

Final Product Change Notification

201803002F01

Issue Date: 09-Jun-2018
Effective Date: 16-Sep-2018

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 For detailed information we invite you to view this notification online



Change Category

- | | | | | |
|---|--|--|---|---|
| <input checked="" type="checkbox"/> Wafer Fab Process | <input type="checkbox"/> Assembly Process | <input type="checkbox"/> Product Marking | <input type="checkbox"/> Test Location | <input type="checkbox"/> Design |
| <input checked="" type="checkbox"/> Wafer Fab Materials | <input checked="" type="checkbox"/> Assembly Materials | <input type="checkbox"/> Mechanical Specification | <input type="checkbox"/> Test Process | <input type="checkbox"/> Errata |
| <input type="checkbox"/> Wafer Fab Location | <input type="checkbox"/> Assembly Location | <input type="checkbox"/> Packing/Shipping/Labeling | <input type="checkbox"/> Test Equipment | <input type="checkbox"/> Electrical spec./Test coverage |

Release of 8 inch wafer diameter for resistor-equipped Transistors (RET)

Details of this Change

Release of production using 8 inch wafer diameter, 2nd source epitaxy, new doping material for the poly silicon resistors and increased top side metallization thickness for resistor-equipped Transistors (RET) in SOT23 and SOT323 packages.

For some affected products the 8 inch conversion is combined with the introduction of die pitch size change, copper wire bonding and a new lead frame design.

- (1) Release of production using 8 inch wafer diameter for all product types.
- (2) 2nd source epitaxy supplier for all product types.
- (3) New doping material for the poly silicon resistors for all product types.
- (4) The thickness of the top metallization will be adapted for all product types from 1.4 µm to 1.5 µm or to 2.2 µm.
- (5) A few product types will be changed to a smaller die pitch size (330 µm x 330 µm instead of 350 µm x 330 µm).
- (6) For some product types the bond wire material will be changed from gold (Au) to copper (Cu).
- (7) For some product types in SOT323 package introduction of R1 lead frame with optimized die pad size.

Old Products:

- 6 inch wafer diameter (inhouse epitaxy)
- current doping material for the poly silicon resistors
- 1.4 μm top metallization thickness
- 350 μm x 330 μm die pitch size (where affected)
- Au wire (where affected)
- Q1 lead frame design (SOT323 package)

Changed Products:

- 6 inch (inhouse epitaxy) or 8 inch (inhouse or external epitaxy) wafer diameter
- old doping material (6 inch) or new doping material (8 inch) for the poly silicon resistors
- 1.4 μm (6 inch) or 1.5 μm resp. 2.2 μm (8 inch) top metallization thickness
- 350 μm x 330 μm (6 inch) or 330 μm x 330 μm (8 inch) die pitch size (where affected)
- Cu wire, Au wire remains qualified for supply security reasons only
- R1 lead frame design (SOT323 package where affected)

Production on 8 inch wafer diameter implies the use of the respective 8 inch wafer process technology.

Why do we Implement this Change

- (1) To increase flexibility and volume ramp-up.
- (2) To increase flexibility, volume ramp-up and reduced supply chain risk.
- (3) Improved resistance linearity.
- (4) Align to 8 inch wafer diameter process and to increase process robustness.
- (5) Volume ramp-up, increase of wafer fab capacity and flexibility.
- (6) Aligning with world technology standards, Nexperia continues to introduce copper wire for plastic SMD packages. Copper wire shows enhanced mechanical properties.
- (7) This change will reduce the probability of sagging wire issue, for quality improvement reasons.

Identification of Affected Products

The 8 inch products can be identified by a marker on the die surface.

R1 lead frame can be identified by inner lead frame design.

Changed products can be identified by date code after implementation.

Product Availability

Sample Information

Samples are available upon request

Latest sample request date for PCN samples is 04-July-2018.

Production

Planned first shipment 01-Oct-2018

Impact

No impact to the products' functionality anticipated.

Disposition of Old Products

Existing inventory will be shipped until depleted

Supply using 6 inch wafer will be continued in parallel to 8 inch wafer production.

Related Notifications

Notification	Issue Date	Effective Date	Title
201712005F01	30-Apr-2018	29-Jul-2018	Change of lead frame version in SOT323 package

Timing and Logistics

Your acknowledgement of this change, conform JEDEC J-STD-046, is expected till 09-Jul-2018. Lack of acknowledgement of the PCN constitutes acceptance of the change.

Contact and Support

For all inquiries regarding the ePCN tool application or access issues, please contact Nexperia "Global

Quality Support Team".

For all Quality Notification content inquiries, please contact your local Nexperia Sales Support team.

For specific questions on this notice or the products affected please contact our specialist directly:

e-mail address discrqa.helpdesk.ga-products@nexperia.com

At Nexperia B.V. we are constantly striving to improve our product and processes to ensure they reach the highest possible Quality Standards.

About Nexperia B.V.

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Changed Orderable Part#	Customer Part#	Changed Part 12NC	Changed Part Number	Changed Part Description	Package Outline	Package Name	Status	Product Line
PDTC143ET,215	PDTC143ET,215	934030990215	PDTC143ET	RET	SOT23	TO-236AB	RFS	Bipolar Discretes
PDTB123YT,215	PDTB123YT,215	934058983215	PDTB123YT	RET	SOT23	TO-236AB	RFS	Bipolar Discretes
PDTC114ET,215	PDTC114ET,215	934031010215	PDTC114ET	RET	SOT23	TO-236AB	RFS	Bipolar Discretes
PDTC114ET,235	PDTC114ET,235	934031010235	PDTC114ET	RET	SOT23	TO-236AB	RFS	Bipolar Discretes
PDTC124ET,215	PDTC124ET,215	934031020215	PDTC124ET	RET	SOT23	TO-236AB	RFS	Bipolar Discretes
PDTC144ET,215	PDTC144ET,215	934031030215	PDTC144ET	RET	SOT23	TO-236AB	RFS	Bipolar Discretes
PDTD114ETR	PDTD114ETR	934031040215	PDTD114ET	RET	SOT23	TO-236AB	RFS	Bipolar Discretes
PDTA143ET,215	PDTA143ET,215	934031050215	PDTA143ET	RET	SOT23	TO-236AB	RFS	Bipolar Discretes
PDTA114ET,215	PDTA114ET,215	934031060215	PDTA114ET	RET	SOT23	TO-236AB	RFS	Bipolar Discretes
PDTA124ET,215	PDTA124ET,215	934031070215	PDTA124ET	RET	SOT23	TO-236AB	RFS	Bipolar Discretes
PDTA144ET,215	PDTA144ET,215	934031080215	PDTA144ET	RET	SOT23	TO-236AB	RFS	Bipolar Discretes
PDTA144ET,235	PDTA144ET,235	934031080235	PDTA144ET	RET	SOT23	TO-236AB	RFS	Bipolar Discretes
PDTA114EU,115	PDTA114EU,115	934043510115	PDTA114EU	RET	SOT323	SC-70	RFS	Bipolar Discretes
PDTC143EU,115	PDTC143EU,115	934044090115	PDTC143EU	RET	SOT323	SC-70	RFS	Bipolar Discretes
PDTC144EU,115	PDTC144EU,115	934044100115	PDTC144EU	RET	SOT323	SC-70	RFS	Bipolar Discretes
PDTA143EU,115	PDTA143EU,115	934044120115	PDTA143EU	RET	SOT323	SC-70	RFS	Bipolar Discretes
PDTA144EU,115	PDTA144EU,115	934044130115	PDTA144EU	RET	SOT323	SC-70	RFS	Bipolar Discretes
PDTC114EU,115	PDTC114EU,115	934044140115	PDTC114EU	RET	SOT323	SC-70	RFS	Bipolar Discretes
PDTC124EU,115	PDTC124EU,115	934044150115	PDTC124EU	RET	SOT323	SC-70	RFS	Bipolar Discretes
PDTC123JT,215	PDTC123JT,215	934054698215	PDTC123JT	RET	SOT23	TO-236AB	RFS	Bipolar Discretes
PDTC123JT,235	PDTC123JT,235	934054698235	PDTC123JT	RET	SOT23	TO-236AB	RFS	Bipolar Discretes
PDTA143ZT,215	PDTA143ZT,215	934054699215	PDTA143ZT	RET	SOT23	TO-236AB	RFS	Bipolar Discretes
PDTC143ZT,215	PDTC143ZT,215	934054700215	PDTC143ZT	RET	SOT23	TO-236AB	RFS	Bipolar Discretes
PDTC143ZT,235	PDTC143ZT,235	934054700235	PDTC143ZT	RET	SOT23	TO-236AB	RFS	Bipolar Discretes
PDTC114YT,215	PDTC114YT,215	934054701215	PDTC114YT	RET	SOT23	TO-236AB	RFS	Bipolar Discretes
PDTC143XT,215	PDTC143XT,215	934055052215	PDTC143XT	RET	SOT23	TO-236AB	RFS	Bipolar Discretes
PDTC143XTVL	PDTC143XTVL	934055052235	PDTC143XT	RET	SOT23	TO-236AB	RFS	Bipolar Discretes
PDTA143XT,215	PDTA143XT,215	934055053215	PDTA143XT	RET	SOT23	TO-236AB	RFS	Bipolar Discretes
PDTC114YU,115	PDTC114YU,115	934055207115	PDTC114YU	RET	SOT323	SC-70	RFS	Bipolar Discretes
PDTA114YT,215	PDTA114YT,215	934055236215	PDTA114YT	RET	SOT23	TO-236AB	RFS	Bipolar Discretes
PDTA123JT,215	PDTA123JT,215	934055395215	PDTA123JT	RET	SOT23	TO-236AB	RFS	Bipolar Discretes
PDTA143ZU,115	PDTA143ZU,115	934057537115	PDTA143ZU	RET	SOT323	SC-70	RFS	Bipolar Discretes
PDTC123JU,115	PDTC123JU,115	934057539115	PDTC123JU	RET	SOT323	SC-70	RFS	Bipolar Discretes
PDTC143ZU,115	PDTC143ZU,115	934057544115	PDTC143ZU	RET	SOT323	SC-70	RFS	Bipolar Discretes
PDTB113ZT,215	PDTB113ZT,215	934058979215	PDTB113ZT	RET	SOT23	TO-236AB	RFS	Bipolar Discretes
PDTD113ZT,215	PDTD113ZT,215	934058981215	PDTD113ZT	RET	SOT23	TO-236AB	RFS	Bipolar Discretes
PDTD123YT,215	PDTD123YT,215	934058982215	PDTD123YT	RET	SOT23	TO-236AB	RFS	Bipolar Discretes