

BGSA402ML10

Low Resistance Antenna Tuning Shunt Switch

Features

- Designed for high-linearity antenna aperture switching and RF tuning applications
- Multiple selectable switch configurations
- Ultra low R_{ON} resistance of $1.49\ \Omega$ in ON state
- Low C_{OFF} capacitance of 170 fF in OFF state
- High RF operating voltage OFF state handling of $>45\text{ V}$
- Low harmonic generation
- MIPI RFFE 2.1 compliant control interface
- Support 2 default USID via USID_Sel pin state
- Supply voltage range: 1.65 to 3.6 V
- No RF parameter change within supply voltage range
- Small form factor 1.1 mm x 1.5 mm, MSL1, 260° C per JEDEC J-STD-020
- RoHS and WEEE compliant package



Description

BGSA402ML10 is a versatile Shunt to Ground 4xSingle-Pole Single-Throw (4xSPST) RF antenna tuning switch. It is optimized for low C_{OFF} as well as low R_{ON} enabling applications up to 6 GHz.

BGSA402ML10 is ideal for antenna tuning application. This chip integrates on-chip CMOS logic and Power Supply regulation. Its digital control interface is compliant with MIPI2.1 RFFE specification and each switch throw can be programmed individually or all together in the same RFFE command frame. Up to 2 instantiations of the same device can be controlled using the same RFFE bus thanks to its 2 states USID_Sel pin.

Unlike GaAs technology, the 0.1 dB compression point exceeds the switch maximum input power level, resulting in excellent linear performance at all signal levels within the operating conditions. External DC blocking capacitors at the RF ports are only required if DC voltage is applied externally. Due to its high RF voltage ruggedness, it is suited for switching any reactive device such as inductor and capacitor in RF matching circuits without significant losses.

Low Resistance Antenna Tuning Shunt Switch

Block diagram and ordering information

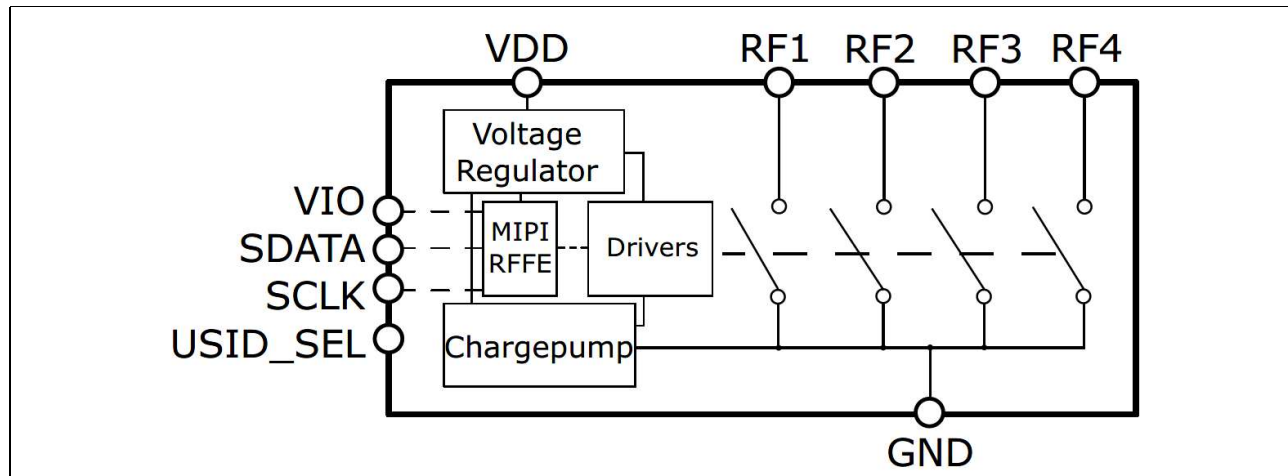


Figure 1 BGSA402ML10 Block diagram

Table 1 Ordering Information

Type	Package	Marking
BGSA402ML10	TSLP-10-2	4S



WEEE Compliant
Package



Halogen-Free
PB Free



RoHS

Trademarks

All referenced product or service names and trademarks are the property of their respective owners.

Edition 2018-11-15

Published by

Infineon Technologies AG

81726 München, Germany

© 2020 Infineon Technologies AG.

All Rights Reserved.

Do you have a question about this document?

Email: erratum@infineon.com

Document reference

ifx1

IMPORTANT NOTICE

The information given in this document shall in no event be regarded as a guarantee of conditions or characteristics ("Beschaffenheitsgarantie").

With respect to any examples, hints or any typical values stated herein and/or any information regarding the application of the product, 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.

In addition, any information given in this document is subject to customer's compliance with its obligations stated in this document and any applicable legal requirements, norms and standards concerning customer's products and any use of the product of Infineon Technologies in customer's applications.

The data contained in this document is exclusively intended for technically trained staff. It is the responsibility of customer's technical departments to evaluate the suitability of the product for the intended application and the completeness of the product information given in this document with respect to such application.

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

WARNINGS

Due to technical requirements 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 Infineon Technologies in a written document signed by authorized representatives of Infineon Technologies, Infineon Technologies' products may not be used in any applications where a failure of the product or any consequences of the use thereof can reasonably be expected to result in personal injury.