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 Ω at each port in ON state
- Low C_{OFF} capacitance of 140 fF at each port in OFF state
- Each Switch chain directly controlled, R_{ON} reducable down to 0.3 Ω
- High RF operating peak voltage handling of 42 V in OFF state
- Low harmonic generation
- MIPI RFFE control interface
- External USID_sel pin enabling 4 default USID address
- No RF parameter change within supply voltage range
- Small form factor 1.1 x 1.5 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 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. This single supply chip integrates on-chip CMOS logic driven by a simple, single-pin CMOS or TTL compatible control input signal. 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. 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

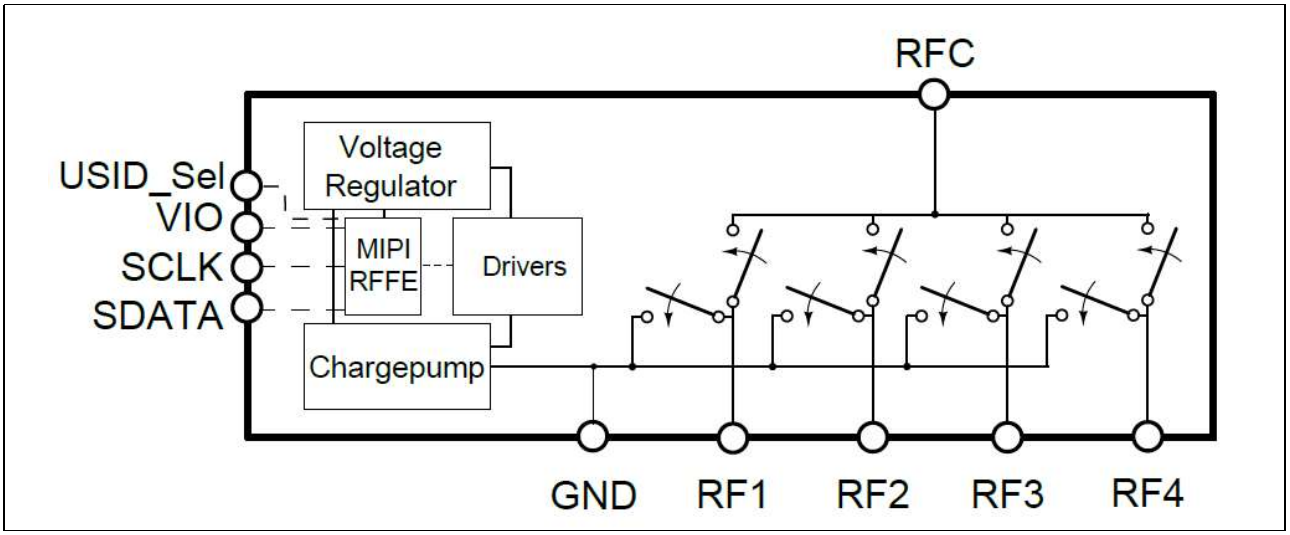

Figure 1 BGSA143ML10 Block diagram

Table 1 Ordering Information

Type	Package	Marking
BGSA143ML10	TSLP-10	AA

WEEE Compliant Package

Halogen-Free

PB Free

RoHS

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