Monolithic VCO ICs

Maxim Integrated Products introduces the MAX2750/MAX2751/MAX2752, a family of fully self-contained voltage-controlled oscillators (VCOs) designed for use in 2.4 GHz ISM applications such as 802.11 WLAN, HomeRF, Bluetooth, and other proprietary radios. MAX2752 is ideally suited for 802.11b 11 Mbps WLAN applications. These ICs provide the benefits of ease-of-use and guaranteed performance, similar to a VCO module, but at 30% lower cost and with 60% reduction in board space. In addition, the internal regulation of the oscillator supply voltage eliminates the need for a dedicated external low dropout regulator (LDO), further reducing cost and size.
Each IC consists of an oscillator, voltage regulator, output buffer, and the inductor and varactor tuning elements. Typical applications require only two external bypass capacitors. Each oscillator has a tuning voltage input range of 0.4 V to 2.4 V. The oscillator frequency tuning range is factory adjusted to provide guaranteed limits. The MAX2750 is guaranteed to tune from 2400 MHz to 2500 MHz (zero IF), the MAX2751 from 2120 MHz to 2260 MHz (low-side LO, 240 MHz to 280 MHz IF), and the MAX2752 from 2025 MHz to 2165 MHz (low-side LO, 335 MHz to 375 MHz). Phase noise performance is typically &#150125 dBc/Hz at 4 MHz offset.
The MAX2750/MAX2751/MAX2752 operate over a +2.7 V to +5.5 V supply range, consuming only about 10 mA of supply current. A digitally controlled shutdown mode permits implementation of sophisticated power supply management. In shutdown, the supply current is reduced to less than 1 &#956A. The devices are available in the miniature 8-pin &#956MAX package. A fully assembled evaluation kit (MAX2750/MAX2751/MAX2752EVKIT) is available to help reduce design time.

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