

MPLAB® C30

C Compiler

Summary

The MPLAB C30 C Compiler is a fully ANSI compliant product with standard libraries for the dsPIC® Digital Signal Controller (DSC) architecture. It is highly optimizing and takes advantage of many dsPIC DSC architecture specific features to provide efficient software code generation. The MPLAB C30 C compiler also provides extensions that allow for excellent support of the hardware, such as interrupts and peripherals. It is fully integrated with the MPLAB IDE for high level, source debugging.

This compiler comes complete with its own assembler, linker and librarian to write mixed mode C and assembly programs and link the resulting object files into a single executable file.

The MPLAB C30 C Compiler is distributed with a complete ANSI C standard library. The library includes functions for string manipulation, dynamic memory allocation, data conversion, timekeeping, and math functions (trigonometric, exponential and hyperbolic).

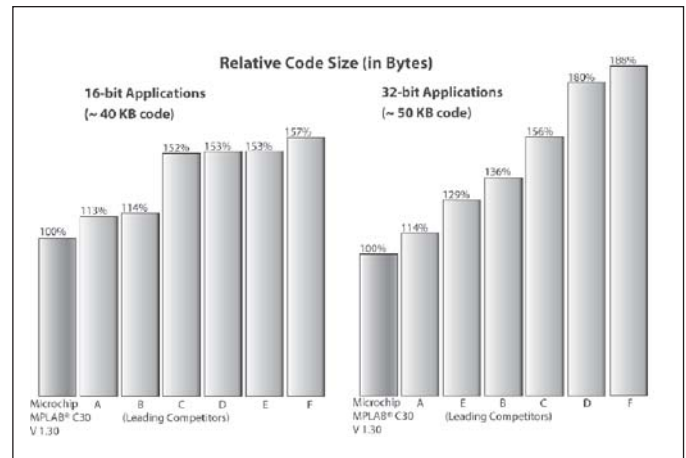
The compiler supports both large and small code and data models. The small code model takes advantage of a more efficient form of call instructions, while the small data model supports the use of compact instructions for accessing data in SFR space.

The MPLAB C30 C Compiler includes a powerful command-line driver program. Using the driver program, application programs can be compiled, assembled, and linked in a single step

Features

Key features of the MPLAB C30 C Compiler include:

- ANSI-compliant
- Integrated with MPLAB IDE for easy-to-use project management and source-level debugging
- Generates relocatable object modules for enhanced code reuse
- Fully compatible with object modules generated with MPLAB ASM30 Assembler, allowing complete freedom to mix Assembly and C in a single project
- Interrupt code can be written in C or Assembly
- Flexible memory models take advantage of small memory applications and the storage of data in SFR space



Features (Continued)

- Strong support for inline assembly when total control is absolutely necessary
- Super-efficient code generator engine with multi-level optimization
- Extensive library support, including standard C, math, DSP and dsPIC30F peripheral libraries
- Software libraries and application development tools are available

Package Contents

- MPLAB C30 C Compiler software
- MPLAB IDE software and documentation CD
- *MPLAB ASM30, MPLAB LINK30 and Utilities User's Guide*
- *MPLAB C30 C Compiler User's Guide*
- *dsPIC DSC Language Tools Getting Started*