
| 8 | DPA | External Visual X-ray C-SAM | 3 Lot, 15 samples per lot 3 Lot, 5 samples per lot 3 Lot, 5 samples per lot | N/A | 15/0 5/0 5/0 |
| 9 | ESD | HBM MM | 3 Lot, 10 samples per lot 3 Lot, 10 samples per lot | | 30/0 30/0 |

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