FS8170 2.5 GHz Low Power Phase-locked Loop IC

Description

The FS8170 IC is a serial data input, fully programmable phase-locked loop with a 2.5 GHz prescaler for use in the local oscillator subsystem of radio transceivers. Multi-modulus division ratios of 32/33 and 64/65 are selectable thru serial programming to enable pulse swallowing operation. When combined with an external VCO, the FS8170 becomes the core of a very low power frequency synthesizer well-suited for mobile communication applications, such as 2.4 GHz ISM-band wireless data links and cellular GSM and PCS. **The FS8170 is also pin compatible with Fujitsu's MB15E07SL IC.**

Features

- Maximum input frequency: 2.5 GHz
- Supply voltage range from 2.4 V to 3.6 V
- Low current consumption in locked state: 3.5 mA typ. (V_{CC} = V_P = 2.7 V, T_A = +25 °C)
  4.0 mA typ. (V_{CC} = V_P = 3.0 V, T_A = +25 °C)
  10 µA max. in asynchronous power-down mode
- Digitally-filtered lock detect output
- 18-bit programmable input frequency divider using ÷ 32/33/64/65 multi-modulus prescaler with divide ratio range from 992 to 65631 for ÷ 32/33 mode and from 4032 to 131135 for ÷ 64/65 mode
- 14-bit programmable reference frequency divider with divide ratio range from 3 to 16383
- Programmable charge pump current: 1.5 mA or 6 mA
- Pin compatible with Fujitsu MB15E07, MB15E07L, MB15E07SL
- 16 pin, plastic TSSOP (0.65 mm pitch)

Package and Pin Assignment

16 pin, plastic TSSOP (dimensions in mm)