## Product Quality Information

# nexperia

## **Quality Information for Product Type TL431AMFDT**

Quality and reliability data provided by Nexperia Semiconductors is intended to be a non-binding estimate of product performance only. It does not imply that any performance levels reflected in such data can be met if the product is operated outside the conditions expressly stated in the latest published data sheet for a device or in your application.

### **Quick reference**

Information	Content
Device Type	TL431AMFDT
Ordering Information (12NCs)	9352 932 78215
Qualification Grade	automotive
Package	SOT23 (TO-236AB)
Waferfab	Nexperia DHAM
Assembly	Nexperia ATGD
ESD HBM	> 4000 V, <= 8000 V
Calculated Failure Rate	2.41 FIT
MTBF/MTTF	4.15E+08 hours

### **Explanation**

Automotive qualified products are in accordance with the AEC-Q101.

Electrostatic Discharge (ESD) tests are performed as described in the AEC-Q101 with each 3 positive and 3 negative pulses for each stress voltage level.

Test considered for FIT calculation: High Temperature Reverse Bias (HTRB, AEC-Q101 Test # 5). The parameters for calculation of FIT and MTBF/MTTF are as follows: Confidence level 60%, junction temperature derated to 55 °C, activation energy 0.7 eV, test time 168 - 1000 hrs.

For discrete semiconductor devices the Mean Time Between Failure (MTBF) is replaced by the Mean Time To Failure (MTTF) acronym. MTTF is calculated from the Intrinsic Failure Rate.

© 2019 Nexperia B.V.

All rights reserved. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by the publisher for any consequence of its use. Publication thereof does not convey nor imply any license under patent – or other industrial or intellectual property rights.