Microchip Technology Inc. introduces the MCP1640, Synchronous Boost Regulator for low voltage application. With a start-up voltage of 0.65V and an operating voltage down to 0.35V, the MCP1640 enables the use of PIC MCUs with eXtreme Low Power (XLP) technology from a single, virtually drained Alkaline, NiMh or NiCd battery cell.

With integrated switches and an output current of up to 350 milliamperes, the 500 kHz MCP1640 regulator enables compact solutions by eliminating most external components. With a quiescent current as low as 19 microamperes, shutdown current of less than one microampere, and efficiency up to 96%, the MCP1640 allows for longer lasting battery powered applications. The MCP1640 offers two options for shutdown, True Load Disconnect or Input to Output Bypass, as well as PWM only and PWM/PFM operation, allowing designers to find the optimal combination of features for their applications.

Beyond simply enabling the use of PIC MCUs with XLP in single cell applications, the combination of the MCP1640 with an MCU makes it possible to increase overall application efficiency even further. The MCP1640's output voltage range from 2.0V to 5.5V allows designers to choose the voltage that best matches their application performance needs. For applications that require long stand-by times with no load, it is possible to significantly extend the battery lifetime by operating the MCP1640 in Shutdown mode (True Load Disconnect Option) most of the time, with the MCU powered from the output capacitor. The MCU can stay in Sleep Mode, conserving energy, periodically waking up to check the voltage on the capacitor, turning on the MCP1640 whenever necessary to charge the capacitor. This type of application enhancement can be done with very few hardware additions and a minimal amount of additional coding. The MCP1640 in conjunction with XLP technology takes applications to a new level of energy efficiency.

The MCP1640 is available in small 2mm x 3mm, 8-pin DFN package or a 6-pin SOT23 package.
Also available is an evaluation board, part # MCP1640EV-SBC.

Part numbers:

Newark sku	Microchip Part #
52R9885	MCP1640-I/MC
24R6819	MCP1640B-I/MC
73R3625	MCP1640BT-I/CHY
24R6821	MCP1640BT-I/MC
24R6822	MCP1640C-I/MC
73R3626	MCP1640CT-I/CHY
24R6824	MCP1640CT-I/MC
24R6825	MCP1640D-I/MC
73R3627	MCP1640DT-I/CHY
24R6827	MCP1640DT-I/MC
73R3628	MCP1640T-I/CHY

Links
MCP1640 Product page: www.microchip.com/mcp1640
Eval Board page :
http://www.microchip.com/stellent/idcplg?IdcService=SS_GET_PAGE&nodeId=1406&dDocName=en547128