

BGSA142M2N12

High RF Voltage SP4T Switch

Features

- Designed for high linearity and high RF voltage tuning applications
- Multiple selectable switch configurations:
Each throw directly and independently controlled
- Low R_{ON} resistance of 1.75 Ω at each port in ON state
- Low C_{OFF} capacitance of 110 fF at each port in OFF state
- High RF operating voltage of 72 V at RFx and 67 V at RFC in OFF state
- Low harmonic generation
- MIPI 2.0 RFFE control interface
- 4 USID addresses enabled by external condition at USID_sel pin and SCLK/SDATA swap mode
- Supply voltage range: 1.65 to 3.6 V
- No RF parameter change within supply voltage range
- Small form factor 1.5 mm x 1.5 mm (MSL1, 260° C per JEDEC J-STD-020)
- RoHS and WEEE compliant package



Description

The BGSA142M2N12 is a versatile direct mapping Single-Pole Quad Throw (SP4T) RF switch optimized for low C_{OFF} as well as low R_{ON} enabling applications up to 6.0 GHz. Including a MIPI RFFE digital control interface, all the throw states can be programmed in the same RFFE command enabling SP4T, SP3T, SPDT along with SPST topology for a better flexibility in RF Front-End designs.

The BGSA142M2N12 includes 4 low R_{ON} and high RF voltage ports making it ideal for antenna tuning and tunable matching network applications. RFC as well as RF1, RF2, RF3 and RF4 can handle high RF Voltage (bidirectional RF Voltage handling). Due to its very high RF voltage ruggedness on all RF ports, it is suited for switching any reactive devices such as inductors and capacitors without significant losses.

Unlike GaAs technology, the 0.1 dB compression point exceeds the switch maximum input power level, resulting in linear performance at all signal levels and external DC blocking capacitors at the RF ports are only required if DC voltage is applied externally.

Block diagram and ordering information

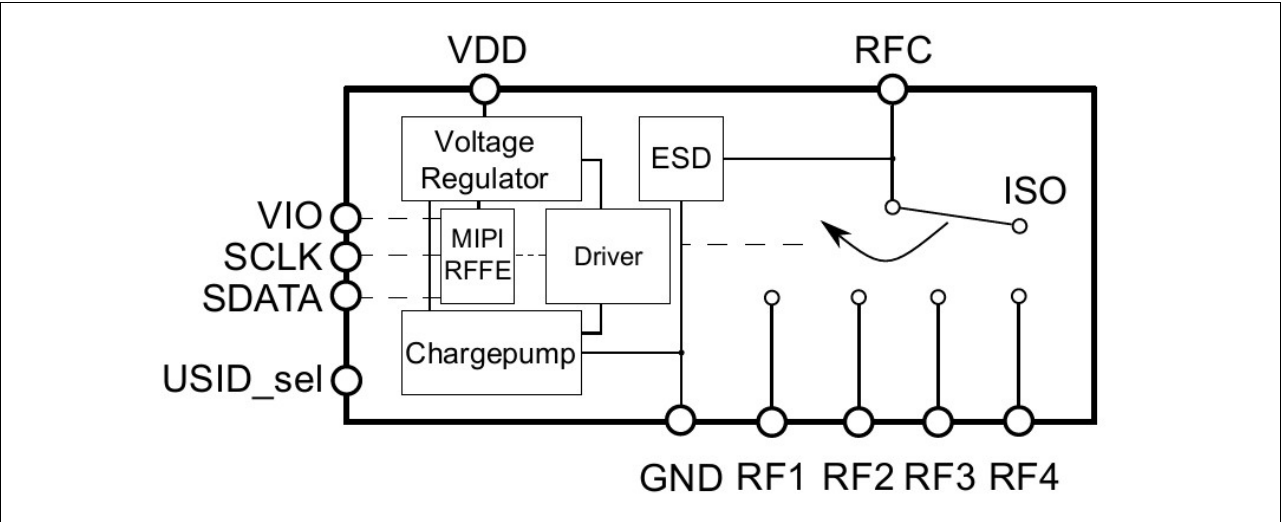


Figure 1 BGS142M2N12 Block diagram

Table 1 Ordering Information

Type	Package	Marking
BGS142M2N12	TSNP-12-1	4A



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 2019-09-16

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.