ON Semiconductor®

Final Product/Process Change Notification

Document # : FPCN21472X
Issue Date: 22 December 2016

Title of Change:	Pattern change to Die bond pad Top Metal for ACMOS2 Technology.
Proposed first ship date:	29 March 2017
Contact information:	Contact your local ON Semiconductor Sales Office or <alan.garlington@onsemi.com>
Samples:	Contact your local ON Semiconductor Sales Office
Additional Reliability Data:	Contact your local ON Semiconductor Sales Office or <tomas.vajter@onsemi.com>
Type of notification:	This is a Final Product/Process Change Notification (FPCN) sent to customers. FPCNs are issued 90 days prior to implementation of the change. ON Semiconductor will consider this change accepted, unless an inquiry is made in writing within 30 days of delivery of this notice. To do so, contact <PCN.Support@onsemi.com>.
Change Part Identification:	Parts with Date codes on or after ww50 – 2016 may utilize the new structure.
Change category:	☒ Wafer Fab Change ☐ Assembly Change ☐ Test Change ☐ Other _____

Change Sub-Category(s):

☐ Manufacturing Site Change/Addition
☐ Manufacturing Process Change
☐ Material Change
☐ Product specific change
☐ Datasheet/Product Doc change
☐ Shipping/Packaging/Marking
☒ Other: Die Pad Structure

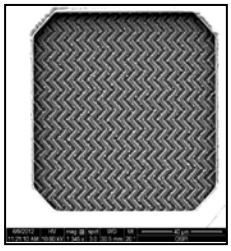
Sites Affected:

☐ All site(s) ☒ not applicable ☐ ON Semiconductor site(s) : ☐ External Foundry/Subcon site(s)

Description and Purpose:

The wafer pad structure will be modified to have a "Zig-zag" type of pattern. This is being done to improve the robustness of the metal adhesion to the Silicon and will enhance the wire bond adhesion to the metal surface. There is no change to the actual metallization on the top pads of the die. Only the appearance of the pad metal will appear different.

Appearance of New pad:



Additional devices which use the ACMOS2 technology will be converted to utilize this structure in the future. One or more FPCN's will be published as new families are qualified.

Customers may authorize earlier implementation of this change upon request.

Reliability Data Summary:

NCP605MN25T2G – 3 Qualification lots, MY1119961A; MY1122608A; MY1122608B

Test	Specification	Condition	Interval	Results
HTSL	JESD22-A103	Ta= 150°C	1008 hrs	0/252
TC	JESD22-A104	Ta= -65°C to +150°C	1000 cyc	0/252
SAT (MSL1)	Scanning Acoustical Tomography	No Delamination pre and post testing	3 Lots	Pass
BPS	Bond Pull Strength MILSTD883 Mthd 2011	Pre Temp Cycle	2 Lots	4.66/3.77
BPS	Bond Pull Strength MILSTD883 Mthd 2011	Post TC 500 Hrs	3 Lots	2.30/3.22/4.22
BS	Bond Shear	Min Cpk = 1.33	2 Lots	2.05/3.77

Electrical Characteristic Summary:

There is no change to the electrical characteristics of the devices. All data sheet functionality and parameters remain exactly the same.

List of affected Standard Parts:

Part Number	Qualification Vehicle
NCP600MN130R2G	NCP605MN25T2G
NCP600SN130T1G	
NCP600SN150T1G	
NCP600SN180T1G	
NCP600SN250T1G	
NCP600SN280T1G	
NCP600SN300T1G	
NCP600SN330T1G	
NCP600SN350T1G	
NCP600SN500T1G	
NCP600SNADJT1G	
NCP605MN15T2G	
NCP605MN18T2G	
NCP605MN25T2G	
NCP605MN28T2G	
NCP605MN30T2G	
NCP605MN33T2G	
NCP605MN50T2G	
NCP605MNADJT2G	
NCP606MN15T2G	
NCP606MN18T2G	
NCP606MN25T2G	

Part Number	Qualification Vehicle
NCP606MN28T2G	NCP605MN25T2G
NCP606MN30T2G	
NCP606MN33T2G	
NCP606MN50T2G	
NCP606MNADJT2G	
NCP690MN15T2G	
NCP690MN18T2G	
NCP690MN25T2G	
NCP690MN33T2G	
NCP690MN50T2G	
NCP690MNADJT2G	
NCP691MN15T2G	
NCP691MN18T2G	
NCP691MN25T2G	
NCP691MN33T2G	
NCP691MN50T2G	
NCP691MNADJT2G	
NCP692MN15T2G	
NCP692MN18T2G	
NCP692MN25T2G	
NCP692MN33T2G	
NCP692MN50T2G	
NCP692MNADJT2G	