Final Product/Process Change Notification

Document #:FPCN23658ZE
Issue Date:22 Oct 2021

Title of Change:	Wafer fab transfer to onsemi Gresham, Oregon USA from onsemi Fab2, Oudenaarde, Belgium related to Fab2 sale
Proposed Changed Material First Ship Date:	22 Apr 2022 or earlier if approved by customer
Current Material Last Order Date:	31 Jan 2022/PD24321Z *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:	21 Apr 2022 *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 – Integrated circuits
Contact information:	Contact your local onsemi Sales Office or Alicia.Tuckett@onsemi.com
PCN Samples Contact:	Contact your local onsemi 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. Samples delivery timing will be subject to request date, sample quantity and special customer packing/label requirements.
Sample Availability Date:	22 Oct 2021
PPAP Availability Date:	22 Oct 2021
Additional Reliability Data:	Contact your local onsemi Sales Office or Catherine.DeKeukeleire@onsemi.com
Type of Notification:	This is a Final Product/Process Change Notification (FPCN) sent to customers. The change will be implemented at 'Proposed Change Material First Ship Date' in compliance to J-STD-46 or ZVEI, or earlier upon customer approval, or per our signed agreements. onsemi 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

Category	Type of Change
Process - Wafer Production	Move of all or part of wafer fab to a different location/site/subcontractor, New wafer diameter
Equipment	Production from a new equipment/tool which uses the same basic technology (replacement equipment or extension of existing equipment pool) without change of process.
Data Sheet	Correction of data sheet / errata
Process - Assembly	Change of leadframe base material Critical Dimensions in Package Change of Product Marking

Description and Purpose:

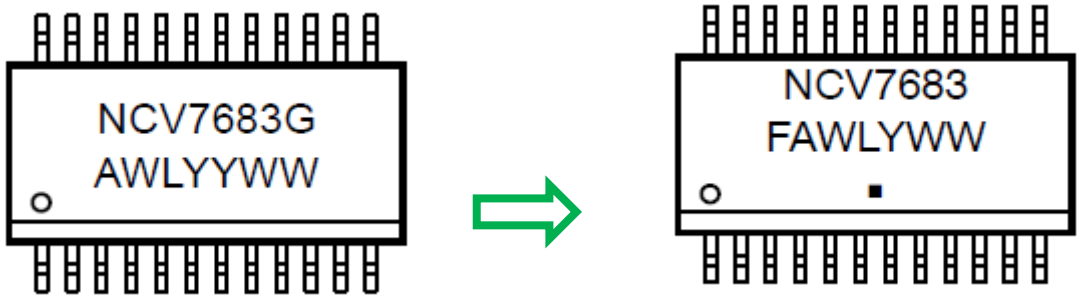
Wafer fab transfer to onsemi Gresham, Oregon USA from onsemi Fab2, Oudenaarde, Belgium related to Fab2 sale. We are moving from non roughened to roughened PPF leadframe and updated the Case Outline Drawing. Part marking and datasheet will also be updated.

	Before Change Description	After Change Description
Fab Site transfer	onsemi Fab2, Oudenaarde, Belgium 6inch	onsemi Gresham, Oregon USA 8inch
LeadFrame	N51512E706 (non roughened)	N51512E810 (roughened)
Case Outline Drawing	Case outline 940AP	Case outline 940AQ
Datasheet Updates	Current Datasheet (Rev.3)	Updated Datasheet Typo corrections and changes listed in this table. (Rev.4)
Part Marking	Without Fab Indicator	With Fab Indicator

NOTE: After the announcement on February 03rd, 2020 of the sale of Fab2, onsemi pursues the transfer of relevant products.
Before Last Order Date above: customers must provide Last-Time-Buy volume for products that will be transferred to manufacture the bridge-build quantity in the current facility (fab2) before the selling.
After the last order date above: the orders will be placed on the new part number (replacement part) or on the receiving fab (products with the same part number).
Last Delivery Date above: subject to a commercial agreement, onsemi may extend the deliveries outside the 06 months windows which is the proposed date of implementation in compliance to J-STD-46 or ZVEI, or earlier upon customer approval, or per our signed agreements but after depletion of inventory of the current material. However, such extended delivery conditions could be subject to an extension of the date code currently at 12 months.

Marking Diagram for NCV7683 datasheet

The PbFree marking sign is corrected to reflect actual production marking.



A	= Assembly Location
WL	= Wafer Lot
YY	= Year
WW	= Work Week
G	= Pb−Free Package

F	= Fab Indicator
A	= Assembly Location
WL	= Wafer Lot
YY	= Year
WW	= Work Week
▪	= Pb−Free Package

Pinout Diagram

Better graphical styling is reflected to the pinout diagram.

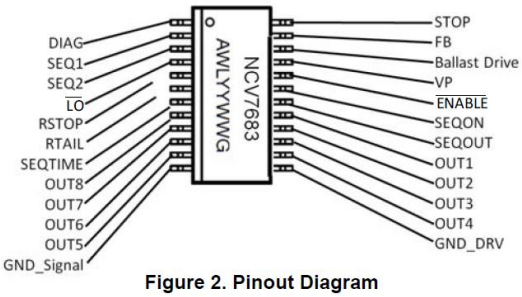


Figure 2. Pinout Diagram

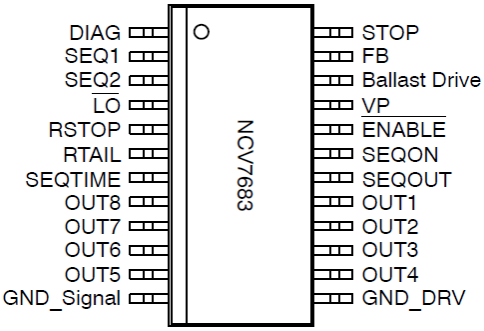


Figure 2. Pinout Diagram

Updating an External FET Ballast Transistor

The NTD2955 component is obsolete, the equivalent part SVD2955 is replaced in whole datasheet (Text + drawings)
The SVD2955 has the same performance as NTD2955.

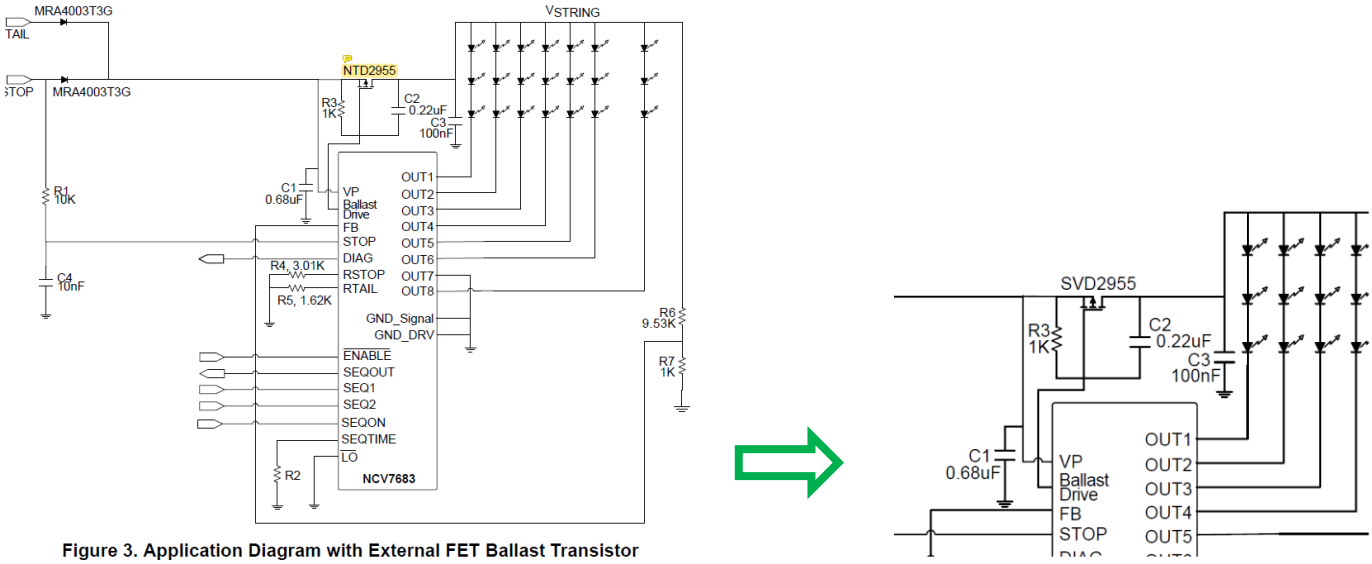


Figure 3. Application Diagram with External FET Ballast Transistor

Typo correction in Electrical Characteristics table

The Quiescent current has to be renamed as Supply current

Table 5. ELECTRICAL CHARACTERISTICS
(4.5 V < VP < 16 V, STOP = VP, RSTOP = 3.01 kΩ, RTAIL = 1.62 kΩ, RSEQTIME = 4.99 kΩ, −40°C ≤ T_J ≤ 150°C, unless otherwise specified.)

Characteristic	Conditions	Min	Typ	Max	Unit
GENERAL PARAMETERS					
Quiescent Current (IOUTx = 50 mA) STOP mode Tail mode Fault mode	 VP = 16 V VP = 16 V VP = 16 V, STOP = 0 V, OUTx = 0 mA, Disconnected output	 – – –	 6 5 –	 12 12 2.0	mA

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(4.5 V < VP < 16 V, STOP = VP, RSTOP = 3.01 kΩ, RTAIL = 1.62 kΩ, RSEQTIME = 4.99 kΩ, −40°C ≤ T_J ≤ 150°C, unless otherwise specified.)

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Typo correction in the Pin Function Description table

For FB pin, The „VP“ regulation is typo, there the V_{STRING} is correct

22	Ballast Drive	Gate drive for external power distribution PFET. Ground if not used.
23	FB	Feedback Sense node for ~~VP~~ regulation. Use feedback resistor divider or connect to GND.
24	STOP	Stop Logic Input. External Modulation Input when VP is high.

22	Ballast Drive	Gate drive for external power distribution PFET. Ground if not used.
23	FB	Feedback Sense node for V_{STRING} regulation. Use feedback resistor divider or connect to GND.
24	STOP	Stop Logic Input. External Modulation Input when VP is high.

Typo correction of the Driver Ground Pin number.

The Driver Ground pin GND_DRV is pin number 13 instead of pin number 12

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Driver Ground Pin Current (~~pin12~~)	IOUT1 to IOUT8 = 50 mA	–	400	500	mA

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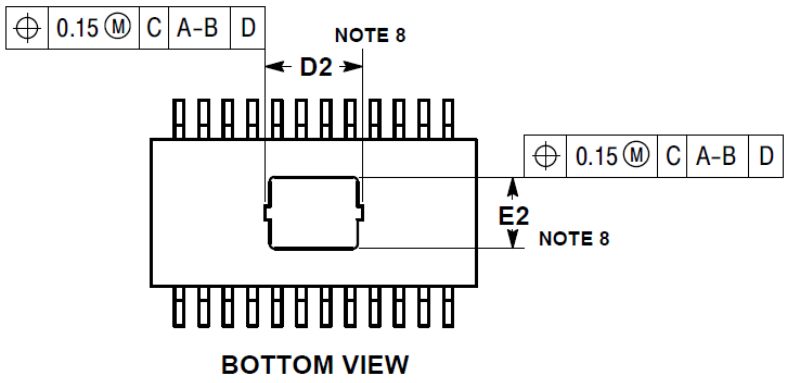
Driver Ground Pin Current (pin13)	IOUT1 to IOUT8 = 50 mA	–	400	500	mA

Package Dimension

The package outline is changed from CASE 940AP to CASE 940AQ.
The size of exposedpad D2, E2 and recommended soldering footprint is slightly increased

SSOP24 NB EP
CASE 940AP
ISSUE O

DIM	MILLIMETERS MIN	MAX
A	---	1.75
A1	0.00	0.10
A2	1.10	1.65
b	0.19	0.30
c	0.09	0.20
D	8.64 BSC	
D2	2.37	2.67
E	6.00 BSC	
E1	3.90 BSC	
E2	1.79	1.99
e	0.65 BSC	
h	0.25	0.50
L	0.40	0.85
L1	1.00 REF	
L2	0.25 BSC	
M	0°	8°



SSOP−24 EP
CASE 940AQ
ISSUE O

DIM	MILLIMETERS MIN	MAX
A	---	1.75
A1	0.00	0.10
A2	1.10	1.65
b	0.19	0.30
c	0.09	0.20
D	8.64 BSC	
D2	2.50	2.70
E	6.00 BSC	
E1	3.90 BSC	
E2	1.80	2.00
e	0.65 BSC	
h	0.25	0.50
L	0.40	0.85
L1	1.00 REF	
L2	0.25 BSC	
M	0°	8°

Reason / Motivation for Change:	Source/Supply/Capacity Changes
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 onsemi in relation to the PCN, associated risks are verified and excluded. No anticipated impacts.

Sites Affected:

onsemi Sites	**External Foundry/Subcon Sites**
onsemi Carmona, Philippines	None
onsemi, Gresham United States	

Marking of Parts/ Traceability of Change:	Traceability guaranteed by datecode

Reliability Data Summary:

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 Characteristics 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
NCV7683DQR2G	NA	0N683-602 (NCV7683DQR2G)