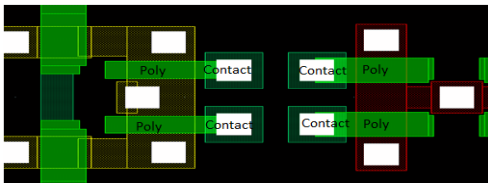


Title of Change:	AR0132 design revision (photomask) to improve quality performance.
Proposed Changed Material First Ship Date:	3 January 2020 or earlier upon customer approval.
Current Material Last Order Date:	30 June 2019 Orders received after the Current Material Last Order Date expiration are to 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:	14 November 2019 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 ON Semiconductor Sales Office or <Geethakrishnan.Narasimhan@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:	30 January 2019
PPAP Availability Date:	29 March 2019
Additional Reliability Data:	Contact your local ON Semiconductor Sales Office or <amy.wu@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
Design	Design Change in Active Elements
Process – Wafer Production	Process integrity: tuning within specification

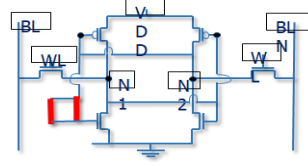
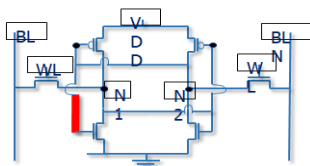
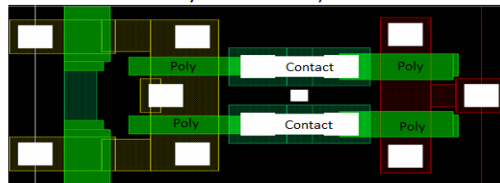
Description and Purpose:

AR0132 design is being revised to reduce incident rate i.e. failures at customer site and to improve quality performance. All changes are being done within current process and device technology limits to meet product datasheet specifications. No additional change is required in wafer manufacturing, backend assembly or test flow i.e. changes are fully compatible with current manufacturing flow. The incident rate reduction involves the following change: a) layout changes in SRAM cell to add a redundant contact (i.e. no change in routing). This change, in conjunction with the current probe flow, will enable the detection and screening of defects which can potentially fail during product lifetime.

Current (Connection only in Metal1)



Proposed (Connection in Metal1 + Redundant connections in Poly and Contact)



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



Reason / Motivation for Change:	- The change is being done in response to customer incidents reported in 2017 and is expected to reduce failures during product lifetime and hence lower defect ppm. - Risk for releasing the changes late would lead to the incident rate not meeting customer expectation.	
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. Electrical Distribution analysis also showed that the affected parts show no difference in performance to current design	
Sites Affected:	ON Semiconductor Sites: All Sites	External Foundry/Subcon Sites: None
Marking of Parts/ Traceability of Change:	Affected parts will be identified by date code.	

Reliability Data Summary:

Test	Specification	Condition	Interval	Results
HTOL	JESD22-A108	Ta= 105°C, 100 % max rated Vcc	1008 hrs	0/240
ELFR	AEC Q100-008	Ta=125°C, 100 % max rated Vcc	24 hrs	0/2400
PC	J-STD-020	30°C/60%RH for 192hrs + 3X IR Reflow	-	0/240
TC	JESD22-A104	-55°C - 125°C	1000 cycles	0/240
TEST	Test program to supplier datasheet or user specification	Pre- and Post-Stress Function/Parameter to meet datasheet or user specification	-	Pass
HBM	AEC-Q100-002	Electrostatic Discharge, Human Body Model/ Machine Model: (Test @ R/H)	HBM 2KV minimum	Pass
CDM	AEC-Q100-011	Electrostatic Discharge, Charge Device Model: (Test @ R/H)	750V for all pins	Pass
LU	AEC-Q100-004	Latch-up: (Test @R/H)	-	Pass
ED	AEC Q100-009	Electrical Distribution (Test @ C/R/H);	-	0/90

All tests for qualification of AR0132 design revision passed.

Note: AEC 1-pager 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:		
Current Part Number	New Part Number	Qualification Vehicle
AR0132AT6B00XPD20	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6B00XPW90	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPD20	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPEA0-CL-DPBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPEA0-CL-DRBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPEA0-CL-TPBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPEA0-CL-TRBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPEA0-DPBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPEA0-DRBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPEA0-DRBR1	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPEA0-RB-TPBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPEA0-TB-TPBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPEA0-TPBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPEA0-TRBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6G00XPEA0-AA-DPBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6G00XPEA0-AA-DRBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6M00XPD20	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6M00XPEA0-DPBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6M00XPEA0-DRBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6M00XPEA0-DRBR1	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6M00XPEA0-TPBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6R00XPD20	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6R00XPEA0-DPBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6R00XPEA0-DPBR1	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6R00XPEA0-DRBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6R00XPEA0-DRBR1	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6R00XPEA0-TB-TPBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6R00XPEA0-TPBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6R00XPEA0-TRBR	NA	AR0132AT6C00XPEA0-DRBR

Japanese translation of the notification starts here.
通知の日本語訳はここから始まります。

Note: The Japanese version is for reference only. In case of any differences between the English and Japanese version, the English version shall control.

注：日本語版は参照用です。英語版と日本語版の違いがある場合は、英語版が優先されます。

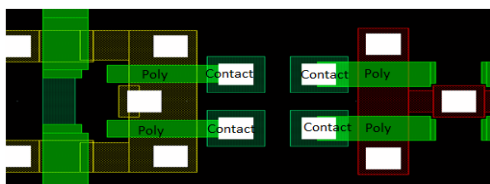


変更件名:	品質性能改善を目的とした AR0132 設計改訂 (フォトマスク)
変更後の材料の初回出荷予定日:	3 January 2020 (またはお客様からの承認が得られた場合はそれ以前)
現在の材料の最終注文日:	2019年6月30日 既存品の最終注文日以降の注文は、このPCNに記載されている変更後品の注文とみなされます。この日付より後の既存品(変更前品)の注文は、相互契約により変更前品の在庫状況に応じて履行されます。
現在の材料の最終出荷日:	2019年11月14日 既存品(変更前品)の最終出荷日は、変更前品の製造および在庫の状況によって変更されることがあります。
製品カテゴリ:	アクティブなコンポーネント - 集積回路
連絡先情報:	現地のオン・セミコンダクター営業所または <Geethakrishnan.Narasimhan@onsemi.com>までお問い合わせください。
サンプル:	現地のオン・セミコンダクター営業所に注文するか、または <PCN.samples@onsemi.com> にお問い合わせください。サンプルは、この変更通知の発行から 45 日以内に要求してください。
サンプル提供開始可能日:	30 January 2019
PPAP 提供開始日:	29 March 2019
その他の信頼性データ:	現地のオン・セミコンダクター営業所または <amy.wu@onsemi.com> までお問い合わせください。
通知種別:	これは、お客様宛の最終製品 / プロセス変更通知 (FPCN) です。FPCN は変更実施の 12 ヶ月前に発行されますが、お客様からの承認が得られた場合、変更は前倒して実施されることがあります。オン・セミコンダクターは、この通知の送付から 45 日以内に書面による問い合わせが行われな限り、この変更希望およびその条件が受諾されたものとみなします。お問い合わせは、PCN.Support@onsemi.com をお願いします。
変更カテゴリ	変更種別
設計	能動素子における設計変更
プロセス - ウェハ生産	プロセスの整合性: 仕様内の微調整

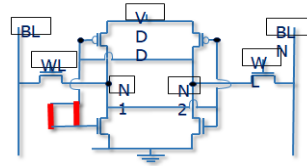
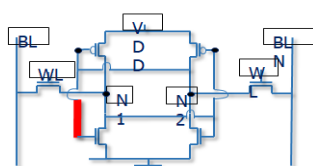
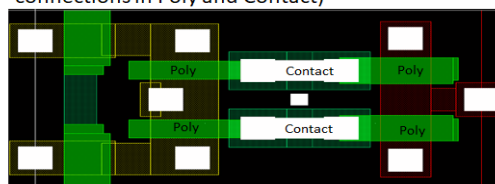
説明および目的:

AR0132 の設計は、顧客での不具合発生率を低減し品質性能を向上させるために改訂されます。全ての変更はデータシートの仕様に適合するよう、現行のプロセスおよびデバイステクノロジーの範囲内で実施されます。ウェハー製造、組立て、テスト工程における変更はありません。すなわち、変更は完全に現行の製造フローに適合しています。不具合発生率の低減は次の変更により行われます。a) 冗長なコンタクトの追加による SRAM セルのレイアウト変更(回路の変更はありません)。この変更は現行のプローブ工程における、製品寿命の間に不具合を引き起こす可能性のある欠陥の検出、選別を可能にします。

Current (Connection only in Metal1)



Proposed (Connection in Metal1 + Redundant connections in Poly and Contact)



今回の変更に伴う製品材料の変更はありません。

今回の変更に伴う製品捺印の変更はありません。



変更の理由 / 動機:	<p>- 本変更は 2017 年に報告された顧客での不具合に対応するために行うもので、製品寿命の間の不具合発生および欠陥率の低減が見込めます。</p> <p>- 変更実施の遅延は顧客の期待値に満たない不具合発生率が続くというリスクを伴います。</p>			
適合性、形状、機能、信頼性、製品安全性、または製造可能性に関して見込まれる影響	<p>デバイスは同じ製品仕様に基づいて認定および検証されています。デバイスは認定試験に正常に合格しています。潜在的な影響が確認される可能性があります、オン・セミコンダクターが PCN に関して実施する検査により、関連するリスクは検証および排除されます。</p> <p>電氣的分布解析でも、影響を受ける製品と現行品とでは性能に違いがないことが確認されています。</p>			
影響を受ける拠点:	オン・セミコンダクター拠点: 全拠点	外部製造工場 / 下請業者拠点: なし		
部品の表示 / 変更の追跡可能性:	影響を受ける部品は、日付コードによって識別されます。			
信頼性データの要約:				
テスト	仕様	条件	間隔	結果
HTOL	JESD22-A108	Ta= 105°C, 100 % max rated Vcc	1008 hrs	0/240
ELFR	AEC Q100-008	Ta=125°C, 100 % max rated Vcc	24 hrs	0/2400
PC	J-STD-020	30°C/60%RH for 192hrs + 3X IR Reflow	-	0/240
TC	JESD22-A104	-55°C - 125°C	1000 cycles	0/240
TEST	Test program to supplier datasheet or user specification	Pre- and Post-Stress Function/Parameter to meet datasheet or user specification	-	Pass
HBM	AEC-Q100-002	Electrostatic Discharge, Human Body Model/ Machine Model: (Test @ R/H)	HBM 2KV minimum	Pass
CDM	AEC-Q100-011	Electrostatic Discharge, Charge Device Model: (Test @ R/H)	750V for all pins	Pass
LU	AEC-Q100-004	Latch-up: (Test @R/H)	-	Pass
ED	AEC Q100-009	Electrical Distribution (Test @ C/R/H);	-	0/90
AR0132 の設計改訂については全ての認定試験の合格しています。				
注: AEC 1 ページャーを添付しています。				
電氣的特性の要約:				
電氣的特性への影響はありません。				



影響を受ける部品の一覧:

現在の部品番号	新部品番号	認定試験用ピークル
AR0132AT6B00XPD20	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6B00XPW90	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPD20	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPEA0-CL-DPBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPEA0-CL-DRBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPEA0-CL-TPBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPEA0-CL-TRBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPEA0-DPBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPEA0-DRBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPEA0-DRBR1	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPEA0-RB-TPBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPEA0-TB-TPBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPEA0-TPBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPEA0-TRBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6G00XPEA0-AA-DPBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6G00XPEA0-AA-DRBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6M00XPD20	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6M00XPEA0-DPBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6M00XPEA0-DRBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6M00XPEA0-DRBR1	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6M00XPEA0-TPBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6R00XPD20	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6R00XPEA0-DPBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6R00XPEA0-DPBR1	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6R00XPEA0-DRBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6R00XPEA0-DRBR1	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6R00XPEA0-TB-TPBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6R00XPEA0-TPBR	NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6R00XPEA0-TRBR	NA	AR0132AT6C00XPEA0-DRBR

Appendix A: Changed Products

D

Product	Customer Part Number	New Part Number	Qualification Vehicle
AR0132AT6C00XPEA0-DPBR		NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPEA0-DRBR		NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPEA0-DRBR1		NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPEA0-TPBR		NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6C00XPEA0-TRBR		NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6M00XPEA0-DPBR		NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6M00XPEA0-DRBR		NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6M00XPEA0-DRBR1		NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6M00XPEA0-TPBR		NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6R00XPEA0-DPBR		NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6R00XPEA0-DPBR1		NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6R00XPEA0-DRBR		NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6R00XPEA0-DRBR1		NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6R00XPEA0-TPBR		NA	AR0132AT6C00XPEA0-DRBR
AR0132AT6R00XPEA0-TRBR		NA	AR0132AT6C00XPEA0-DRBR