



Product Change Notification



Product Group: Vishay Siliconix/ SIL-0112018/ May 25, 2018

Additional Commercial Power MOSFET Wafer Fabrication Capacity

DESCRIPTION OF CHANGE: To meet increasing demand for High Voltage Power MOSFET products, Vishay Siliconix has completed the qualification for the expansion of commercial High Voltage MOSFET capacity with foundry partner Founder Microelectronics International Co. Ltd. (FMIC) in Shenzhen, China. FMIC wafer fab contains a 96,000 square-meter clean-room facility which was opened in 2003, and employs highly-skilled wafer production personnel who have been qualified to follow the same quality systems and integration engineering currently supporting Vishay products. FMIC is certified to ISO9001, ISO14001 and TS16949 Quality Management System Certifications.

CLASSIFICATION OF CHANGE: Additional wafer fabrication capacity

REASON FOR CHANGE: Increased High Voltage MOSFET wafer fabrication capacity.

EXPECTED INFLUENCE ON QUALITY/RELIABILITY/PERFORMANCE: No effect on quality, reliability or performance.

PRODUCT CATAGORY: Commercial High Voltage MOSFETs

PART NUMBERS/SERIES/FAMILIES AFFECTED: See page 2 of this PCN

VISHAY BRAND(s): Vishay Siliconix

TIME SCHEDULE: Shipments with products containing FMIC die will begin in August 2018 for those products having completed transfer qualification.

SAMPLE AVAILABILITY: Please contact your regional Vishay Sales office for sample availability. When requesting samples please be sure to reference this PCN number.

PRODUCT IDENTIFICATION: Commercial High Voltage MOSFET products containing FMIC die will have "N" in the 4th character location (e.g. Y83N).

QUALIFICATION DATA: Reliability test data will be available for specific part numbers upon completion of die geometry qualification. Test criteria and results for the platform qualification are listed on page 3 of this PCN.

This PCN is considered approved, without further notification, unless we receive specific customer concerns before August 25, 2018 or as specified by contract.

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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

Procedure #



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PCN SIL-0112018 Parts List

| | | |
|----------------|---------------|--------------------|
| IRF820PBF | IRF840LCSPBF | IRFP460APBF |
| IRF820STRLPBF | IRF840PBF | IRFP460APBF |
| IRF820STRRPBF | IRF840PBF | IRFP460LCPBF |
| IRF830ALPBF | IRF840PBF | IRFP460LCPBF |
| IRF830APBF | IRF840SPBF | IRFP460PBF |
| IRF830ASPBF | IRF840SPBF | IRFP460PBF |
| IRF830ASTRLPBF | IRF840STRLPBF | IRFP460PBF |
| IRF830PBF | IRF840STRLPBF | IRFPS37N50APBF |
| IRF830PBF | IRF840STRRPBF | IRFR210PBF |
| IRF830SPBF | IRF840STRRPBF | IRFR420PBF |
| IRF830SPBF | IRFB11N50APBF | IRFR420TRLPBF |
| IRF830STRLPBF | IRFB11N50APBF | IRFR420TRPBF |
| IRF830STRLPBF | IRFC11N50AB | IRFRC20TRLPBF |
| IRF840ALPBF | IRFC37N50AB | IRFRC20TRPBF |
| IRF840ALPBF | IRFC430AB | IRFS11N50APBF |
| IRF840APBF | IRFC450B | IRFS11N50ATTRP |
| IRF840APBF | IRFC460AB | IRFS11N50ATTRP |
| IRF840APBF | IRFC840AB | IRFS11N50ATTRP |
| IRF840ASPBF | IRFI820GPBF | IRFS11N50ATTRP |
| IRF840ASPBF | IRFI820GPBF | IRFSL11N50APBF |
| IRF840ASTRLPBF | IRFI840GLCPBF | IRFU210PBF |
| IRF840ASTRLPBF | IRFI840GLCPBF | IRFU420PBF |
| IRF840ASTRRPBF | IRFIB7N50APBF | SIHF820STRL-GE3 |
| IRF840ASTRRPBF | IRFIB7N50APBF | SIHF830S-GE3 |
| IRF840LCLPBF | IRFP450APBF | SIHF830S-GE3 |
| IRF840LCLPBF | IRFP450LCPBF | SIHFS11N50ATRL-GE3 |
| IRF840LCPBF | IRFP450PBF | V961-0007-E3 |
| IRF840LCPBF | IRFP450PBF | V961-0007-E3 |

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Qualification for Wafer Fabrication Technology Transfer

All Wafer Fabrication Technology transfers receive a full qualification based on JEDEC criteria using 3 lots. After a Wafer Fabrication Platform 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 | Conditions | # of Lots, # of samples per lot | Time Scale Hours/Cycles | Results: samples tested/# of failures | Comments |
|-----------------------------------|---|--|-------------------------|---------------------------------------|--------------------------------------|
| 1a. Solder Reflow Preconditioning | 168 hr 85/85 3 cyc @ 250C max | | | | This test shall apply to test 4 to 6 |
| 2. HTRB | Ta = 150°C Vds = 80% rating of Vds | 3 Lots, 82 samples per lot | 1000 Hours | 246/0 | |
| 3. HTGB | Ta = 150°C Vgs = 100% rating of Vgs | 3 Lots, 82 samples per lot | 1000 Hours | 246/0 | |
| 4. Temperature Cycling | -65°C to +150°C air to air | 3 Lots, 82 samples per lot | 1000 Cycles | 246/0 | |
| 5. Pressure Pot | +121°C, 15 PSIG | 3 Lots, 82 samples per lot | 96 Hours | 246/0 | |
| 6. HAST | +130°C, 85%RH Vgs = 100% rating of Vgs | 3 Lots, 82 samples per lot | 100 Hours | 246/0 | |
| 8. ESD | HBM CDM | 1 Lot, 10 samples 1 Lot, 10 samples | 0 0 | 10/0 10/0 | |

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