ON Semiconductor®

Initial Product/Process Change Notification

Document #:IPCN23609X
Issue Date:08 Oct 2020

Title of Change:	Second source site addition for CSP and FT for AR0330.
Proposed First Ship date:	31 Mar 2021 or earlier if approved by customer
Contact Information:	Contact your local ON Semiconductor Sales Office or Geethakrishnan.Narasimhan@onsemi.com
PCN Samples Contact:	Contact your local ON Semiconductor Sales Office or PCN.samples@onsemi.com Sample requests are to be submitted no later than 30 days from the date of first notification, Initial PCN or Final PCN, for this change. Samples delivery timing will be subject to request date, sample quantity and special customer packing/label requirements.
Type of Notification:	This is an Initial Product/Process Change Notification (IPCN) sent to customers. An IPCN is an advance notification about an upcoming change and contains general information regarding the change details and devices affected. It also contains the preliminary reliability qualification plan.The completed qualification and characterization data will be included in the Final Product/Process Change Notification (FPCN). This IPCN notification will be followed by a Final Product/Process Change Notification (FPCN) at least 90 days prior to implementation of the change. In case of questions, contact PCN.Support@onsemi.com
Marking of Parts/ Traceability of Change:	Date Code March 2021
Change Category:	Test Change, Assembly Change
Change Sub-Category(s):	Manufacturing Site Addition

Sites Affected:

ON Semiconductor Sites	**External Foundry/Subcon Sites**
None	Huatian Technology, China
	KYEC, Taiwan
	Xintec (ISBU)

Description and Purpose:

Xintec (China) is being added as a second source assembly site for chip scale package (CSP) and KYEC (Taiwan) as a second source final test site for AR0330. This qualification of second additional sites are being done to add capacity to current assembly and test site at Huatian (HTKS), China.

The proposed routes are summarized below.

Backend Manufacturing Sites	Current(route)	Proposed (route)
Chip Scale Package (CSP) + Final Test (FT)	Huatian (HTKS) + Huatian (HTKS)	Huatian (HTKS) + Huatian (HTKS)
		Huatian (HTKS) + KYEC
		Xintec + KYEC

The key differences in process and test platform are summarized below.

	Current (HTKS)	Proposed (Xintec)
Die Size	6.278x6.648um	6x6um
Cavity Wall Height	41+/-4um	45+/-5um
Epoxy Thickness	2.5+/-1um	1-2um
Epoxy Application	Roller	Screen

Silicon Thinning	130um	120um
RDL Thickness	6um	5um+/-15%
Ni-EN	5+/-1um	2.5+/-1um
Passivation Material	Solder Mask 13um	CVD Oxide 4um
Test Equipment	DoThinKey	IP750EX
Tester Handler	Chroma	Hontech
Test Site Count	12	8

There is no product marking change as a result of this change.

Qualification Plan:

QV DEVICE NAME: AR0330CS
PACKAGE : CSP

Test	Specification	Condition	Interval
HTOL	JESD22-A108	Ta= 105°C, 100 % max rated Vcc	504 hrs
PC	J-STD-020	30°C/60%RH for 96hrs + 3X IR Reflow @ 245C	-
TC	JESD22-A104	-55°C - 125°C	500 cycles
bHAST	JESD22-A118	110°C/85% RH with max rated Vcc	264 hrs
HTSL	JESD22-A103	Ta= 150°C	504 hrs
SD	J-STD-002	Solderability	-
SBS	AEC-Q100-010	Solder Ball Shear	-
PD	JESD22 B100,B108	Physical Dimension: Critical Cpk>1.33	-
HBM	JESD22-A114	Electrostatic Discharge, Human Body Model	HBM 2KV
CDM	JESD22-C101	Electrostatic Discharge, Charge Device Model:	CDM 500V
LU	JESD78	Latch-up	-
ED	AECQ100-009 AEC Q003	Electrical Distribution	-

Estimated date for qualification completion: **25 January 2021**

List of Affected Parts:

Note: *Only the standard (off the shelf) part numbers are listed in the parts list. Any custom parts affected by this PCN are shown in the customer specific PCN addendum in the PCN email notification, or on the* ***PCN Customized Portal.***

Part Number	Qualification Vehicle
AR0330CM1C00SHKA0-CP	AR0330CM1C00SHKA0-CP
AR0330CM1C00SHKA0-CR	AR0330CM1C00SHKA0-CP
AR0330CM1C12SHKA0-CP	AR0330CM1C00SHKA0-CP
AR0330CM1C12SHKA0-CR	AR0330CM1C00SHKA0-CP
AR0330CM1C21SHKA0-CP	AR0330CM1C00SHKA0-CP

AR0330CM1C21SHKA0-CR	AR0330CM1C00SHKA0-CP
AR0330CS1C12SPKA0-CP	AR0330CM1C00SHKA0-CP
AR0330CS1C12SPKA0-CP2	AR0330CM1C00SHKA0-CP
AR0330CS1C12SPKA0-CR	AR0330CM1C00SHKA0-CP
AR0330SR1C00SUKA0-CP	AR0330CM1C00SHKA0-CP
AR0330SR1C00SUKA0-CR	AR0330CM1C00SHKA0-CP