



Title of Change:	PQFN_56DC Metal Clip with Cu Gate Wire Conversion.	
Proposed first ship date:	14 May 2018	
Contact information:	Contact your local ON Semiconductor Sales Office	
Samples:	Samples should be available after completion of qualification. Contact your local ON Semiconductor Sales Office.	
Type of notification:	<p>This is an Initial Product/Process Change Notification (IPCN) sent to customers. IPCNs are issued at least 30 days prior to the issuance of the Final Change Notice (FPCN). 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.</p> <p>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>.</p>	
Change Part Identification:	Affected products will be identified with date code	
Change category:	<input type="checkbox"/> Wafer Fab Change <input checked="" type="checkbox"/> Assembly Change <input type="checkbox"/> Test Change <input type="checkbox"/> Other _____	
Change Sub-Category(s):	<input type="checkbox"/> Manufacturing Site Change/Addition <input checked="" type="checkbox"/> Material Change <input type="checkbox"/> Datasheet/Product Doc change <input checked="" type="checkbox"/> Manufacturing Process Change <input type="checkbox"/> Product specific change <input type="checkbox"/> Shipping/Packaging/Marking <input type="checkbox"/> Other: _____	
Sites Affected:	ON Semiconductor Sites: ON Cebu, Philippines	External Foundry/Subcon Sites: None

Description and Purpose:

Conversion of PQFN_56DC from using Pre-Molded Clip to Metal Clip with Cu Gate wire to improve Gate leadpost interconnection. The conversion will entail the following assembly process and package dimension changes:

1. Addition of Process steps, i.e., Die Top Print prior Clip bond, Flux Clean prior Wirebond, Wirebond for Gate wire, and Plasma Clean prior Mold.
2. Change in Clip bonding process technology from Pick and Place of Saw Singulated Pre-molded Clip to Pick and Place of Punch Singulated Metal Clip.
3. Reduction in overall package thickness from 0.95-1.05mm to 0.90-0.95mm due to use of single piece Metal Clip.

Material to be changed	Before Change Description	After Change Description
Clip frame/Heatslug	Pre-molded Clip (0.254mm thick) with solder-attached Heatslug (0.254mm thick)	Bare Metal Clip (0.508mm thick) with 2mil Cu Gate Wire
Die Solderable Top Metal (STM)	Both Gate and Source pads have TiNiAg STM	Only Source pad has TiNiAg STM. No TiNiAg STM on Gate pad for Cu wire bonding purposes
Leadframe	Leadframe without plating on Gate leadpost Die Attach Pad Dimensions: 4.2x3.5mm Source Leadpost Pad Dimensions: 2.87x0.7mm Gate Leadpost Pad Dimensions: 1.02x0.7mm	Leadframe with Spot Ag plating on Gate leadpost for Cu wire bonding purposes Die Attach Pad Dimensions: 3.916x3.38mm Source Leadpost Pad Dimensions: 3.64x0.7mm Gate Leadpost Pad Dimensions: 0.6x0.7mm



Qualification Plan:

QV DEVICE NAME: FDMS86101DC

FDMS86300DC

PACKAGE: PQFN56DC

Test	Specification	Condition	Interval	Results
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = <u>2</u> min	<u>15000</u> cyc	TBD
TC	JESD22-A104	Ta= - <u>65</u> °C to + <u>150</u> °C	<u>500</u> cyc	TBD
HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias	<u>96</u> hrs	TBD
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	<u>96</u> hrs	TBD
PC	J-STD-020 JESD-A113	MSL <u>1</u> @ <u>260</u> °C		

Estimated date for qualification completion: 10 March 2018

List of Affected Standard Parts:

Part Number	Qualification Vehicle
FDMS3006SDC	FDMS86300DC
FDMS3008SDC	
FDMS7650DC	
FDMS8320LDC	
FDMS8558SDC	
FDMS8570SDC	
FDMS86101DC	
FDMS86200DC	
FDMS86300DC	
FDMS86500DC	



Appendix A: Changed Products

Product	Customer Part Number	Qualification Vehicle
FDMS3006SDC		FDMS86300DC
FDMS3008SDC		FDMS86300DC
FDMS7650DC		FDMS86300DC
FDMS8320LDC		FDMS86300DC
FDMS8558SDC		FDMS86300DC
FDMS8570SDC		FDMS86300DC
FDMS86101DC		FDMS86300DC
FDMS86200DC		FDMS86300DC
FDMS86300DC		FDMS86300DC
FDMS86500DC		FDMS86300DC