

General Description

The KS8721BL, a single port 10/100 Ethernet PHY requiring only a single 3.3V power supply, is backward-compatible with the KS8721BT.

This application note describes the migration from the KS8721BT to the KS8721BL which takes advantage of the new single power supply feature, saving both BOM costs and board space.

Implementation for Drop-In from KS8721BT to KS8721BL

The existing reference design for the KS8721BT is shown in Figure 1. This design uses the MIC5255-2.5BM5 to supply the core voltage of 2.5V to the KS8721BT. The KS8721BL replaces the KS8721BT pin-for-pin and allows the removal of the MIC5255-2.5BM5, as shown in Figure 2. This is possible because the MIC5255 is integrated into the KS8721BL. It receives its input 3.3V power supply from the V_{DDIO} pin (24); the 2.5V is generated by an internal regulator through the V_{DD_RCV} pin (38). The remaining 2.5V power pins (42, 31, 13) receive their power supply through the existing 2.5V plane.

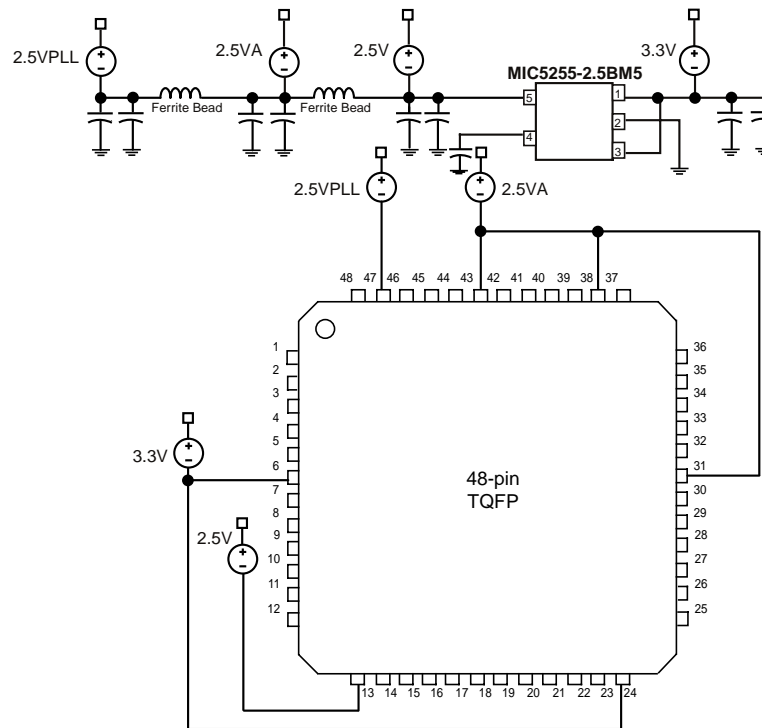


Figure 1. Layout with KS8721BT Device and External LDO

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

For additional information, contact your local Micrel Field Application Engineer or salesperson.

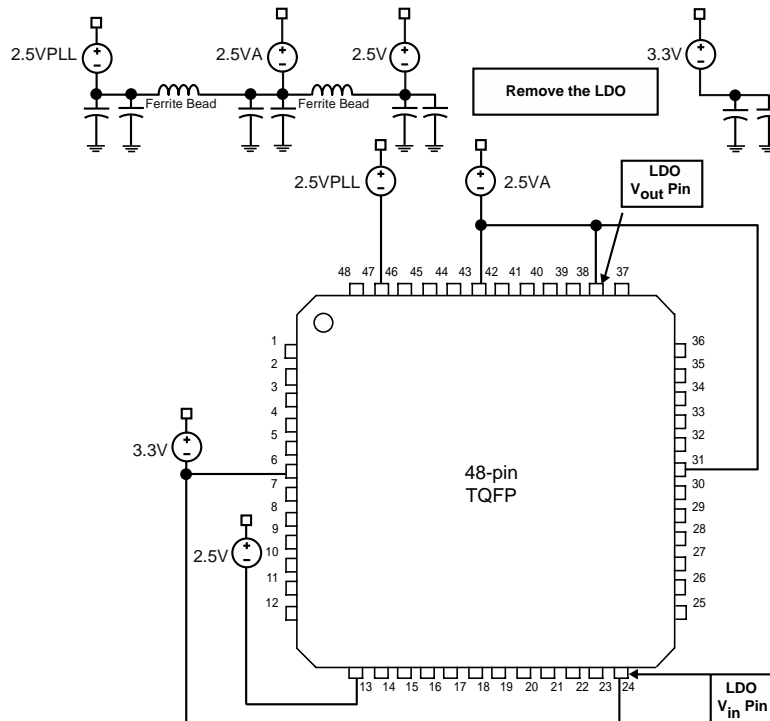


Figure 2. Layout with KS8721BL with LDO Removed

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