



FINAL PRODUCT/PROCESS CHANGE NOTIFICATION #16794Generic Copy

Issue Date: 27-Jan-2012**TITLE:** Addition of OSPI manufacturing site for automotive grade Serial EEPROM products in TSSOP 8-pin package.**PROPOSED FIRST SHIP DATE:** 15-Jun-2012**AFFECTED CHANGE CATEGORY(S):** Automotive Serial EEPROM devices using the TSSOP 8-pin package: CAV24CxxYE-GT3; CAV25xxxYE-GT3, CAV93CxxYE-GT3**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 upon requestContact your local ON Semiconductor Sales Office or Tony Luciani tony.luciani@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:**

This change allows the addition of the ON Semiconductor Philippines Inc. (OSPI) manufacturing facility for AEC-Q100 qualified Serial EEPROM devices in TSSOP 8-lead package with NiPdAu finish. The OSPI manufacturing site is ISO / TS16949: 2009 certified.

The CAV24CxxYE-GT3, CAV25xxxYE-GT3 devices have historically been assembled and tested at the external assembly contractor, STARS located in Thailand. Due to flooding in Thailand, the STARS assembly site is temporarily not in operation.

Moving forward, these devices will be processed at OSPI / Philippines or STARS / Thailand location.

There will be no changes in device functionality. These devices use Gresham die (8- inch Wafer Fab in Gresham, Oregon, USA).

RELIABILITY DATA SUMMARY:

Qualification Data using CAT34C02 (2k-bit) die, OKI 0.35um

QTP CAT34C02Y_ TSSOP-8 (OKI-OSPI)								
Manufactured using CAT34C02 DIE, OKI .35u process								
Assembly/Test: OSPI								
Automotive Grade Level = 1 -40 to +125C, MSL = 1								
AEC#	TEST	REFERENCE	TEST CONDITIONS	END POINT REQUIREMEN	No Lots	SS	TEST RESULTS	
							READ POINT	Lot A,B,C
PC	A1	JESD22 A113 J-STD-020	Preconditioning : Moisture Preconditioning for THB, AC, TC, & PTC;	(Test @ Rm)	ALL	ALL		Pass
THB	A2	JESD22 A101 or JESD22A105	Temperature Humidity Bias	(Test @ Rm/Hot)	3	77	Post Precond	Pass
							168 hrs	Pass
							504 hrs	Pass
							1008 hrs	Pass
TC	A3	JESD22 A104	Temperature Cycle: Grade 1: 65°C/+150°C, 500 Cycles	(Test @ Hot)	3	77	Post Precond	Pass
							100 cyc	Pass
							500 cyc	Pass
							1000 cyc	Pass
AC	A4	JESD22 A102 or JESD22 A118	Autoclave: 121°C/100%RH, 15psig, 96hrs	(Test @ Rm/Hot)	3	77	Post Precond	Pass
							96 hrs	Pass
							240 hrs	Pass
HTSL	A5	JESD22 A103	High Temperature Storage Life: Grade 1: 150°C, 1000hrs	(Test @ Rm/Hot)	1	45	Post Precond	Pass
							168 hrs	Pass
							504 hrs	Pass
							1008 hrs	Pass
WBS	C1	AEC-Q100-001	Wire Bond Shear Test:	(Cpk > 1.33)	30 bond	5 parts		Pass
WBP	C2	Mil-STD-883 Method 2011	Wire Bond Pull: ; Each bonder used	(Cpk > 1.33)	30 bond	5 parts		Pass
SD	C3	JESD22 B102	Solderability:	(>95% coverage)	3	30		Pass
PD	C4	JESD22 B100, JESD22 B108	Physicalcal Dimensions	(Ppk > 1.67 and Cpk > 1.33)	3	32		Pass
SBS	C5	AEC-Q100-010	Solder Ball Shear	(Ppk > 1.67 and Cpk > 1.33)	3	50 balls		Pass
TEST	E1	User/Supplier Specification	Pre and Post Stress Function/Parameter		All	All		Pass
OSPI BOM for TSSOP-8L								
		LF	LF 60x60 NIPDAU PPF					
		Die Attach	SUMITOMO 1084P(CONDUCTIVE)					
		Mold Compound	Sumitomo G600					
		Wire	0.8 mil Au					

Additional Tests / Qual Plan using CAT24C64 (64k-bit) die, Gresham 0.35um / USR

QTP CAV24C64YE-GT3_ TSSOP-8 (USR-OSPI-Auto) RRF 14372

Manufactured using 24C64-F1-WDQ DIE, ONC35EE process (USR)

Package Code: C112 / TSSOP 8 004-01 C PBF, Assembly/Test: OSPI

Automotive Grade Level = 1 -40 to +125C, MSL = 1

AEC#	TEST	REFERENCE	TEST CONDITIONS	END POINT REQUIREMEN	No Lots	SS	TEST RESULTS	
							READ POINT	Lot A,B,C
PC	A1	JESD22 A113 J-STD-020	Preconditioning: ; Moisture Preconditioning for HAST, AC, TC, & PTC;	(Test @ Rm)	ALL	ALL		W/W8
HAST + PC	A2	JESD22 A101 JESD22 A110	Highly Accelerated Stress Test: 130°C/85%RH, 96hrs	(Test @ Rm/Hot)	4	80	Post Precond	W/W14
							96 hrs	W/W14
TC + PC	A4	JESD22 A104	Temperature Cycle: Grade 1:-65°C/+150°C, 500 Cycles	(Test @ Hot)	4	80	Post Precond	W/W11
							100 cyc	W/W9
							500 cyc	W/W11
HTSL	A6	JESD22 A103	High Temperature Storage Life: Grade 1:150°C, 1000hrs	(Test @ Rm/Hot)	2	80	Post Precond	
							168 hrs	W/W9
							504 hrs	W/W12
							1008 hrs	W/W16
WBS	C1	AEC-Q100-001	Wire Bond Shear Test:	(Ppk > 1.67 and Cpk > 1.33)	30 bond	5 parts		W/W13
WBP	C2	Mil-STD-883 Method 2011	Wire Bond Pull: ; Each bonder used	(Ppk > 1.67 and Cpk > 1.33)	30 bond	5 parts		W/W13
SD	C3	JESD22 B102	Solderability:	(>95% coverage)	4	15		W/W13
PD	C4	JESD22 B100, JESD22 B108	Physical Dimensions: Case outline 511AK.	(Ppk > 1.67 and Cpk > 1.33)	4	10		W/W14
TEST	E1	User/Supplier Specification	Pre and Post Stress Function/Parameter		All	All		
HBM / MM	E2	AEC-Q100-002 AEC-Q100-003	Electrostatic Discharge, Human Body Model / Machine Model: ; (2KV HBM / 200V MM)	(Test @ Rm/Hot)	4	5/ volt level		W/W17
CDM	E3	AEC-Q100-011	Electrostatic Discharge, Charged Device Model: ; (750V corner leads, 500V all other leads)	(Test @ Rm/Hot)	4	5/ volt level		W/W19
LU	E4	AEC-Q100-004	Latch-Up:	(Test @ Rm/Hot)	2	6		W/W17
ED	E5	AEC-Q100-009	Electrical Distributions:	(Test @ Rm/Hot)	4	30		W/W17
DPA	---	12MSB17722C	DeProcessing Analysis at Post 500 cyc TC+PC	N/A	4	5		W/W18
SAT	---	12MSB17722C	Scanning Acoustic Topography	pre and post MSL	4			W/W18

OSPI BOM for TSSOP-8L

Pkg Kit	N01588D006
LF	LF TSSOP 8L 3.048 X 2.286, NIPDAU PPF
Die Attach	SUMITOMO CRM-1076WB(CONDUCTIVE)
Mold Compound	Sumitomo G600
Wire	0.8 mil Au

A complete Qualification Report will be available upon request.

ELECTRICAL CHARACTERISTIC SUMMARY: N/A

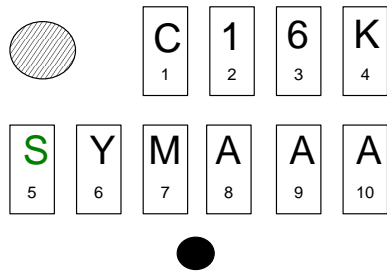
The device functionality and electrical characteristics are not affected. All DC and AC parameters will remain within the same specification.

CHANGED PART IDENTIFICATION:

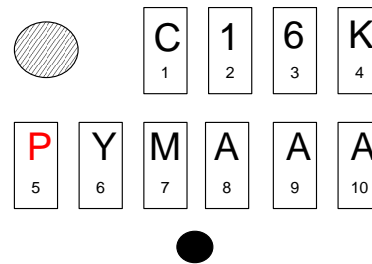
The OSPI manufacturing site is identified by letter “P” for the “Assembly Location Code”: first character, 2nd line of the top package marking.

Example:

CAV24C16YE-GT3 at STARS



CAV24C16YE-GT3 at OSPI



Line 1: C16K

Line 2: *YM AAA (*= assembly site code)

Y: Production Year (last digit)

M: Production Month: 1-9, (Jan-Sep) O,N,D (Oct-Dec)

AAA: last 3 char of assembly lot number

● : Pb-free microdot

List of Affected General Parts:

CAV24C02YE-GT3
CAV24C04YE-GT3
CAV24C08YE-GT3
CAV24C16YE-GT3
CAV24C32YE-GT3
CAV24C64YE-GT3
CAV25010YE-GT3
CAV25020YE-GT3
CAV25040YE-GT3
CAV25080YE-GT3
CAV25160YE-GT3
CAV25640YE-GT3