
PRODUCT AND PROCESS CHANGE NOTIFICATION

ISSUE DATE: 03-Sep-2013
NOTIFICATION: 15824
TITLE: S12XS/XE/HY/P/XHA Cu Wire & Lead Frame Qualification for 80QFP & 100/112/144LQFP
EFFECTIVE DATE: 02-Dec-2013

DEVICE(S)

MPN
K912XEG384J3CAG
MC9S12P128MQK
MC9S12P64CQK
MC9S12P64VQK
MC9S12XEQ384CAG
MC9S12XEQ384CAL
MC9S12XEQ384MAG
MC9S12XEQ384MAL
MC9S12XEQ512CAA
MC9S12XEQ512CAG
MC9S12XEQ512CAGR
MC9S12XEQ512CAL
MC9S12XEQ512MAA
MC9S12XEQ512MAG
MC9S12XEQ512MAL
MC9S12XS128MAA
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P912XEQ512F1MAGR
P912XEQ512F1MAL
P912XEQ512F1MALR
P9S12XEQ512J1MAG
P9S12XHY256F0MLL
PCU912XEQ5F1MAA
PCU912XEQ5F1MAG
PCU912XHY2F0MLL
PCU9S12HY6J0MLL
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S912XEG384AVAGR

S912XEG384BCAA

S912XEG384BCAAR

S912XEG384BCAG

S912XEG384BCAGR

S912XEG384BCAL

S912XEG384BCALR

S912XEG384BVAL

S912XEG384BVALR

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S912XEG384F0CALR

S912XEG384F0VAL

S912XEG384F1CAA

S912XEG384F1CAAR

S912XEG384F1CAL

S912XEG384F1CALR

S912XEG384F1VAA

S912XEG384F1VAG

S912XEG384J2CAL

S912XEG384J2CALR

S912XEG384J2VAG

S912XEG384J2VAGR

S912XEG384J2VAL

S912XEG384J3CAA

S912XEG384J3CAAR

S912XEG384J3CAG

S912XEG384J3CAGR

S912XEG384J3CAL

S912XEG384J3CALR

S912XEG384J3VAA

S912XEG384J3VAG

S912XEG384J3VAGR

S912XEG384J3VAL

S912XEG384J3VALR

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S912XEQ512F0VAL

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S912XHY128F0VLMR
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S9S12P32J0MQK

S9S12P64J0CQK

S9S12P64J0MQK

S9S12P96J0CQK

S9S12P96J0CQKR

S9S12P96J0MQK

S9S12P96J0VQK

S9S12XS128J1CAA

S9S12XS128J1CAAR

S9S12XS128J1MAA

S9S12XS128J1MAAR

S9S12XS128J1VAA

S9S12XS128J1VAAR

S9S12XS256J0CAA

S9S12XS256J0CAAR

S9S12XS256J0MAA

S9S12XS256J0MAAR

S9S12XS256J0VAA

S9S12XS256J0VAAR

S9S12XS64J1CAA

S9S12XS64J1CAAR

S9S12XS64J1MAA

S9S12XS64J1VAA

S9S12XS64J1VAAR

SC667324VAL

SC667324VALR

AFFECTED CHANGE CATEGORIES

- ASSEMBLY PROCESS
- NEW PIECE PARTS AND/OR COMPONENT SUPPLIER

DESCRIPTION OF CHANGE

Freescale Semiconductor announces the addition of Copper Wire as a wirebond material for the following product:

1. S12XHY128/256 for 100/112LQFP products currently assembled with Gold wire at Freescale KLM assembly site, Kuala Lumpur, Malaysia
2. S12HY32/48/64 and S12HA32/48/64 for 100LQFP products currently assembled with Gold wire at Freescale KLM assembly site, Kuala Lumpur, Malaysia
3. S12XEQ512 and S12XE/G/T 384 for 80QFP and 112/144LQFP products currently assembled with Gold wire at Freescale KLM assembly site, Kuala Lumpur, Malaysia.
4. S12P128/96/64/32 and S12XS256/128/64 for 80QFP products currently assembled with Gold wire at Freescale KLM assembly site, Kuala Lumpur, Malaysia.

The Wire diameter for Gold Wire and Copper Wire will remain at 25um

The change to Cu wire also includes a change in leadframe flag type. Products currently utilizing an X-Flag will convert to a Solid Flag.

The part number of the mold compound will be updated per the table below. The new part number indicates a tightening of the mold compound specifications for use with Cu (Copper) wire.

80QFP/100LQFP/112LQFP/144LQFP Package

Current Mold Compound	MC Hitachi 9200HF10M
Updated Mold Compound	CEL-9200HF10M Cu Wire

REASON FOR CHANGE

The transfer from Gold to Copper wire is required to mitigate against raw material cost increases and to ensure supply assurance.

This leadframe flag change enables a robust Cu wirebond process.

ANTICIPATED IMPACT OF PRODUCT CHANGE(FORM, FIT, FUNCTION, OR RELIABILITY)

Wire composition and leadframe flag type are the only change to form. No Impact to fit or function. Reliability is equivalent or improved.

Freescale will consider specific conditions of acceptance of this change submitted within 30 days of receipt of this notice on a case by case basis. To request further data or inquire about the notification, please enter a [Service Request](#).

For sample inquiries - please go to www.freescale.com

QUAL DATA AVAILABILITY DATE: 29-Mar-2013

QUALIFICATION STATUS: COMPLETED

QUALIFICATION PLAN:

See attached qualification results.

RELIABILITY DATA SUMMARY:

See attached qualification results.

ELECTRICAL CHARACTERISTIC SUMMARY:

No change was made to the operating performance of the device. No change to datasheet. Electrical Distribution Gold versus Copper wire comparison enclosed.

CHANGED PART IDENTIFICATION:

There is no change to orderable part number. The Tracecode marking on the device includes assembly site and datecode. Freescale will have traceability by assembly site and datecode.

SAMPLE AVAILABILITY DATE: 03-Sep-2013

ATTACHMENT(S):

External attachment(s) FOR this notification can be viewed AT:

[15824_0.18um_ATMC & TSMC_KLM_Cu_Wire_Customer_Qualification_Results.pdf](#)

[15824_Jellyfish, Flipper, Seawasp_Cu vs Gold_Electrical Distribution Report 20130820.pdf](#)
