



<b>Title of Change:</b>	Cebu PQFN56W Dual Source at GEM	
<b>Proposed first ship date:</b>	28 June 2019	
<b>Contact information:</b>	Contact your local ON Semiconductor Sales Office or <Ramil.Nonato@onsemi.com>	
<b>Samples:</b>	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.	
<b>Additional Reliability Data:</b>	Contact your local ON Semiconductor Sales Office or <Karen.Taping@onsemi.com>	
<b>Type of notification:</b>	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>	
<b>Change Part Identification:</b>	Customer may receive the parts from ON Semiconductor Subcon which is GEM located in China from month of February 2019 onwards once FPCN expire. Parts from ON Semiconductor Subcon, GEM, China can be identified through product marking which follow ON Semiconductor marking format.	
<b>Change Category:</b>	<input type="checkbox"/> Wafer Fab Change <input checked="" type="checkbox"/> Assembly Change <input checked="" type="checkbox"/> Test Change <input type="checkbox"/> Other _____	
<b>Change Sub-Category(s):</b>	<input checked="" type="checkbox"/> Manufacturing Site Addition <input type="checkbox"/> Material Change <input type="checkbox"/> Datasheet/Product Doc change <input type="checkbox"/> Manufacturing Site Transfer <input type="checkbox"/> Product specific change <input checked="" type="checkbox"/> Shipping/Packaging/Marking <input type="checkbox"/> Manufacturing Process Change <input type="checkbox"/> Other: _____	
<b>Sites Affected:</b>	ON Semiconductor Sites: None	External Foundry/Subcon Sites: GEM Shanghai, China
<b>Description and Purpose:</b>		
<p>ON Semiconductor Cebu, Philippines former Fairchild Semiconductor in Cebu, Philippines, has qualified GEM Shanghai as an alternate assembly and test site for Power 56 package. GEM Shanghai is a certified with ISO/TS 16949:2009 and is currently running mass production for PQFN 56 Wired Package. This package was previously qualified at GEM Shanghai, China by Fairchild in 2009 (PCN#: Q2102401).</p> <p>The new PCN is an addition to the list from the previous PCN#:P286A. Affected products may also be manufactured using Power 56 package at GEM Shanghai, China as these products is qualified by similarity and qualified by extension. There is no change to the form, fit and function of the devices to be produced at GEM as dual sourcing site. The Quality and reliability will remain at the highest standards already demonstrated with the existing products.</p> <p>Marking date code &amp; Tape/Reel &amp; Label follow with ON Semiconductor standard format. These products will continue being Pb-free, Halide free and RoHS compliant. Qualification tests are designed to show that the reliability of the impacted devices will continue to meet or exceed ON Semiconductor standards.</p>		
	<b>ON Semiconductor - Cebu</b>	<b>GEM, China</b>
Assembly Site	OSPI CEBU	OSPI CEBU & Subcon GEM



**Reliability Data Summary:**

**QV NAME: FDMS4435BZ**

**RMS: F46228**

**PACKAGE: PQFN8 CU SNGL HPBF**

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Ta=150°C, 80% max rated V	1008 hrs	0/77
HTGB	JESD22-A108	Ta=150°C, 100% max rated Vgss	1008 hrs	0/77
HTSL	JESD22-A103	Ta=150°C	1008 hrs	0/77
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15000 cyc	0/77
TC	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/77
HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias	192 hrs	0/77
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/77
PC	J-STD-020 JESD-A113	MSL 1 @ 260°C		0/308
RSH	JESD22- B106	Ta = 265C, 10 sec		0/30
SD	JSTD002	Ta = 245C, 10 sec		0/22
CDPA	MILSTD750 Method 2037	Wire Pull after TC1000 cycles	-	0/5
CDPA	MILSTD750 Method 2037	Wire Pull after HTSL 1008hrs	-	0/5
DPA	AEC Q101-004 Section 4	Destructive Physical Analysis after TC1000 cycles	-	0/2
DPA	AEC Q101-004 Section 4	Destructive Physical Analysis after HAST96 hrs	-	0/2

**QV DEVICE NAME: FDMS7678**

**RMS: F46230**

**PACKAGE: PQFN8 CU SNGL HPBF**

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Ta=150°C, 80% max rated V	1008 hrs	0/77
HTGB	JESD22-A108	Ta=150°C, 100% max rated Vgss	1008 hrs	0/77
HTSL	JESD22-A103	Ta=150°C	1008 hrs	0/77
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15000 cyc	0/77
TC	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/77
HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias	192 hrs	0/77
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/77
PC	J-STD-020 JESD-A113	MSL 1 @ 260°C		0/308
RSH	JESD22- B106	Ta = 265C, 10 sec		0/30
SD	JSTD002	Ta = 245C, 10 sec		0/22
CDPA	MILSTD750 Method 2037	Wire Pull after TC1000 cycles	-	0/5
CDPA	MILSTD750 Method 2037	Wire Pull after HTSL 1008hrs	-	0/5
DPA	AEC Q101-004 Section 4	Destructive Physical Analysis after TC1000 cycles	-	0/2
DPA	AEC Q101-004 Section 4	Destructive Physical Analysis after HAST96 hrs	-	0/2



**QV DEVICE NAME: FDMS86182**  
**RMS: F47202**  
**PACKAGE: PQFN8 ALCU SNGL HPBF**

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Ta=150°C, 80% max rated V	1008 hrs	0/77
HTGB	JESD22-A108	Ta=150°C, 100% max rated Vgss	1008 hrs	0/77
HTSL	JESD22-A103	Ta=150°C	1008 hrs	0/77
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15000 cyc	0/77
TC	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/77
HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias	192 hrs	0/77
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/77
PC	J-STD-020 JESD-A113	MSL 1 @ 260°C		0/308
RSH	JESD22- B106	Ta = 265C, 10 sec		0/30
SD	JSTD002	Ta = 245C, 10 sec		0/22
CDPA	MILSTD750 Method 2037	Wire Pull after TC1000 cycles	-	0/5
CDPA	MILSTD750 Method 2037	Wire Pull after HTSL 1008hrs	-	0/5
DPA	AEC Q101-004 Section 4	Destructive Physical Analysis after TC1000 cycles	-	0/2
DPA	AEC Q101-004 Section 4	Destructive Physical Analysis after HAST96 hrs	-	0/2

**QV DEVICE NAME: FDMS86520L**  
**RMS: F47199**  
**PACKAGE: PQFN8 CU SNGL HPBF**

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Ta=150°C, 80% max rated V	1008 hrs	0/77
HTGB	JESD22-A108	Ta=150°C, 100% max rated Vgss	1008 hrs	0/77
HTSL	JESD22-A103	Ta=150°C	1008 hrs	0/77
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15000 cyc	0/77
TC	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/77
HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias	192 hrs	0/77
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/77
PC	J-STD-020 JESD-A113	MSL 1 @ 260°C		0/308
RSH	JESD22- B106	Ta = 265C, 10 sec		0/30
SD	JSTD002	Ta = 245C, 10 sec		0/22
CDPA	MILSTD750 Method 2037	Wire Pull after TC1000 cycles	-	0/5
CDPA	MILSTD750 Method 2037	Wire Pull after HTSL 1008hrs	-	0/5
DPA	AEC Q101-004 Section 4	Destructive Physical Analysis after TC1000 cycles	-	0/2
DPA	AEC Q101-004 Section 4	Destructive Physical Analysis after HAST96 hrs	-	0/2



**Electrical Characteristic Summary:**

The temperature characterization and ESD performance meet datasheet specification. Detail of Electrical characterization result is available upon request.

**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
FDMS4435BZ	FDMS4435BZ
FDMS7678	FDMS7678
FDMS8027S	FDMS7678
FDMS86102LZ	FDMS86102LZ
FDMS86182	FDMS86182
FDMS86183	FDMS86182
FDMS86320	FDMS86520L
FDMS86520L	FDMS86520L
FDMS8820	FDMS86320
NTMFS10N7D2C	FDMS86182

**Appendix A: Changed Products**

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Product	Customer Part Number	Qualification Vehicle
FDMS4435BZ		FDMS4435BZ
FDMS7678		FDMS7678
FDMS8027S		FDMS7678
FDMS86102LZ		FDMS86102LZ
FDMS86182		FDMS86182
FDMS86183		FDMS86182
FDMS86320		FDMS86520L
FDMS86520L		FDMS86520L
FDMS8820		FDMS86320
NTMFS10N7D2C		FDMS86182