

BGSA143ML10

Low Resistance Antenna Tuning Switch

Features

- Designed for high-linearity antenna tuning switching and RF tuning applications
- Ultra low R_{ON} resistance of $1.15\ \Omega$ at each port in ON state
- Low C_{OFF} capacitance of $140\ \text{fF}$ at each port in OFF state
- Each Switch chain directly controlled, R_{ON} reducible down to $0.3\ \Omega$
- High RF operating peak voltage handling of $42\ \text{V}$ in OFF state
- Low harmonic generation
- MIPI RFFE control interface
- 4 USID addresses enabled by external condition at USID_sel pin and SCLK/SDATA swap mode
- No RF parameter change within supply voltage range
- Small form factor $1.1 \times 1.5\ \text{mm}^2$ (MSL1, 260°C per JEDEC J-STD-020)
- RoHS and WEEE compliant package



Description

BGSA143ML10 is a versatile Single-Pole Quad Throw (SP4T) RF antenna tuning switch featuring open or short reflective ports, being optimized for tuning applications up to $6.0\ \text{GHz}$. Including a RFFE digital control interface, this switch offers the possibility to adopt a SP4T, SP3T, SPDT along with SPST topology for a better flexibility in RF Front-End designs.

BGSA143ML10 includes 4 ultra-low R_{ON} series ports and 4 individually switchable shunt switches to enable open reflective and short-reflective behavior. As a result any type of antenna tuning switching or tuner circuits can be realized. Unlike GaAs technology, the $0.1\ \text{dB}$ 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. Due to its very high RF voltage ruggedness, it is suited for switching any reactive devices such as inductors and capacitors in RF matching circuits without significant losses in quality factors.

Block diagram and ordering information

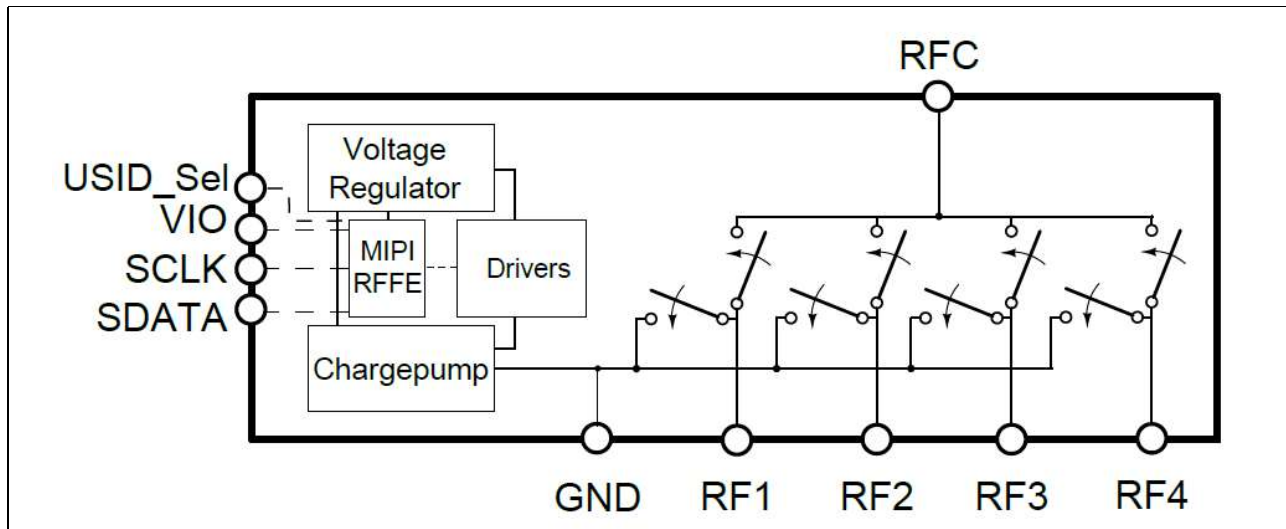


Figure 1 BGS143ML10 Block diagram

Table 1 Ordering Information

Type	Package	Marking
BGS143ML10	TSLP-10	AA



WEEE Compliant
Package



Halogen-Free
PB Free



RoHS

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Email: erratum@infineon.com

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