Working principle

GEs GE06-098B a single chip, low power, multi-channel FSK transmitter designed for use in applications requiring FCC or ETSI conformance for unlicensed use in the 433, 868, and 915 MHz bands. Used in conjunction with GE06-097, GEs FSK receiver, the GE06-098B transmitter features EZRadio™ technology, which produces a flexible, low cost, and highly integrated solution that does not require production alignments. All required RF functions are integrated. Only an external crystal and bypass filtering are needed for operation. The GE06-098B builds on the features presented by the GE06-098A by offering a higher output power and an improved phase noise characteristic. The **GE06-098B** shares the same pinout and control command set as the GE06-098A. The GE06-098B offers all of the frequencies as the GE06-098A, with the exception of the 315 MHz band.

The GE06-098B features a completely integrated PLL for easy RF design, and its rapid settling time allows for fast frequency hopping, bypassing multipath fading and interference to achieve robust wireless links. In addition, highly stable and accurate FSK modulation is accomplished by direct closed-loop modulation with bit rates up to 115.2 kbps. The PLL's high resolution allows the use of multiple channels in any of the bands.

The integrated power amplifier of the transmitter has an open-collector differential output that directly drive a loop antenna with programmable output level. No additional matching network is required. An automatic antenna tuning circuit is built in to avoid costly trimming procedures and de-tuning due to the "hand effect".

For low-power applications, the device supports automatic activation from sleep mode. Active mode can be initiated by several wake-up events (on-chip timer timeout, low supply voltage detection, or activation of any of the four push-button inputs).

The GE06-098B's on-chip digital interface supports both a microcontroller mode and an EEPROM mode. The latter allows complete data transmitter operation without a microcontroller (both control commands and data are read from the EEPROM). Any wake-up event can start a transmission of the corresponding data stored in the EEPROM.