

For applications where the single-ended control signals are not required, such as PhoneNet[®], the LTC1323CS16 can be used as shown in Figure 3. The differential driver is still able to drive a single-ended load to V_{EE} when not connected to a LocalTalk network.

LTC491

For PhoneNet-type applications where the differential driver is not required to drive a single-ended load below ground, the LTC491 can be used as shown in Figure 4. Only RS485 drivers will work in this application. RS422 drivers will not work because they load the cable when the chip power is removed.

EMI Filter

Most LocalTalk applications use an electromagnetic interference (EMI) filter consisting of a resistor-capacitor T network between each driver and receiver and the connector (Figure 5). Unfortunately, the resistors significantly attenuate the driver's signal applied to the cable. Because the LTC1323 and LTC491 are single supply drivers, the resistor values should be reduced to 5Ω to 10Ω to insure enough voltage swing on the cable. In most applications, removing the resistors completely does not cause an increase in EMI as long as a shielded connector and cable are used. With the resistors removed, the only DC load becomes the primary of the LocalTalk transformer. This will increase the DC standby current when the drivers are active, but does not adversely affect the drivers because they can handle a direct short circuit indefinitely. For maximum swing and EMI immunity, a ferrite bead and capacitor could be used.

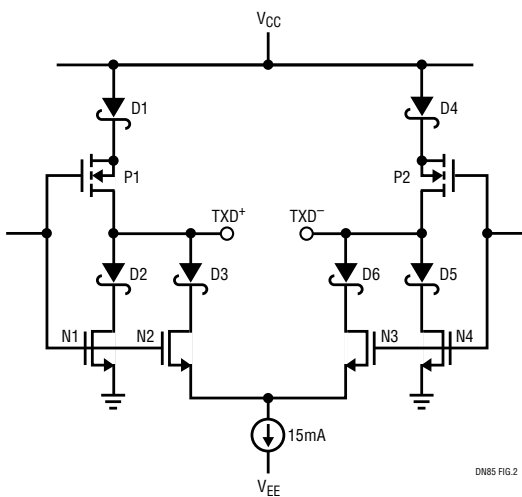


Figure 2. LTC1323 Differential Drive Output Stage

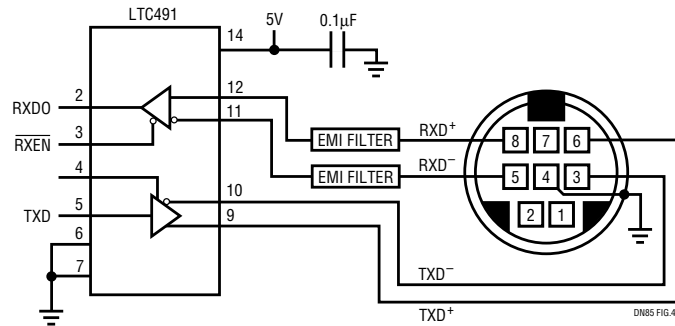


Figure 4. PhoneNet Application

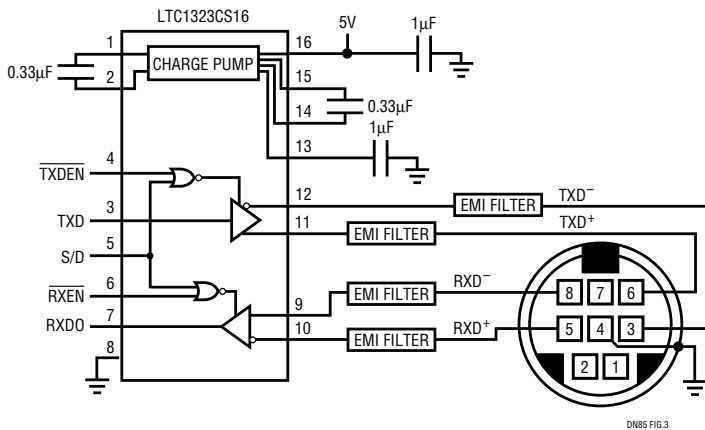


Figure 3. PhoneNet Application

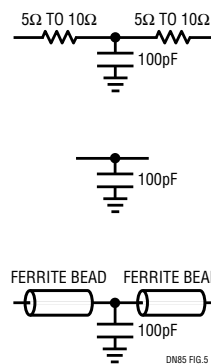


Figure 5. EMI Filters

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