

# 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  $170 \text{ fF}$  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:  $1.65 \text{ to } 3.6 \text{ V}$
- No RF parameter change within supply voltage range
- Small form factor  $1.1 \text{ mm} \times 1.5 \text{ mm}$ , MSL1,  $260^\circ \text{ C}$  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  $6 \text{ GHz}$ .

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  $0.1 \text{ dB}$  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.

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## Block diagram and ordering information

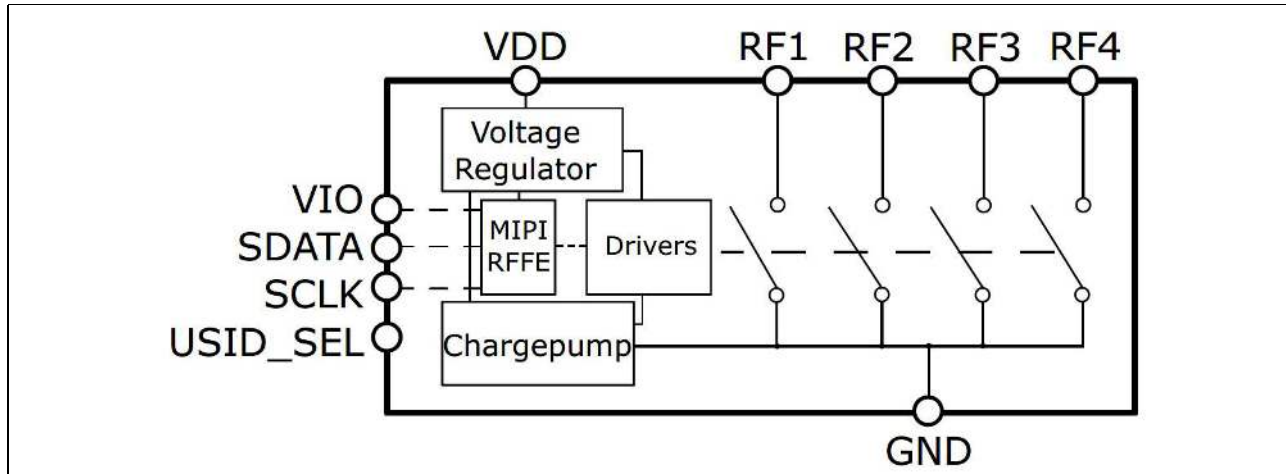


Figure 1 BGSA402ML10 Block diagram

Table 1 Ordering Information

Type	Package	Marking
BGSA402ML10	TSLP-10-2	4S



WEEE Compliant Package



Halogen-Free  
PB Free



RoHS

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Edition 2018-11-15

Published by

Infineon Technologies AG  
81726 München, Germany

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Document reference

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