

PRODUCT/PROCESS CHANGE NOTICE (PCN)

PCN #: W1911-01(R1) DATE: 27-May-2020 Product Affected: F1431BNBGK, F1431BNBGK8 Date Effective: 19-Mar-2020	MEANS OF DISTINGUISHING CHANGED DEVICES: <input type="checkbox"/> Product Mark <input type="checkbox"/> Back Mark <input checked="" type="checkbox"/> Date Code Datecode 2018 and above <input type="checkbox"/> Other
Contact: PCN DESK Attachment: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
E-mail: idt-pcn@lm.renesas.com Samples: N/A	

DESCRIPTION AND PURPOSE OF CHANGE:

- ☐ Die Technology
- ☒ Wafer Fabrication Process
- ☐ Assembly Process
- ☐ Equipment
- ☐ Material
- ☐ Testing
- ☐ Manufacturing Site
- ☐ Data Sheet
- ☐ Other

Revision 1: This revised notice is to change the part number from F1431NBGK(8) to F1431BNBGK(8) at the request of the customer. The effective date remains unchanged.

The notification is to advise our customers that the MIM capacitor architecture has been re-designed by the foundry WaveTek to improve device robustness. This change is to address the CGR (Capacitive Guard Ring) MIMCAP design that is susceptible to peeling of nitride layer between metal layers.

	Current	New
MIMCAP Architecture	CGR	TPM

RELIABILITY/QUALIFICATION SUMMARY:

There is no expected change to the product quality or reliability performance.

CUSTOMER ACKNOWLEDGMENT OF RECEIPT:

IDT records indicate that you require written notification of this change. Please use the acknowledgement below or E-Mail to grant approval or request additional information. If IDT does not receive acknowledgement within 30 days of this notice it will be assumed that this change is acceptable.

IDT reserves the right to ship either version manufactured after the process change effective date until the inventory on the earlier version has been depleted.

Customer: _____ ☐ ***Approval for shipments prior to effective date.***

Name/Date: _____ E-Mail Address: _____

Title: _____ Phone# /Fax# : _____

CUSTOMER COMMENTS: _____

IDT ACKNOWLEDGMENT OF RECEIPT:

RECD. BY: _____ DATE: _____

Product Qualification Report (Re-Spin)

Date: 11/19/2019

Product:	F1431ZJNBGK			
Fab Base:	GRF2014B C2018	Process Technology:	ED25_5V GaAs E/D-HEMT	
Package Type:	NBG24	Fab Location:	WaveTek	
Assembly Location:	Carsem	Qual Plan#:	Q19-11-005	

Test Description	Conditions	Sample Size	Results (rej/SS)	Comments
Early Life Failure Rate	JESD22-A108, Ta 97°C, 5.0V, 48 hrs	320	0/320	Pass
ESD: Human Body Model	JESD22-A114 (JS-001) Classification ±2000V	3	0/3	Pass
ESD: Charged Device Model	JESD22-C101 Classification ±500V	3	0/3	Pass
Latch-Up	JESD78, T _A at 85°C	6	0/6	Pass
Electrical Characterization	Datasheet	3	Results reported in Datasheet	Complete

Package Qual				
Temperature Cycling ¹	JESD22-A104, -55°C to +125°C, 700 cycles	25	0/25, x3 lots	Pass
Highly Accelerated Temperature and Humidity stress (Biased) ¹	JESD22-A110, +130°C, 85% RH, V _{CCmax} , 96 hrs	25	0/25, x3 lots	Pass
High Temperature Storage Life ¹	JESD22-A103, +150°C, 1000 hrs	25	0/25, x3 lots	Pass
Bond Pull Strength	M2011	5	0/5, x3 lots	Pass
Bond Shear	JESD22-B116	5	0/5, x3 lots	Pass
Physical Dimension	JESD22-B100 (Per applicable IDT Package Outline Drawing)	30	0/30, x3 lots	Pass
Solderability Test	MIL-STD-883 (Method 2003), J-STD-002D	5	0/5, x3 lots	Pass

Note:

1. Preconditioning per JESD22-A113, MSL 1 (260°C)