



## CUSTOMER INFORMATION NOTIFICATION

PCN:2024010031

**Issue Date:** 27/01/2024

**Effective Date:** 01/03/2024

## MANAGEMENT SUMMARY

Further clarification on the implementation of the communicated change of the diebond process for the LDMOS die from AuSn to Ag Sinter.

## CHANGE CATEGORY

- [X] Assembly Process
- [X] Assembly Materials

## INFORMATION ON IMPLEMENTATION OF SILVER SINTER IN ACP3

SEE BELOW

## INFORMATION NOTIFICATION

As communicated in the preceding PCN (202307002F01) for the changing the diebond process in ACP3 for the LDMOS die from AuSn to Ag Sinter, the old die stocks will be depleted. For a limited number of products, depending on the depletion rate of the main and the peak die, an intermediate or hybrid process will be used in which AuSn die bond will be used for one section and Ag Sinter die bond for the other. Both processes are qualified and so is the combination of both in one product.

## WHY DO WE ISSUE THIS INFORMATION NOTIFICATION

## IDENTIFICATION OF AFFECTED PRODUCTS

Product identification does not change

## IMPACT

No impact on electrical performance of product

## DATA SHEET REVISION

No impact to existing datasheet

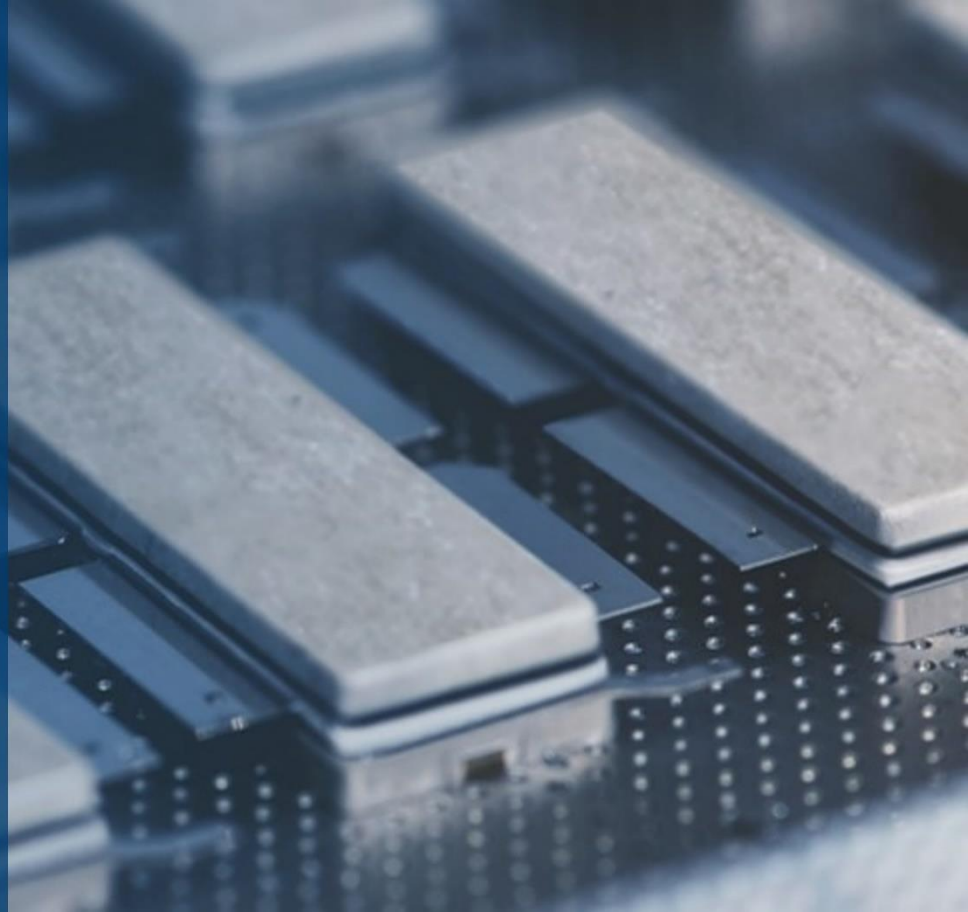
## DISPOSITION OF OLD PRODUCTS

Existing inventory will be shipped until depleted.

# ACP3 Ag Sinter implementation

Depletion of AuSn die stock

16-Jan-2024



# Change

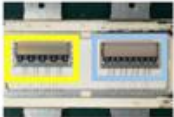


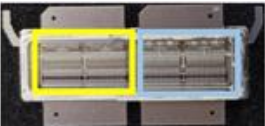


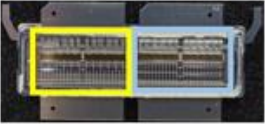


From	Via	To	Rationale
AuSn die bond for the LDMOS die (both section A & B)	AuSn die bond for one section and Ag Sinter die bond for the other section	Ag Sinter die bond for the LDMOS die (both section A & B)	- The <i>hybrid</i> die attach will be used for a limited number of products in order to deplete and level the AuSn die stocks and secure supply.

- This document shows the reliability tests that were performed to assess identified risks for using AuSn die bond and Ag Sinter die bond in one product, including the results.
- All tests pass the requirements.
- The products for which this intermediate step will be used are not known yet. This will depend on the stocks, orders for different products and depletion of the die stocks of different die types.



# Content

This report describes the qualification results for the release of the *hybrid* die attach technology in ACP3 package; AuSn for section A and Ag sinter for section B.

This qualification uses the three devices below as carriers and will cover all products in the ACP3 platform (see CIN form).

Device	Package	Die Sizes ( $\mu\text{m}$ )	Optical Photo	SCAT	X-ray
BLC9H10XS-505A	SOT1273-1 4L	6.0x2.76x0.05			
		6.0x2.96x0.05			
BLC10G27XS-551AVT	SOT1258-4 6L	6.0x2.25x0.05			
		6.0x2.25x0.05			
BLC10G22XS-400AVT	SOT1258-4 6L	6.0x1.45x0.05			
		6.0x1.45x0.05			

Legend:

-  Side A \_ AuSn DA
-  Side B \_ Ag Sinter DA

All qualification lots met the DC and RF product performance requirement (DSA).

# Table 1. Qualification Plan and Reliability Test Results:

Test	Conditions	Requirement	Sample Size (Qty x Lot per test carrier)	Test Carrier/s	RESULTS
TMCL	-65°C/+150°C w/ MSL3Acc +3x reflow 245C	1000 cycles	77x1x3	BLC9H10XS-505A; BLC10G27XS-551AVT; BLC10G22XS-400AVT	PASS @ 1000 cycles
TMCL	-65°C/+175°C w/ MSL3Acc +3x reflow 245C	for info only	77x1x3	BLC9H10XS-505A; BLC10G27XS-551AVT; BLC10G22XS-400AVT	PASS @ 1000 cycles
UHASt	130°C/85% w/ MSL3+3x reflow 245C	96 hours	77x1x3	BLC9H10XS-505A; BLC10G27XS-551AVT; BLC10G22XS-400AVT	PASS @ 192 hours
HTSL	175°C	1008 hours	77x1x3	BLC9H10XS-505A; BLC10G27XS-551AVT; BLC10G22XS-400AVT	PASS @ 1008 hours
Construction Analysis	(see report)	0-hr	30X1x3	BLC9H10XS-505A; BLC10G27XS-551AVT; BLC10G22XS-400AVT	PASS Covers Solderability Test, Lead Integrity Test (Lead Pull/Lead Bend), Die bond process workmanship (SCAT/XRAY, Bondline thickness check, D/A delam/void check, fillet ht check), Wirebond process workmanship data (wirelooping, wirepull test, SEM of bonding area )

## CONTACT AND SUPPORT

For all inquiries regarding the ePCN tool application or access issues, please contact [Ampleon "Quality Support Team"](#).  
For all Quality Notification content inquiries, please contact your local Ampleon Sales Support team.

At Ampleon we are dedicated to creating optimal value for our customers.  
Ampleon Quality Management Team.

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Created in 2015, Ampleon is shaped by 50 years of RF power leadership and is set to exploit the full potential of data and energy transfer in RF. Ampleon has more than 1,250 employees worldwide, dedicated to creating optimal value for customers. Its innovative, yet consistent portfolio offers products and solutions for a wide range of applications, such as cellular base stations, radio/TV/broadcasting, radar, air traffic control, cooking, lighting, industrial lasers and medical. For details on the leading global partner in RF Power, visit [www.ampleon.com](http://www.ampleon.com).