

## RASIC™ - RON7701

### Automotive Radar Dielectric Resonator Oscillator

THE RON7701 IS A SILICON GERMANIUM (SiGe) dielectric resonator oscillator (DRO) based 19GHz down-converter for the use within a PLL circuitry for automotive radar applications. The DRO uses an external ceramic resonator, is optimized for low phase noise as well as low frequency pushing and operates at typically 18GHz. The balanced mixer converts the by-4-divided signal of a 77GHz fundamental oscillator to around 1 GHz.

With this product Infineon Sense&Control (SC) introduces the latest RF technology (B7HF200) with automotive qualification AEC-Q100 to the market. The 200GHz ft SiGe technology is part of Infineon's in-house, high volume 8" production and offers outstanding performance levels.

The product is offered as bare-die delivered on blue-tape.

#### Features and key benefits

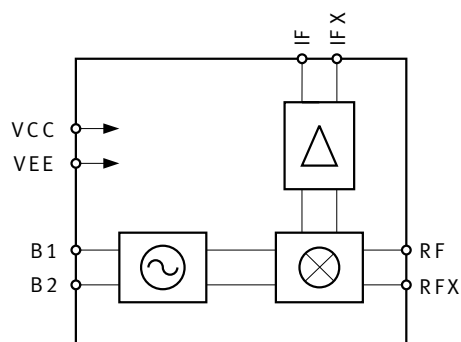
- High quality DRO on local oscillator (LO) signal stability
- Balanced Gilbert-cell mixer for down-conversion
- Built in test equipment (BITE) for production test (on-chip resonator circuitry, LO signal by-8-divider, LO signal power sensor)
- Delivery is unpackaged bare-die on blue-tape
- AEC-Q100 qualified SiGe process

RON7701	Min	Typ	Max
Max. chip backside temperature	-40°C		+125°C
Operating voltage	5.225 V	5.500V	
Supply current		18mA	
Phase noise @ 100kHz offset	-97dBc/Hz		
Frequency pushing			1MHz/V

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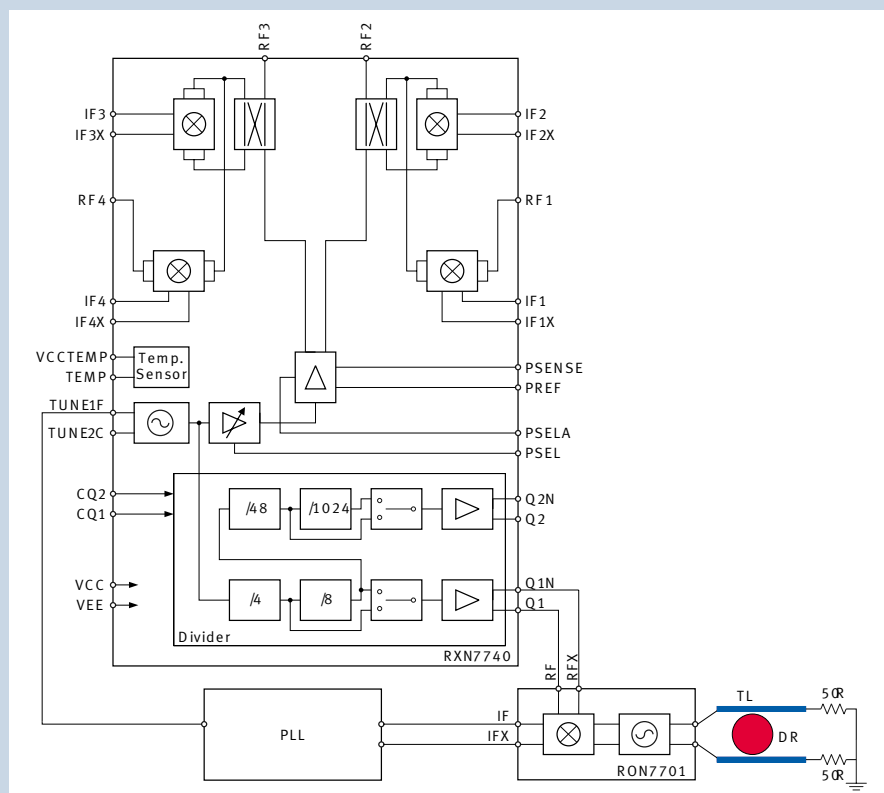
## RON7701 Block Diagram



## Related Components

- RXN7740 – SiGe Automotive Radar Transceiver
- RXN7741 – SiGe Automotive Radar Transceiver, special mixer configuration
- RXN7742 – SiGe Automotive Radar Transceiver, special mixer configuration

## Application example using RON7701 with RXN7740



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