



Product Brief

Cost Effective Market Leading Secure Authentication Solution

ORIGA™ 2 Lite – Authentication IC Offers the Best Security to Cost Ratio in the Market

The Infineon ORIGA™ **ORIG**inal product **Auth**entication chip helps OEMs and system manufacturers to ensure the authenticity and safety of their original products. It offers a cost effective yet very robust cryptographic solution to protect against unauthorized aftermarket replacements and copies.

With more than 0.5 Billion ORIGAs deployed at major OEM customers, the new ORIGA™ 2L in extra small chip scale package is particularly suited for applications with very stringent space and cost requirements. The product reduces cost by eliminating the need for additional secure key storage ICs in the host system.

ORIGA™ 2L also features the market leading strong asymmetric cryptography engine introduced with ORIGA™ 2 and 3.5 kbits of user non-volatile lockable memory with a well-defined data map covering all functions. The incorporated power management unit reduces power consumption and has over-under voltage protection up to ± 20 V. The MIPI BIF compliant single wire host interface allows operation using a single dedicated contact which reduces size and, in turn, improves reliability, robustness, performance, and system cost.

Applications

- Battery authentication for mobile phones, computing devices, digital imaging, power tools, drones etc.
- Power supply units and (fast) AC adaptors
- USB power cables

Key advantages

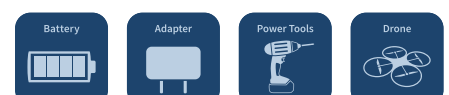
- Advanced security using unique asymmetrical public/private key cryptography with two different keys for encryption and decryption
- ORIGA™ Digital Certificate (ODC) enables unique key pairs usage for each device
- Improved system cost by allowing robust host-side implementation in software (no need for extra HW) without compromising security
- Avoiding liabilities and reducing warranty or support efforts created by counterfeited batteries or accessories
- Save space and cost for extra components to comply to UN battery transportation regulation thanks to ± 20 V integrated over/under voltage protection
- Large Non-Volatile Memory (NVM) for storing of device behavior or logistic information (e.g. usage cycles, user data, traceability)
- Minimize design effort by complying to mobile market standard MIPI BIF (Battery InterFace)

Features

- Asymmetric authentication based on Elliptic Curve Cryptographic (ECC)
- ORIGA™ Digital Certificate (ODC) with device personalization
- Large NVM for storage of device behavior and logistic information
- Ultra slim chip scale package – RoHS compliant
- MIPI BIF (Battery InterFace) standardized single-wire interface for communication between mobile device and battery pack

Benefits

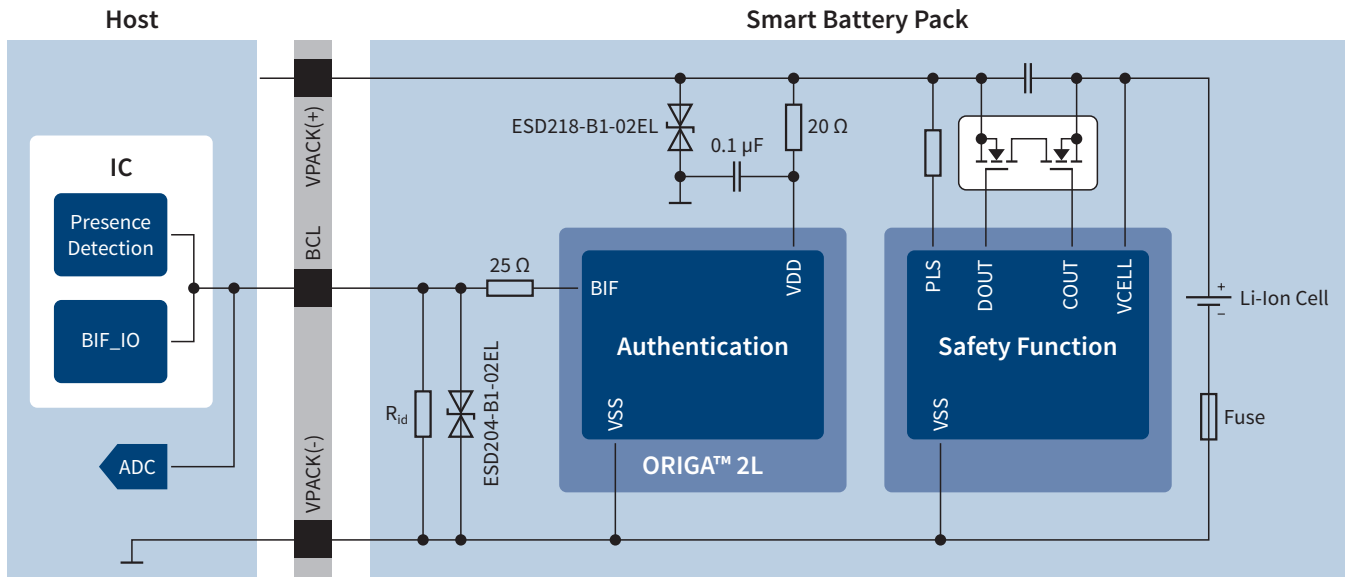
- Easy SW implementation on host side **without** compromising on security
- ODC enable blacklisting of copied devices as countermeasure in case of attacks last defense
- Device behavior and traceability stored in NVM
- Reduce PCB size and cost allowing thinner batteries.
- Easy implementation thanks to compliances to market standard



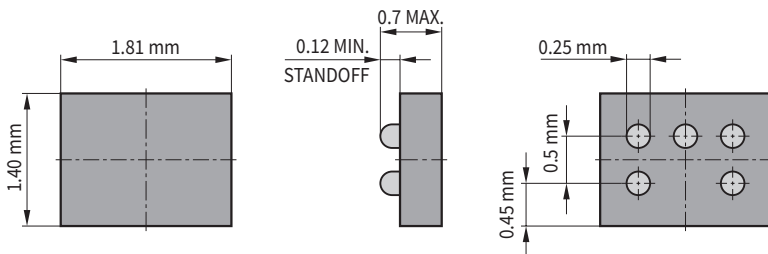
Cost Effective Market Leading Secure Authentication Solution

ORIGA™ 2 Lite – Authentication IC Offers the Best Security to Cost Ratio in the Market

Application Diagram – Smart Battery Pack Design



Package Outline – SG-WFWLB-5-1



Evaluation Kit available
Please contact Infineon regional sales



Published by
Infineon Technologies AG
85579 Neuburg, Germany

© 2015 Infineon Technologies AG.
All Rights Reserved.

Visit us:
www.infineon.com

Order Number: B139-I0094-V1-7600-EU-EC-P
Date: 02 / 2015

Attention please!

The information given in this document shall in no event be regarded as a guarantee of conditions or characteristics ("Beschaffheitsgarantie"). With respect to any examples or hints given herein, any typical values stated herein and/or any information regarding the application of the device, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind, including without limitation warranties of non-infringement of intellectual property rights of any third party.

Information

For further information on technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies Office (www.infineon.com).

Warnings

Due to technical requirements components may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies Office. Infineon Technologies Components may only be used in life-support devices or systems with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system, or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body, or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.