ON Semiconductor

FINAL PRODUCT/PROCESS CHANGE NOTIFICATION #20272

Generic Copy

Issue Date: 15-Oct-2013

TITLE: Qualification of Serial Microwire CAT93C86, CAT93C76, CAT93C46/46R and SPI CAT64LC40 EEPROM devices for fabrication at ON Semiconductor's Gresham, Oregon Wafer Fab.

PROPOSED FIRST SHIP DATE: 15-Jan-2014 or earlier upon customers approval

AFFECTED CHANGE CATEGORY(S): ON Semiconductor Fabrication Site

FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:
Contact your local ON Semiconductor Sales Office or Denisa Stefan<denisa.stefan@onsemi.com>

SAMPLES:
Contact your local ON Semiconductor Sales Office

ADDITIONAL RELIABILITY DATA: Available
Contact your local ON Semiconductor Sales Office or Francis Lualhati<ffxczy@onsemi.com>

NOTIFICATION TYPE:

Final Product/Process Change Notification (FPCN)

Final change notification sent to customers. FPCNs are issued at least 90 days prior to implementation of the change.

ON Semiconductor will consider this change approved unless specific conditions of acceptance are provided in writing within 30 days of receipt of this notice. To do so, contact <quality@onsemi.com>.

DESCRIPTION AND PURPOSE:

ON Semiconductor is pleased to announce that, as part of its ongoing effort to improve product availability, the Serial Microwire EEPROM devices CAT93Cxx and SPI EEPROM CAT64LC40 are now qualified for production in the 0.35 µm CMOS EE process at ON Semiconductor's 8-inch Wafer Fab in Gresham, Oregon, USA. The Gresham Wafer Fab is ISO9001:2008, ISO/TS16949:2009 and ISO14001:2004 certified.

This change will provide increased production capacity, while maintaining backward compatibility to the previous CAT93Cxx and CAT64LC40 die revisions fabricated at OKI, Japan. The previous product revisions, CAT93Cxx, CAT64LC40 will gradually be phase-out.

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RELIABILITY DATA SUMMARY:

Package: TSSOP
Qual Vehicles: CAV24C64YE-GT3

Qualification Results and Analysis:

Test:	Conditions:	Interval:	Results
HTOL	TA=150°C, Biased	1008 hrs	0/231
ELFR	TA=150°C, Biased	24 hrs	0/231
EDR(Endurance)	TA=25°C	1 Mil cycle	0/231
EDR(Data Retention)	TA=150°C	1008 hrs	0/231
HTSL	TA = 150°C	1008 hrs	0/80
HAST+PC	Ta=130C RH=85%, unbiased	96 hrs	0/240
TC+PC	Ta= -65 C to 150 C	500 cyc	0/240
Autoclave+PC	Ta=121C RH=100% ~15 psig	96 hrs	0/240
DPA	Following TC+PC		0/15

Conclusion: All reliability requirements have been met.

Package: SOIC
Qual Vehicles: CAV24C64WE-GT3

Qualification Results and Analysis:

Test:	Conditions:	Interval:	Results
HTOL	TA=150°C, Biased	1008 hrs	0/231
ELFR	TA=150°C, Biased	24 hrs	0/231
EDR(Endurance)	TA=25°C	1 Mil cycle	0/231
EDR(Data Retention)	TA=150°C	1008 hrs	0/231
HTSL	TA = 150°C	1008 hrs	0/80
HAST+PC	Ta=130C RH=85%, unbiased	96 hrs	0/240
TC+PC	Ta= -65 C to 150 C	500 cyc	0/240
Autoclave+PC	Ta=121C RH=100% ~15 psig	96 hrs	0/240
DPA	Following TC+PC		0/15

Conclusion: All reliability requirements have been met.

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ELECTRICAL CHARACTERISTIC SUMMARY:

Device parameters will continue to meet all datasheet specifications. Characterization data is available upon request. Even though device specifications remain unchanged, ON Semiconductor recommends samples be obtained for application specific review.

CHANGED PART IDENTIFICATION:

The top package marking for the new Gresham die versus current marking used for the OKI die is shown in the attached Appendix. The new top package marking used for newly introduced Gresham die reflects the integration of former CSI (Catalyst) into ON Semiconductor, and provides for easier identification of device and die revision.

Die origin will also be identified on the packaging box label by the 2-digit wafer fabrication country code, CS: US for Gresham and CS: Japan for OKI.

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List of Affected General Parts:

Part Number (OPN)	Samples Availability	Comments
CAT93C86L		Use CAT93C86LI-G
CAT93C86LI-G	Now	
CAT93C86VI-G	Now	
CAT93C86VI-GT3	Now	
CAT93C86XI	Now	
CAT93C76LI-G	Now	
CAT93C76VI-GT3	Now	
CAT93C76YI-GT3	Now	
CAT93C46LI-G	Now	
CAT93C46VI		Use CAT93C46VI-G
CAT93C46VI-G	Now	
CAT93C46VI-GT3	Now	
CAT93C46VP2I-GT3	Now	Not recommended for New designs: Replace with CAT93C46BHU4I-GT3
CAT93C46WI-G	Now	
CAT93C46WI-GT3	Now	
CAT93C46XI	Now	
CAT93C46XI-T2	Now	
CAT93C46YI-G	Now	
CAT93C46YI-GT3	Now	
CAT93C46RLI-G	Now	
CAT93C46RVI-G	Now	
CAT93C46RVI-GT3	Now	
CAT93C46RVP2IGT3	N/A	Not recommended for New designs: Replace with CAT93C46BHU4I-GT3
CAT93C46RYI-GT3	Now	
CAT64LC40WI		Use CAT64LC40WI-G
CAT64LC40WI-G	Now	
CAT64LC40WI-GT3	Now	
CAT64LC40YI-GT3	Now	

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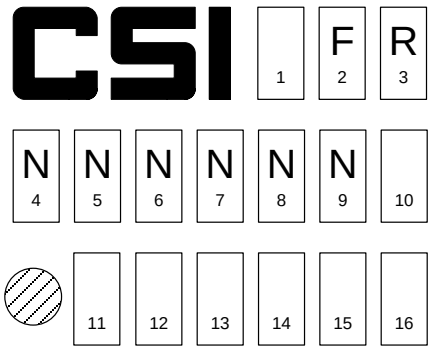
Appendix – PART IDENTIFICATION

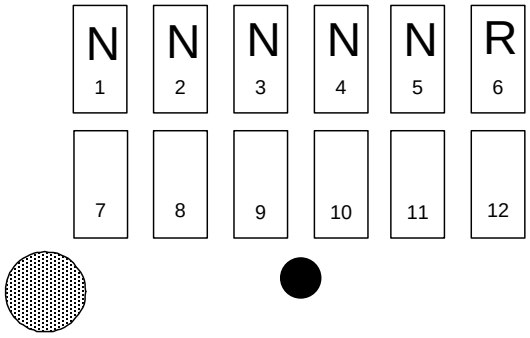
CAT93CXX Package Marking – Gresham die versus actual OKI die

OKI 0.35	GRESHAM 0.35

SOIC-8(V,X)



1: Assembly Location Code
2: Lead Finish (NiPdAu)
3: Product Revision
4-9: Product Code
10: Temp Range
11: Production Year
12: Production Month
13-16: Assembly Lot Number



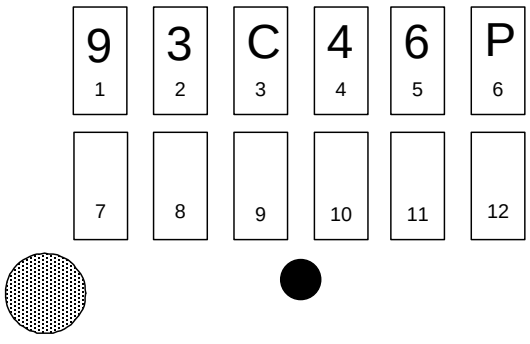
1-5: Product Code
6: Product Revision
7: Assembly Location Code
8: Production Year
9: Production Month
10-12: Assembly Lot Number
●: Pb-free microdot

Example: CAT93C46

OKI (Rev. N)

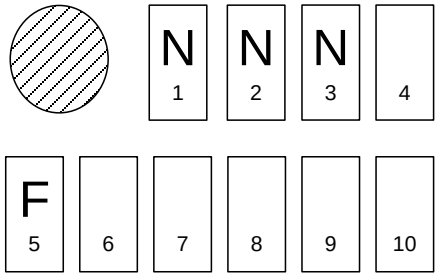
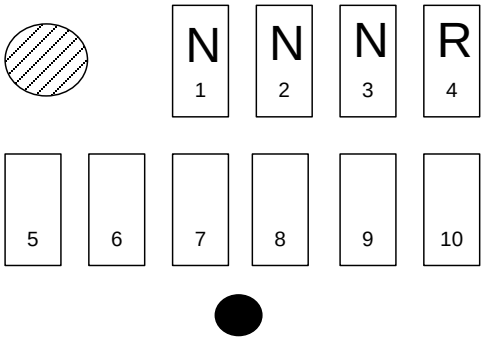
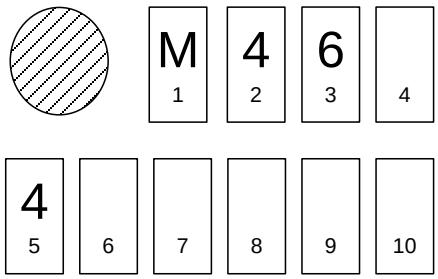
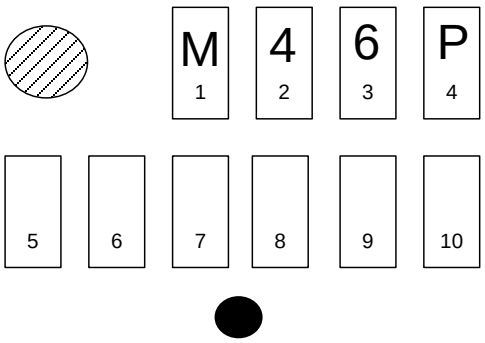
1: Assembly Location Code
2: Lead Finish (NiPdAu)
3: Product Revision
4-9: Product Code
10: Temp Range
11: Production Year
12: Production Month
13-16: Assembly Lot Number

Gresham (Rev. P)



1-5: Product Code
6: Product Revision
7: Assembly Location Code
8: Production Year
9: Production Month
10-12: Assembly Lot Number
●: Pb-free microdot

CAT93CXX Package Marking – Gresham die versus actual OKI die, Cont'd

OKI 0.35	GRESHAM 0.35
TSSOP-8(Y)	
	
1-3: Product Code 4: Assembly Location Code 5: Lead Finish (NiPdAu) 6: Production Year 7: Production Month 8-10: Assembly Lot Number	1-3: Product Code 4: Product Revision 5: Assembly Location Code 6: Production Year 7: Production Month 8-10: Assembly Lot Number ●: Pb-free microdot
Example: CAT93C46	
OKI	Gresham
	
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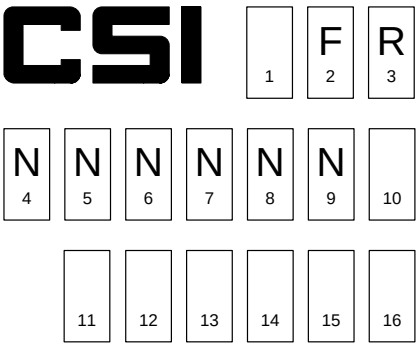
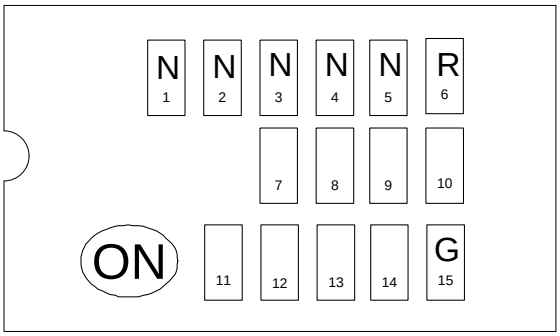
CAT93CXX Package Marking – Gresham die versus actual OKI die

OKI 0.35	GRESHAM 0.35

PDIP-8(L)





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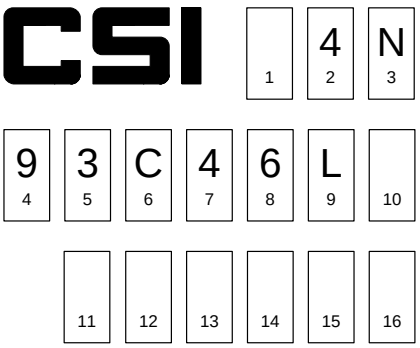
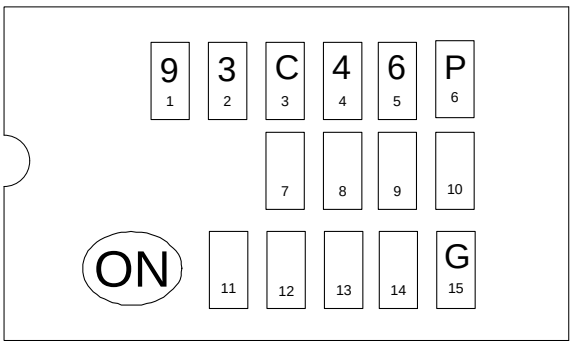
11: Production Year
12: Production Month
13-16: Assembly Lot Number

1-5: Product Code
6: Product Revision
7: Assembly Location Code
8-10: Assembly Lot Number
11-12: Production Year
13-14: Production Week
15: Pb-free designator

Example; CAT93C46





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2: Lead Finish (NiPdAu)
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10: Temp Range
11: Production Year
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13-16: Assembly Lot Number

1-5: Product Code
6: Product Revision
7: Assembly Location Code
8-10: Assembly Lot Number
11-12: Production Year
13-14: Production Week
15: Pb-free designator

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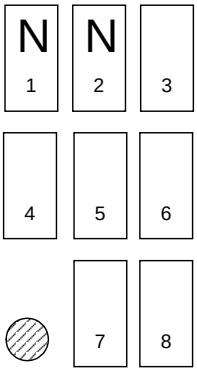
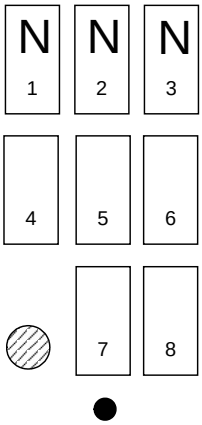
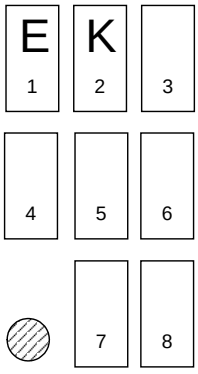
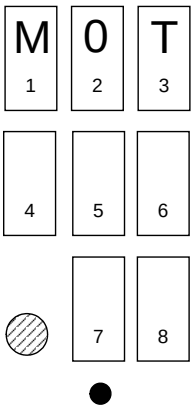
CAT93CXX Package Marking – Gresham die versus actual OKI die, Cont'd

OKI 0.35	GRESHAM 0.35
TDFN-8(VP2)	
	
1-2: Product Code 3: Assembly Location Code 4-6: Assembly Lot Number 7: Production Year 8: Production Month	1-3: Product Code 4: Assembly Location Code 5-6: Assembly Lot Number 7: Production Year 8: Production Month ●: Pb-free microdot
Example CAT93C46	
	
1-2: Product Code 3: Assembly Location Code 4-6: Assembly Lot Number 7: Production Year 8: Production Month	1-3: Product Code 4: Assembly Location Code 5-6: Assembly Lot Number 7: Production Year 8: Production Month ●: Pb-free microdot