KS8721BL Application Note
Drop-in replacement with KS8721BT
AN117

Introduction
Micrel proudly introduces the new KS8721BL, a single port 10/100 Ethernet PHY that requires only a single 3.3 V power supply, and is backward compatible with Micrel's highly successful KS8721BT. This application note describes the migration from the KS8721BT to the KS8721BL to take advantage of the new single power supply feature to save BOM cost and board space.

Implementation for drop-in from KS8721BT to KS8721BL
The existing reference design for the KS8721BT is shown in Figure 1 below. It was implemented using the MIC5255-2.5 BM5 to supply the core voltage of 2.5V to the KS8721BT. The KS8721BL simply replaces the KS8721BT pin for pin, and the MIC5255-2.5BM5 can be removed as shown in figure 2. This is possible because the MIC5255 is now integrated into the KS8721BL. It receives an input 3.3V power supply from the VDDIO pin (24), and supplies the 2.5V out to the VDD_RCV pin (38). The remaining 2.5V power pins (42, 31, 13) receive their supply through the existing 2.5V plane.

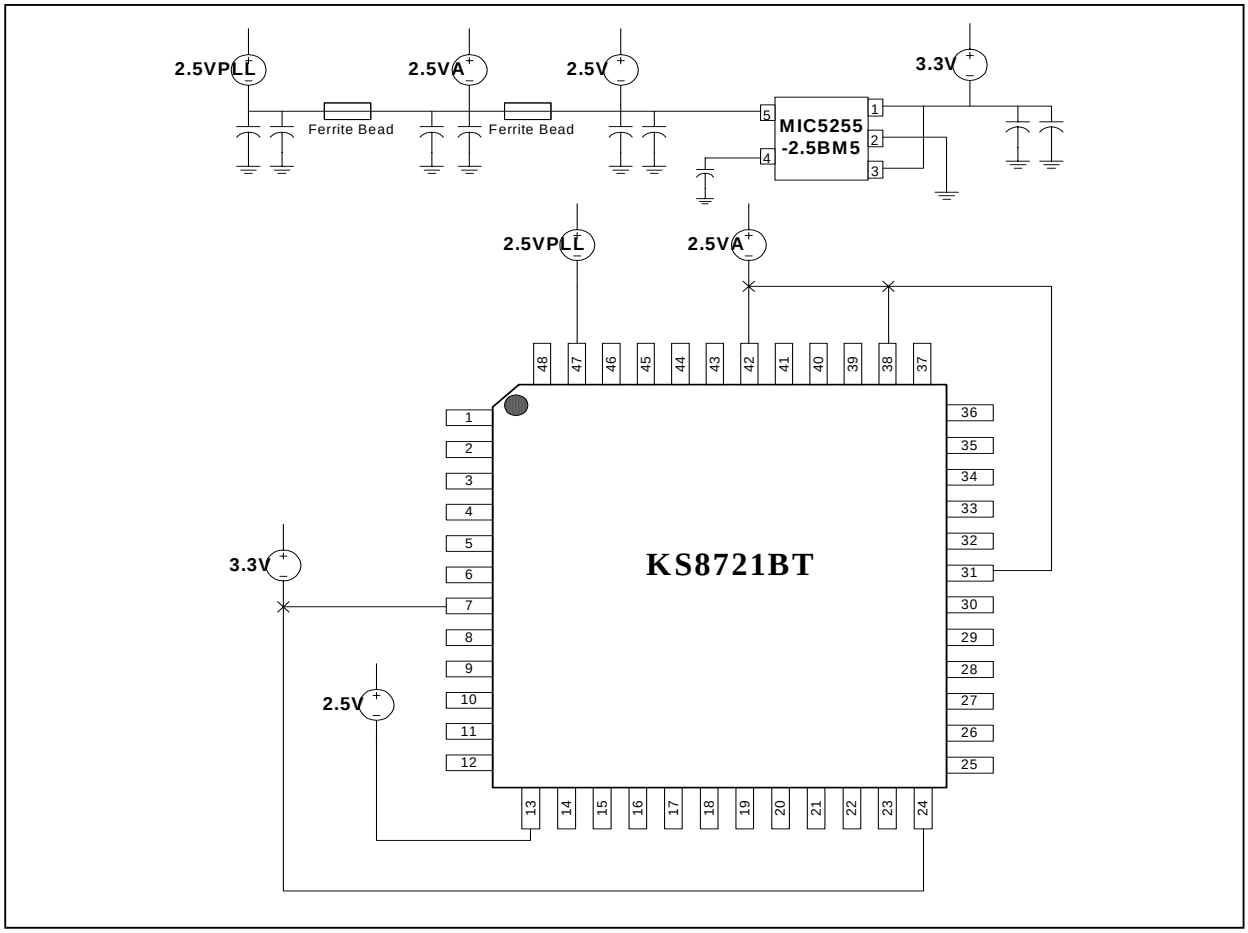

Figure 1. Layout with KS8721BT device and external LDO

Micrel's integrated LDO technology, and thoughtful implementation allows the user to save BOM cost on both existing and future designs with the use of the new KS8721BL single supply, single port 10/100 Ethernet PHY.

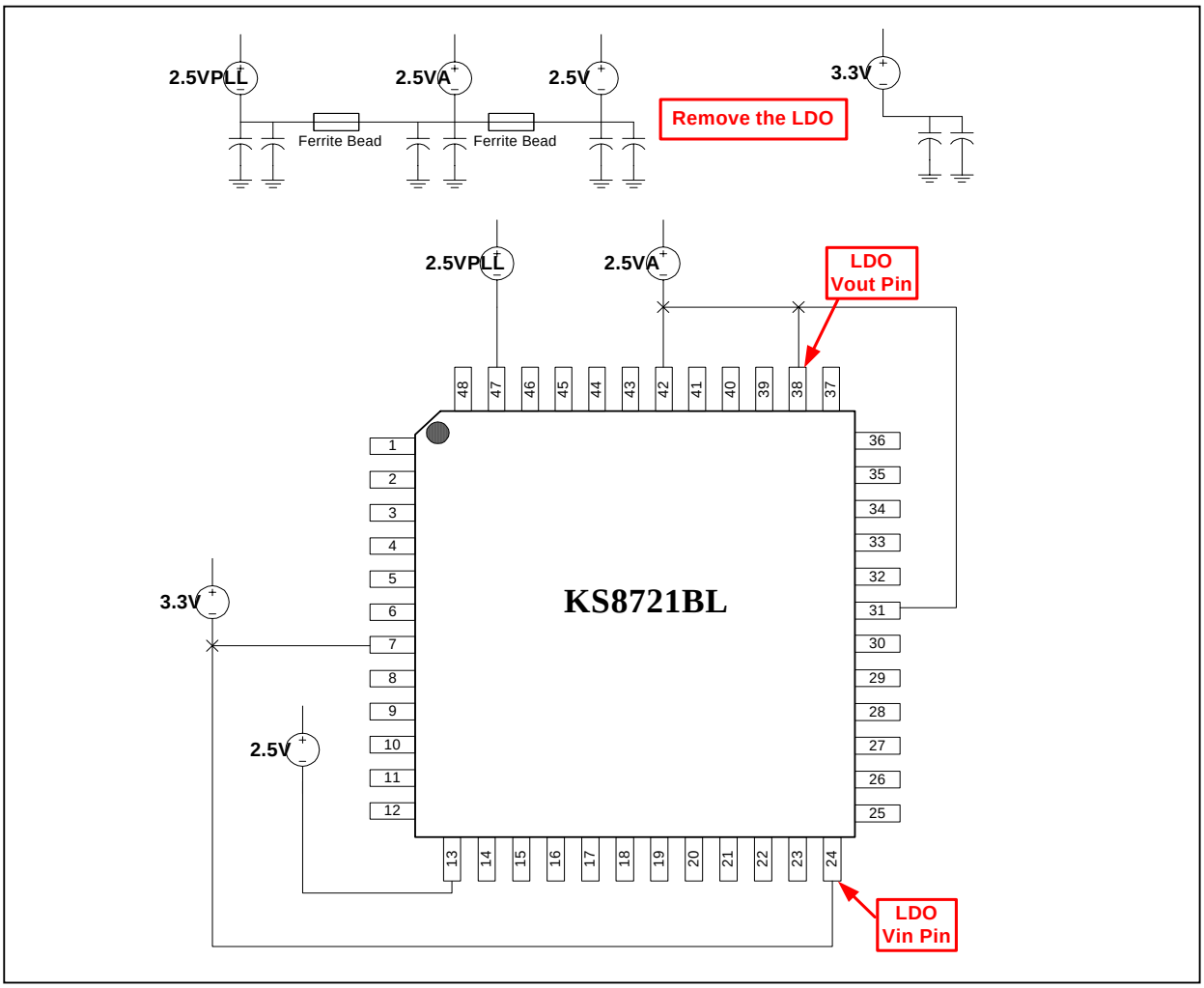

Figure 2. Layout with KS8721BL with removal of LDO

Please contact Micrel FAE for any question in regarding to this Application Note.

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