

Product brief

TLE9015DQU

iso UART Transceiver IC

The TLE9015DQU is a battery monitoring transceiver IC designed for connecting several TLE9012DQU devices in a daisy chain inside a Li-Ion battery. By means of its two UART and iso UART interface pairs it can support ring communication improving the availability of the system by a low cost.

It also enables bidirectional information flow by including an error management unit including several inputs and outputs that are programmable on each TLE9012DQU.

Summary of Features

- › Compatibility for ring mode topology
- › Two UART ports for serial communication to host microcontroller
- › Two iso UART interfaces for communication to other BMS ICs
- › 2 Mbit/s data rate for fast communication
- › Fully transparent communication scheme from UART to iso UART
- › Integrated internal logic for minimizing pin count on the UART side
- › Differential current edge triggered iso UART communication interface
- › High robustness against external noise
- › Two external fault inputs (EMM and ERRQ_ext)
- › Latching error output pin for triggering external microcontroller
- › Internal supply monitoring
- › Green Product (RoHS compliant)

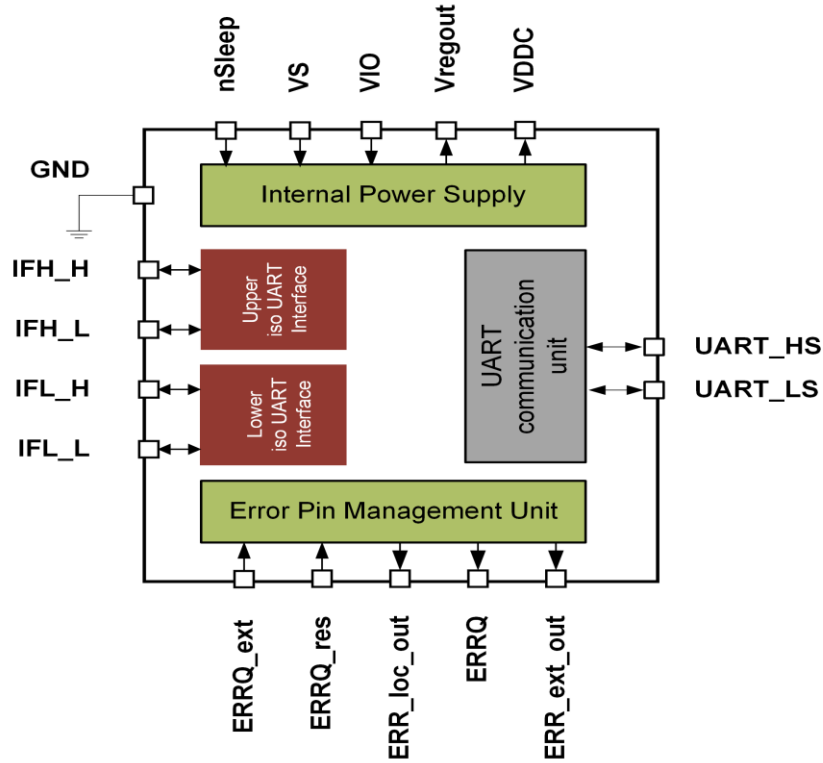
Key Benefits

- › Robust communication without need of transformers or common mode chokes
- › Primary-on-Top or Primary-on-bottom selectable without tedious configuration
- › Bi-directional communication scheme using error management logic
- › Ring mode topology for further system availability at low cost

Target Applications

- › Hybrid Electric Vehicle (HEV)
- › Plug-in Hybrid Electric Vehicle (PHEV)
- › Battery Electric Vehicle (BEV)
- › Energy Storage System (ESS)
- › Home Energy Storage system

Diagram



Product Table

Product	Balancing Current max (mA)	Cell Voltage max(V)	Driver Selection	ESD Protection (kV)	ISO UART Interfaces	Isolated Communication Interface	Non-isolated Communication Interface	Standby Current (µA)	Tj max (°C)	Temperature Measurement Channels	UART Interfaces	Voltage Class (V)	Voltage Class (Macro) (V)	Voltage Measurement Channels
TLE9012DQU Li-ion monitoring and balancing IC	200	7	-	4	-	Iso UART	UART	2.5	150	5	-	75	75.0	12
TLE9015DQU iso UART transceiver IC	-	-	-	4	2	Iso UART	UART	3	150	-	2	75	75.0	-

UART = Universal asynchronous receiver-transmitter

Published by
Infineon Technologies AG
81726 Munich, Germany

© 2022 Infineon Technologies AG.
All Rights Reserved.

Please note!

This Document is for information purposes only and any information given herein shall in no event be regarded as a warranty, guarantee or description of any functionality, conditions and/or quality of our products or any suitability for a particular purpose. With regard to the technical specifications of our products, we kindly ask you to refer to the relevant product data sheets provided by us. Our customers and their technical departments are required to evaluate the suitability of our products for the intended application.

We reserve the right to change this document and/or the information given herein at any time.

Additional information

For further information on technologies, our products, the application of our products, delivery terms and conditions and/or prices, please contact your nearest Infineon Technologies office (www.infineon.com).

Warnings

Due to technical requirements, our products may contain dangerous substances. For information on the types in question, please contact your nearest Infineon Technologies office.

Except as otherwise explicitly approved by us in a written document signed by authorized representatives of Infineon Technologies, our products may not be used in any life-endangering applications, including but not limited to medical, nuclear, military, life-critical or any other applications where a failure of the product or any consequences of the use thereof can result in personal injury.