



Title of Change:	Through Slot Wettable Flank Solution for PQFN56 Punch Automotive.
Proposed Changed Material First Ship Date:	16 April 2020
Current Material Last Order Date:	1 January 2020. Orders received after the Current Material Last Order Date expiration are to be considered as orders for new changed material as described in this PCN. Orders for current (unchanged) material after this date will be per mutual agreement and current material inventory availability.
Current Material Last Delivery Date:	15 July 2020 The Current Material Last Delivery Date may be subject to change based on build and depletion of the current (unchanged) material inventory.
Product Category:	Active components – Discrete components
Contact information:	Contact your local ON Semiconductor Sales Office or < Ailene.Gonzales@onsemi.com >
Samples:	Contact your local ON Semiconductor Sales Office to place sample order or < PCN.samples@onsemi.com > Sample requests are to be submitted no later than 45 days after publication of this change notification.
Sample Availability Date:	10 May 2019 Samples delivery timing will be subject to request date, sample quantity and special customer packing/label requirements.
PPAP Availability Date:	15 April 2019
Additional Reliability Data:	Contact your local ON Semiconductor Sales Office or < Aileen.Allado@onsemi.com >.
Type of Notification:	This is a Final Product/Process Change Notification (FPCN) sent to customers. FPCNs are issued 12 months prior to implementation of the change or earlier upon customer approval. ON Semiconductor will consider this proposed change and it's conditions acceptable, unless an inquiry is made in writing within 45 days of delivery of this notice. To do so, contact PCN.Support@onsemi.com .
Change Category	Type of Change
Process – Assembly	Change in leadframe dimensions
Process – Assembly	Change of direct material supplier
Process – Assembly	Change of specified assembly process sequence (deletion and/or additional process step)

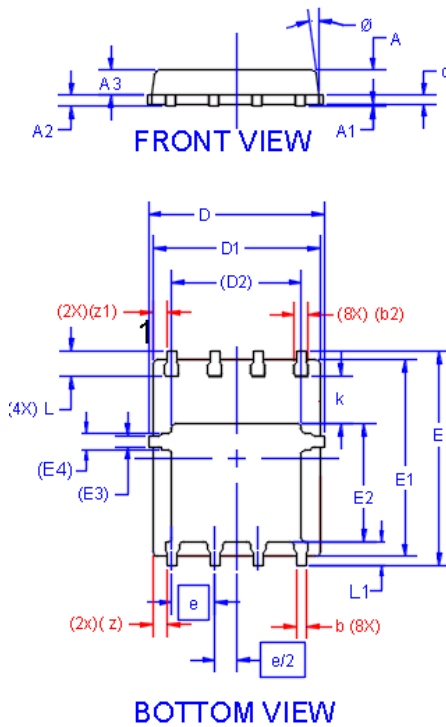
Description and Purpose:

	Before Change Description	After Change Description
LeadFrame	Stamped Leadframe	Etched Leadframe (wider lead width with added through hole on leads to create 100% lead thickness Wettable flank)
LeadFrame Supplier	Possehl Malaysia	QPL
Process	With Laser Grooving Process after Post Mold Cure.	Without laser grooving process.

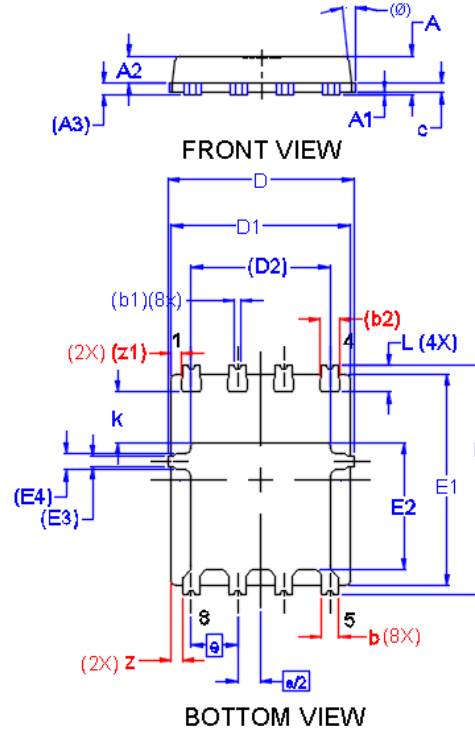


Case outline dimensions that is affected by the change is high lighted in Red color:

Current



Improved



DIM	CURRENT PQFN56 AUTO			IMPROVED PQFN56 AUTO		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.90	1.00	1.10	0.90	1.00	1.10
A1	0.00	0.025	0.05	0.00	-	0.05
A2	0.65	0.75	0.85	0.65	0.75	0.85
A3	0.30 REF			0.30 REF		
b	0.21	0.31	0.41	0.44	0.49	0.54
b1	no notch on lead tip			0.13	0.18	0.23
b2	0.31	0.41	0.51	(0.54)		
D	4.90	5.00	5.10	4.90	5.00	5.10
D1	4.80	4.90	5.00	4.80	4.90	5.00
D2	3.72	3.82	3.92	3.72	3.82	3.92
E	6.20	6.30	6.40	6.20	6.30	6.40
E1	5.70	5.80	5.90	5.70	5.80	5.90
E2	3.38	3.48	3.58	3.38	3.48	3.58
E3	0.30 REF			0.30 REF		
E4	0.45 REF			0.45 REF		
e	1.27 BSC			1.27 BSC		
e/2	0.635 BSC			0.635 BSC		
k	1.30	1.40	1.50	1.30	1.40	1.50
L	0.64	0.74	0.84	0.64	0.74	0.84
z	0.29	0.39	0.49	0.25	0.3	0.35
z1	(0.39)			(0.28)		
theta	0°	---	12°	0°	---	12°

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



Reason / Motivation for Change:	Improve quality of current wettable flank solution through: <ul style="list-style-type: none"> - Package wider lead width with added through hole on leads to create 100% lead thickness Wettable flank on lead tip needed during unit board mount. - None. Customer can still use the existing product. - This change will improve the wettable flank Solderability area for Boardmounting from 50-70% to 100%. 	
Anticipated impact on fit, form, function, reliability, product safety or manufacturability	The device has been qualified and validated based on the same Product Specification. The device has successfully passed the qualification tests. Potential impacts can be identified, but due to testing performed by ON Semiconductor in relation to the PCN, associated risks are verified and excluded. No anticipated impacts.	
Sites Affected:	ON Semiconductor Sites: ON Cebu, Philippines	External Foundry/Subcon Sites: None
Marking of Parts/ Traceability of Change:	Affected products will be identified with date code	

Reliability Data Summary:

QV DEVICE NAME : FDWS86368-F085

RMS: F54231

PACKAGE: NMOS PWR56 80V 4.5

mOhm

Test	Specification	Condition	Interval	Results
Board-mounted TC	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/160
TC	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/160
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/160
RSH	JESD22-B106	Ta = 265C, 10 sec		0/160
PC	J-STD-020 JESD-A113	MSL 1 @ 260°C		0/320
SD	JSTD002	Ta = 245C, 10 sec		0/44

QV DEVICE NAME : FDWS9408-F085

RMS: F54480

PACKAGE: NMOS PWR56 40V 1.8

mOhm

Test	Specification	Condition	Interval	Results
Board-mounted TC	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/160
TC	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/160
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/160
RSH	JESD22-B106	Ta = 265C, 10 sec		0/160
PC	J-STD-020 JESD-A113	MSL 1 @ 260°C		0/320
SD	JSTD002	Ta = 245C, 10 sec		0/44



NOTE: AEC-1pager is attached.

To view attachments:

1. Download pdf copy of the PCN to your computer
2. Open the downloaded pdf copy of the PCN
3. Click on the paper clip icon available on the menu provided in the left/bottom portion of the screen to reveal the Attachment field
4. Then click on the attached file/s

Electrical Characteristic Summary:

Electrical characteristics are not impacted.

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](#).

Current Part Number	New Part Number	Qualification Vehicle
FDMS86368-F085	NA	FDWS86368-F085
FDMS86369-F085	NA	FDWS86368-F085
FDMS86380-F085	NA	FDWS86368-F085
FDMS86381-F085	NA	FDWS86368-F085
FDWS86068-F085	NA	FDWS86368-F085
FDWS86368-F085	NA	FDWS86368-F085
FDWS86369-F085	NA	FDWS86368-F085
FDWS86380-F085	NA	FDWS86368-F085
FDWS9508L-F085	NA	FDWS9408-F085
FDWS9509L-F085	NA	FDWS9408-F085
FDWS9510L-F085	NA	FDWS9408-F085
FDWS9511L-F085	NA	FDWS9408-F085
FDWS9520L-F085	NA	FDWS9408-F085

Appendix A: Changed Products

Product	Customer Part Number	New Part Number	Qualification Vehicle
FDMS86368-F085		NA	FDWS86368-F085
FDMS86369-F085		NA	FDWS86368-F085
FDMS86380-F085		NA	FDWS86368-F085
FDMS86381-F085		NA	FDWS86368-F085
FDWS86068-F085		NA	FDWS86368-F085
FDWS86368-F085		NA	FDWS86368-F085
FDWS86369-F085		NA	FDWS86368-F085
FDWS86380-F085		NA	FDWS86368-F085
FDWS9508L-F085		NA	FDWS9408_F085
FDWS9509L-F085		NA	FDWS9408_F085
FDWS9510L-F085		NA	FDWS9408_F085
FDWS9511L-F085		NA	FDWS9408_F085