

## Converting to 24LCXXB and 93LCXX Serial EEPROMs

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Microchip Technology Inc. is constantly striving to give you, our customer, greater value. In the Serial EEPROM market this means creating devices that exhibit greater reliability, that consume less power, have more features and are priced aggressively with respect to our competitors. We have created the 24LCXXB and 93LCXX families of Serial EEPROMs to meet all of these goals and more. We are proud to announce that these families of EEPROMs are the

world's first to be guaranteed to 10 Million Erase/Write cycles. Please see Table 1 below for a complete list of the benefits for converting from "C" designated parts from Microchip and other vendors.

For most applications, there are no hardware or software compatibility issues in converting to the "LC" parts, you can drop them into the socket and you will be off and running. A small percentage of designs could require some modification to your hardware or software. Please review Table 2 and Table 3 to ensure that the "LC" parts will work correctly in your systems.

**TABLE 1: FEATURES AND BENEFITS OF CONVERSION**

Feature	Benefit
Higher Endurance	Opens new applications for Serial EEPROMs Lower FIT rate at given Write Cycle point
Smaller Die	Lower Cost
Lower Voltage / Lower Power	Enables new battery powered uses Allows for lower overall system VCC
Smaller Process Geometry	Avoids obsolescence of older technology
Schmitt Trigger Inputs (24LCXXB)	Filtering for better noise immunity
Rotated Pinout Versions (93LCXX/SN)	Conforms to alternate industry pinout
Hardware Write Protect (24LCXXB)	Enhanced data protection

**TABLE 2: CONVERSION ISSUES FOR 24LCXXB**

Conversion Issue	Detail
Addressing	The "LC" versions do not have active address pins and, therefore, you can only have one of these devices on the I <sup>2</sup> C™ bus.
Write Speed	The "LC" parts have a maximum write time of 10ms, while the "C" parts have a write time of 1ms.
Write Disable Voltage	The "LC" versions will write down to 1.5V, while the "C" versions will disable writing below 4.0V.
Write Protection	The "C" parts have either no write protection or protection on one half of the array, the "LC" parts all have full array protection, implemented by connecting pin 7 to Vcc.

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**TABLE 3: CONVERSION ISSUES FOR 93LCXX**

<b>Conversion Issue</b>	<b>Detail</b>
Write Speed	The "LC" versions have a maximum write time of 10ms, compared to 1ms for "C."
Write Disable Voltage	The "LC" parts will write down to 1.5V while the "C" parts will only write down to 4.0V.
Start of Write Cycle	The "LC" versions start the write cycle on the low going edge of chip select, the "C" versions start on the last data bit clock.

NOTES:

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