



Final Product/Process Change Notification

Document #:FPCN23824ZF

Issue Date:22 Jul 2022

Title of Change:	New Product NCV8856ADBR2G as Drop-In Replacement for NCV8851-1DBR2G
Proposed Changed Material First Ship Date:	22 Jan 2023 or earlier if approved by customer
Current Material Last Order Date:	26 Sep 2022 <i>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.</i>
Current Material Last Delivery Date:	21 Jan 2023 <i>The Current Material Last Delivery Date may be subject to change based on build and depletion of the current (unchanged) material inventory</i>
Product Category:	Active components – Integrated circuits
Contact information:	Contact your local onsemi Sales Office or Aaron.Zierenberg@onsemi.com
PCN Samples Contact:	Contact your local onsemi Sales Office to place sample order. 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:	08 Jul 2022
PPAP Availability Date:	10 Aug 2022
Additional Reliability Data:	Contact your local onsemi Sales Office or Peter.Turlo@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
Design	Design Change in Active Elements
Process - Wafer Production	Change in process technology (e. g. process changes like lithography, etch, oxide deposition, diffusion, die back surface preparation/backgrind, ...), 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	Change of datasheet parameters/electrical specification (min./max./typ. values) and/or AC/DC specification
Process - Assembly	Change of mold compound, Change of leadframe base material, Change of product marking
Description and Purpose:	
Change of wafer processing technology and package components for improved quality and device performance. Design changes as needed to support the new wafer technology. Old PS5B technology upgraded to more modern I3T50 wafer process. PS5B wafers technology is nearing end of life and cannot support future production needs. Package changes to improve delamination performance.	



Final Product/Process Change Notification

Document #:FPCN23824ZF

Issue Date:22 Jul 2022

	Before Change Description	After Change Description
OPN	NCV8851-1DBR2G	NCV8856ADB2G
Wafer Fab Site	onsemi, Oudenaarde, Belgium	onsemi, Gresham, Oregon, USA
Wafer Technology	P55B	I3T50
Wafer Size	150 mm	200 mm
Equipment	150 mm Production Line	200 mm Production Line
Mold Compound	G600	G700LS
Leadframe	Cu	Cu Roughened

	From	To
Product marking change	Line 1: V88 Line 2: 51-1 Line 3: Trace Code	Line 1: NCV88 Line 2: 56A Line 3: Trace Code

Reason / Motivation for Change:	Process/Materials Change	
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:	New OPN with updated package marking.	
Reliability Data Summary:		
<p>NOTE: AEC 1 Pager is attached.</p> <p>To view attachments:</p> <ol style="list-style-type: none"> 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. 		
Electrical Characteristics Summary:		
	NCV8851-1	NCV8856A
Trim Scheme	• Metal fuse trim for band gap and oscillator only	• Digital OTP controller for zener trim (band gap, oscillator and bias current)
Quality	• Distributed logic degraded digital fault coverage	• Stuck-at fault and IDDQ fault coverage • Loop back interconnect fault coverage • Power down test modes for improved IDDA coverage • Design for Manufacturability (redundant contacts and vias)
Functionality		• SYNCI improved for better EMI HF rejection • Gate Drivers less temperature dependent
Max Rating	• Operates through 40 V load dump	• Operates through 38 V load dump
Parametric	• Iq (sleep mode) = 1 uA max	• Iq (sleep mode) = 4.25 uA typ, 6.2 uA max (due to ESD)



Final Product/Process Change Notification

Document #:FPCN23824ZF

Issue Date:22 Jul 2022

Performance	<ul style="list-style-type: none"> • Iq2 (no switching) = 3.0 mA max • Iq3 (switching, no load) = 5.0 mA max 	structures on the I3T50 process) <ul style="list-style-type: none"> • Iq2 (no switching) = 4.24 mA max • Iq3 (switching, no load) = 5.30 mA max
Parametric Performance	<ul style="list-style-type: none"> • UVLO specified only for VIN_IC increasing 	<ul style="list-style-type: none"> • UVLO also specified for VIN_IC decreasing
Parametric Performance	<ul style="list-style-type: none"> • Single Average Current Limit range: 1.2 V ≤ CSN ≤ 10.0 V 	<ul style="list-style-type: none"> • Two Average Current Limit ranges: 1.2 V ≤ CSN ≤ 6.5 V and 6.5 V ≤ CSN ≤ 10.0 V
Parametric Performance	<ul style="list-style-type: none"> • 6.0 V LDO max dropout voltage = 200 mV 	<ul style="list-style-type: none"> • 6.0 V LDO max dropout voltage = 220 mV

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
NCV8851-1DBR2G	NCV8856ADBR2G	NCV8856ADBR2G

Appendix A: Changed Products

PCN#: FPCN23824ZF
Issue Date: Jul 22, 2022

Product	Customer Part Number	Qualification Vehicle	New Part Number	Replacement Supplier
NCV8851-1DBR2G		NCV8856ADBR2G	NCV8856ADBR2G	