

Migrating from FM20L08 to FM28V100

How to Create a PCB for Compatibility



DESCRIPTION

The FM20L08 (128Kx8) and FM28V100 (128Kx8) devices are offered in the 32-pin TSOP-I package. The package body size is 8.0 x 13.4 mm and the pin pitch is 0.5 mm. The two devices are not pin compatible with each other, but they are very similar. It is possible to design a pc board such that either device can populate the board.

PCB LAYOUT CONSIDERATIONS

The two parts have slightly different pin assignments. The differences are pins 6 and 9. The FM20L08 has a DNU on pin 6 and /LVL on pin 9. The FM28V100 has CE2 on pin 6 and NC on pin 9. Most designs do not use the /LVL pin (FM20L08). The board may be layed out such that pin 9 is left floating.

Many controllers do not have an active-high CE2 chip enable. Instead, they have an active-low chip enable, which should be connected to pin 30. This is /CE on the FM20L08 and /CE1 on the FM28V100. The functionality of this chip enable is identical on both devices. The FM28V100's active-high CE2 on pin 6 has an internal pullup resistor to V_{DD} , and is intended to be a drop-in replacement. The block diagram shows the connections of interest and Figure 2 shows the 32-pin FM20L08 and FM28V100 pinouts with pin numbers and associated pin names.

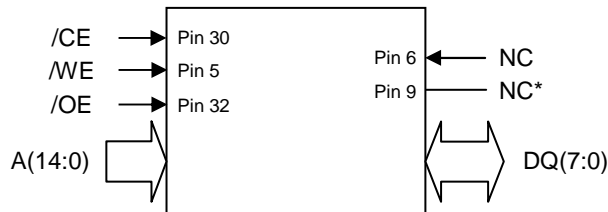


Figure 1. Block Diagram Representation of Primary Connections

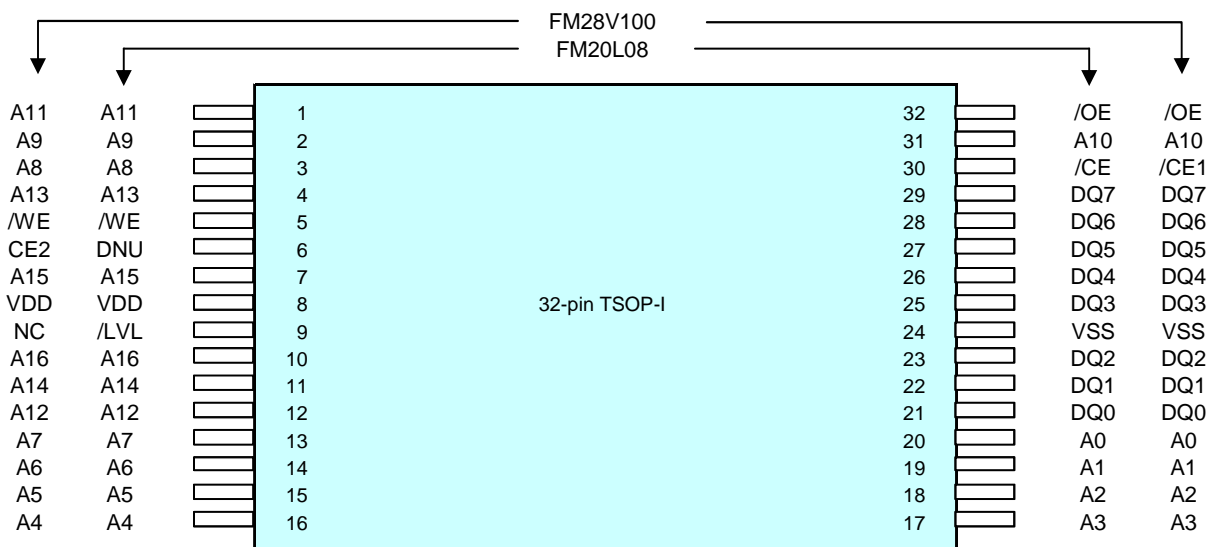


Figure 2. FM20L08 and FM28V100 Pin Assignments in 32-pin TSOP-I