**PIC18F46K22:**

High-Performance RISC CPU:

• C Compiler Optimized Architecture: - Optional extended instruction set designed to optimize re-entrant code

• Up to 1024 Bytes Data EEPROM

• Up to 64 Kbytes Linear Program Memory Addressing • Up to 3896 Bytes Linear Data Memory Addressing

• Up to 16 MIPS Operation • 16-bit Wide Instructions, 8-bit Wide Data Path • Priority Levels for Interrupts

• 31-Level, Software Accessible Hardware Stack • 8 x 8 Single-Cycle Hardware Multiplier Flexible Oscillator Structure:

• Precision 16 MHz Internal Oscillator Block: - Factory calibrated to ± 1% - Selectable frequencies, 31 kHz to 16 MHz - 64 MHz performance available using PLL – no external components required

• Four Crystal modes up to 64 MHz

• Two External Clock modes up to 64 MHz

• 4X Phase Lock Loop (PLL)

• Secondary Oscillator using Timer1 @ 32 kHz

• Fail-Safe Clock Monitor: - Allows for safe shutdown if peripheral clock stops - Two-Speed Oscillator Start-up Analog Features:

• Analog-to-Digital Converter (ADC) module: - 10-bit resolution, up to 30 external channels - Auto-acquisition capability - Conversion available during Sleep - Fixed Voltage Reference (FVR) channel - Independent input multiplexing

• Analog Comparator module: - Two rail-to-rail analog comparators - Independent input multiplexing

• Digital-to-Analog Converter (DAC) module: - Fixed Voltage Reference (FVR) with 1.024V, 2.048V and 4.096V output levels - 5-bit rail-to-rail resistive DAC with positive and negative reference selection

• Charge Time Measurement Unit (CTMU) module: - Supports capacitive touch sensing for touch screens and capacitive switches Extreme Low-Power Management PIC18(L)F2X/4XK22 with XLP:

• Sleep mode: 20 nA, typical

• Watchdog Timer: 300 nA, typical

• Timer1 Oscillator: 800 nA @ 32 kHz

• Peripheral Module Disable Special Microcontroller Features:

• 2.3V to 5.5V Operation – PIC18FXXK22 devices

• 1.8V to 3.6V Operation – PIC18LFXXK22 devices

• Self-Programmable under Software Control

• High/Low-Voltage Detection (HLVD) module: - Programmable 16-Level - Interrupt on High/Low-Voltage Detection

• Programmable Brown-out Reset (BOR): - With software enable option - Configurable shutdown in Sleep

• Extended Watchdog Timer (WDT): - Programmable period from 4 ms to 131s

• In-Circuit Serial Programming™ (ICSP™): - Single-Supply 3V

• In-Circuit Debug (ICD) Peripheral Highlights:

• Up to 35 I/O Pins plus 1 Input-Only Pin: - High-Current Sink/Source 25 mA/25 mA - Three programmable external interrupts - Four programmable interrupt-on-change - Nine programmable weak pull-ups - Programmable slew rate • SR Latch: - Multiple Set/Reset input options

• Two Capture/Compare/PWM (CCP) modules

• Three Enhanced CCP (ECCP) modules: - One, two or four PWM outputs - Selectable polarity - Programmable dead time - Auto-Shutdown and Auto-Restart - PWM steering

• Two Master Synchronous Serial Port (MSSP) modules: - 3-wire SPI (supports all 4 modes) - I2C™ Master and Slave modes with address mask