

Introduction

This application note focuses on the differences and types of modifications which are necessary to make the SY89430V work in Motorola's MC12430 applications. (Note, the Micrel-Synergy SY89430 can also be used in Motorola MC12439 applications but it is not pin-to-pin compatible, therefore, if one is interested in using the SY89430 in MC12439 applications, the Micrel-Synergy part must be designed in from the start. Please feel free to contact Micrel-Synergy's applications group for assistance.) Differences between Micrel-Synergy's and Motorola's part will be highlighted and then a diagram will show how the board should be laid out to accommodate both the Micrel-Synergy and Motorola part.

The main difference is that the Micrel-Synergy SY89430V requires an external loop filter network and pin 6 is AVCC. Here is how the board should be laid out or modified for use of the SY89430V in a MC12430 application. See Figure 1.

USING THE SY89430V IN MC12430 APPLICATIONS

MC12430	Micrel-Synergy SY89430V
Pin 2 - PWR_DOWN	Pin 2 - LOOP_FILTER ⁽⁴⁾
Pin 3 - FREF_EXT	Pin 3 - LOOP_REF ⁽⁵⁾
Pin 6 - OE	Pin 6 - VCC1

Table 2. Pin Difference Between The Motorola MC12430 and Micrel-Synergy SY89430V.

REPLACEMENT LAYOUT

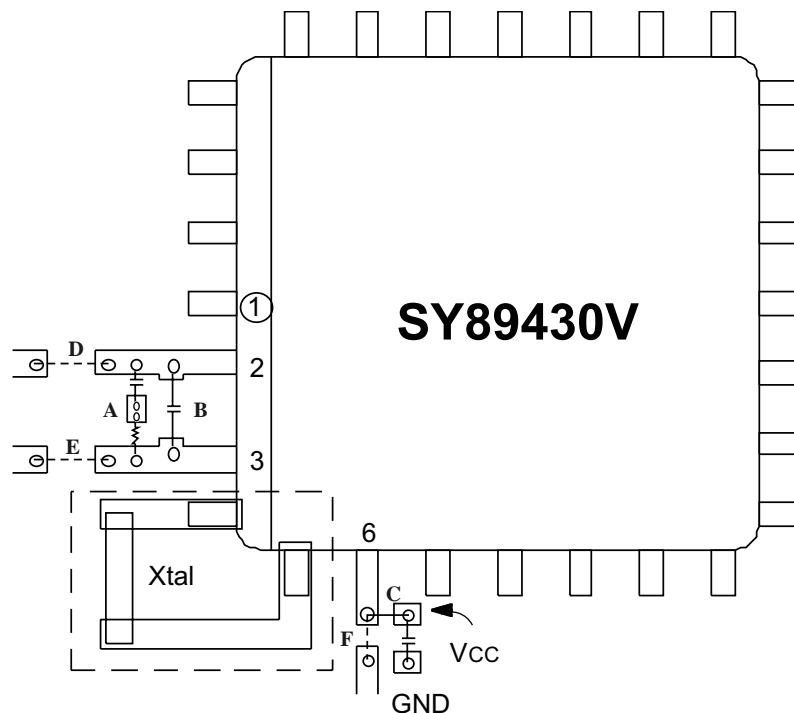


Figure 1. Micrel-Synergy's SY89430V vs. Motorola's MC12430

NOTES:

1. When using the Micrel-Synergy SY89430V, leave A, B and C connected and D, E and F disconnected.
2. If using the MC12439, leave D, E and F connected and A, B and C disconnected.
3. Xtal connection is shown within dashed box for reference.
4. No Power Down mode is available in SY89430V.
5. No FREF_EXT is needed. The Xtal1, Xtal2 pins can be driven with 100K PECL level by an external source.

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