

FLASH-Based Microcontroller with ASK/FSK Transmitter

High Performance RISC CPU:

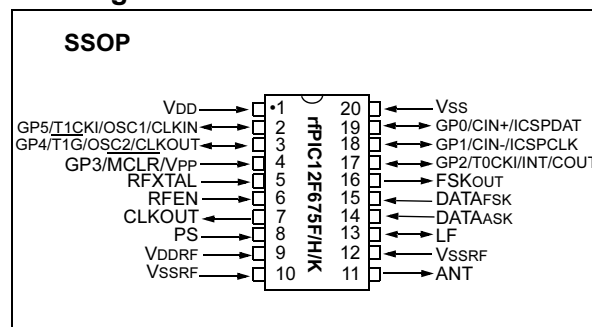
- Only 35 instructions to learn
- All single cycle instructions (DC-200 ns), except for program branches which are two-cycle
- Operating speed:
 - 4 MHz precision internal oscillator
 - DC - 20 MHz HS crystal oscillator/clock input
 - DC - 4 MHz external RC oscillator
 - DC - 4 MHz XT crystal oscillator
 - DC - 200 kHz LP crystal oscillator
- Memory
 - 1024 x 14 words of FLASH program memory
 - 64 x 8 bytes of data memory (SRAM)
 - 128 x 8 bytes of EEPROM data memory
- 16 special function hardware registers
- Interrupt capability
- 8-level deep hardware stack
- Direct, Indirect and Relative Addressing modes
- Industrial and Extended temperature range
- Wide operating voltage range from 2.0 – 5.5V
- Low power consumption: (typical values @ 3.0V)
 - 14 mA transmitting full power RF (+ 6 dBm)
 - 4 mA transmitting low power RF (-15 dBm)
 - 500 μ A, 4.0 MHz INTOSC, RF off
 - 15 μ A, 32 kHz LP, RF off
 - 0.1 μ A standby current, RF off

Peripheral Features:

- 6 I/O pins with individual direction control
- High current sink/source for direct LED drive
- Analog comparator: 16 internal reference levels
- Analog-to-Digital Converter: 10 bits, 4 channels
- Timer0: 8-bit timer/counter with 8-bit prescaler
- Timer1: 16-bit timer/counter with 3-bit prescaler
- 32kHz Timer1 oscillator while in INTOSC mode

Device	Frequency	Modulation
rfPIC12F675K	290-350 MHz	ASK/FSK
rfPIC12F675F	380-450 MHz	ASK/FSK
rfPIC12F675H	850-930 MHz	ASK/FSK

Pin Diagram:



UHF ASK/FSK Transmitter:

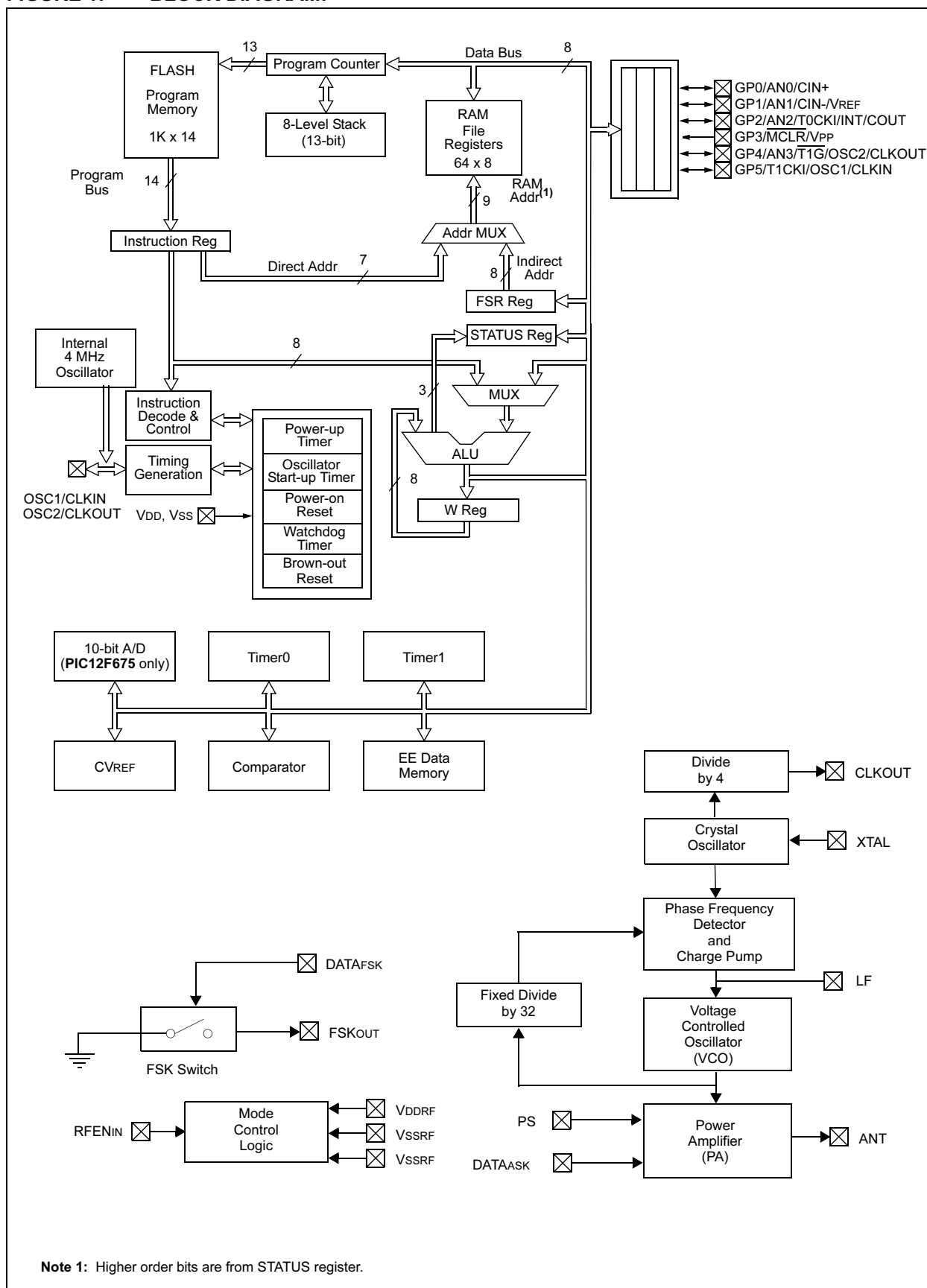
- Integrated crystal oscillator, VCO, loop filter and power amp for minimum external components
- ASK data rate: 0 – 40 Kbps
- FSK data rate: 0 – 20 Kbps by crystal pulling
- Output power: +6 dBm to -15 dBm in 4 steps
- Adjustable transmitter power consumption
- RF Frequency set by crystal multiplied by 32
- VCO phase locked to quartz crystal reference; allows narrow band receivers to be used to maximize range and interference immunity
- Crystal frequency divide by 4 available (CLKOUT)
- Used in applications conforming to US FCC Part 15.231 and European EN 300 220 regulations

Applications:

- Automotive Remote Keyless Entry (RKE) systems
- Automotive alarm systems
- Community gate and garage door openers
- Burglar alarm systems
- Building access
- Low power telemetry
- Meter Reading
- Tire pressure sensors
- Wireless sensors

rfPIC12F675

FIGURE 1: BLOCK DIAGRAM:



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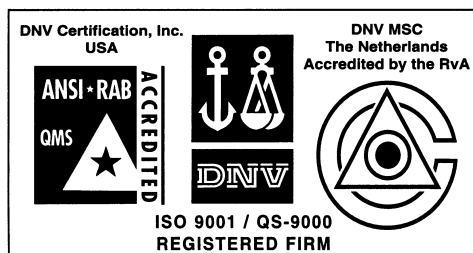
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