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MICROCHIP PIC24FJ64GB004

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www.microchip.com/XLP

Products with nanoWatt XLP **Technology** offer the industry's lowest currents for Run and Sleep, where extreme low power applications spend 90-99% of their time.



Microchip has introduced nanoWatt XLP eXtreme Low Power Technology to address the needs of your next product. Benefits include:

- Sleep currents below 20 nA
- Brown-out Reset down to 45 nA
- Watch-dog Timer down to 220 nA
- Real-time Clock/Calendar down to 470 nA
- Run currents down to 50 µA/MHz
- Full analog and self-write capability down to 1.8V

Low Power Peripheral Integration

Today's low power products require integrated advanced peripherals. nanoWatt XLP MCUs are available with:

- USB Connectivity
- LCD Controllers
- Hardware RTCC
- mTouch[™] Capacitive Touch Sensing

Example XLP PIC® MCUs

Device		Flash Memory (KB)	Pins	Sleep (nA)	WDT* (nA)	RTC* (nA)	1 MHz Run (μA)
PIC16LF182X	CAP SENSE	3.5-7	8-28	20	300	600	50
PIC16LF72X	CAP SENSE	3.5-14	28/44	20	500	600	110
PIC16LF193X	CAP SENSE	7-28	28/44	60	500	600	150
PIC18LF1XK50	CAP SENSE	8-16	20	24	450	790	170
PIC18LF14K22	CAP SENSE	8-16	20	34	460	650	150
PIC18LF4XK22	CAP SENSE	8-64	28/44	50	600	500	250
PIC18F46J11	CAP SENSE	16-64	28/44	13	813	813	272
PIC18F46J50	CAP SENSE	16-64	28/44	13	813	813	272
PIC18F87K90	CAP SENSE	32-128	64/80	25	350	720	181
PIC24F04KA201	CAP SENSE	4	14/20	20	370	470	195
PIC24F16KA102	CAP SENSE	8-16	20/28	20	420	520	195
PIC24FJ64GB004	CAP SENSE	32-64	28/44	20	220	520	250

*Base sleep current included in WDT and/or RTC numbers. Typical I/O pin leakage current ±5 nA.

75 PRODUCTS **Broad Low-Power Product Offering**



Low Power Safety

MICROCHIP nanoWatt XLP

Reliability is a primary concern for battery powered products. Integrated low power supervisory circuit benefits:

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- Brown-out Reset guards against low batteries, power loss
- Watchdog Timer with on-chip clock source for dependable operation
- Real Time Clock/Calendar for precise time keeping

Low Power Design Support

Full support for your extreme low power design:

- Global Sales and Technical Support (24/7)
- Regional Training Centers
- Low Cost Development Tools
- Free MPLAB[®] IDE and C Compiler
- Free software stacks: USB, mTouch, ZigBee®, **IrDA®**
- On-line Design Center: www.microchip.com/XLP

Device		(КВ)	Pins	(nA)	(nA)	(nA)	(μA)
PIC16LF182X	CAP SENSE	3.5-7	8-28	20	300	600	50
PIC16LF72X	CAP SENSE	3.5-14	28/44	20	500	600	110
PIC16LF193X	CAP SENSE	7-28	28/44	60	500	600	150
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All numbers are typical values at minimum VDD, taken from the data sheet.

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Microcontrollers • Digital Signal Controllers • Analog • Serial EEPROMs

Example

Battery

Consumer

Applications

Utility Metering

Asset Tracking

Electronic Locks

Portable Medical

Irrigation Systems Security Systems/

Green Initiatives

Regulations

Appliances

Compliance with

Home Electronics

Energy Harvesting

Wireless Switches

Wireless Sensor

Networks

(DM240311)

Battery-free Sensors

RF Powered Sensors

XLP 16-bit Development Board

MCUs.

-2xAAA lithium** or alkaline cells

- Energy harvesting: solar, vibration, RF, etc.

** Microchip recommends Energizer® Ultimate Lithium

AAA Batteries for the XLP 16-bit Development Board.

Supports 20-/28-pin devices

- Generic prototyping area - USB communication to PC

Flexible power options - CR2032 coin cell

- External/USB Easy Prototyping:

Designed with eXtreme Low

PIC24F family of 16-bit PIC XLP

Power in mind, this board enables development with the

Sensors

Smoke/CO2 Detectors

Remote Keyless Entry



-PICtail™ connector supports RF Modules, SD/MMC storage, speech playback modules and more - LEDs, capacitive and mechanical buttons, resistive pot, temperature sensor and EEPROM



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