

155 Mbps to 4.25 Gbps Laser Driver

RECOMMENDATION FOR BIAS CURRENT FILTERING

A suggested application circuit for the ONET4201LD / ONET4211LD pre-RTP samples is given in Figure 1 below.

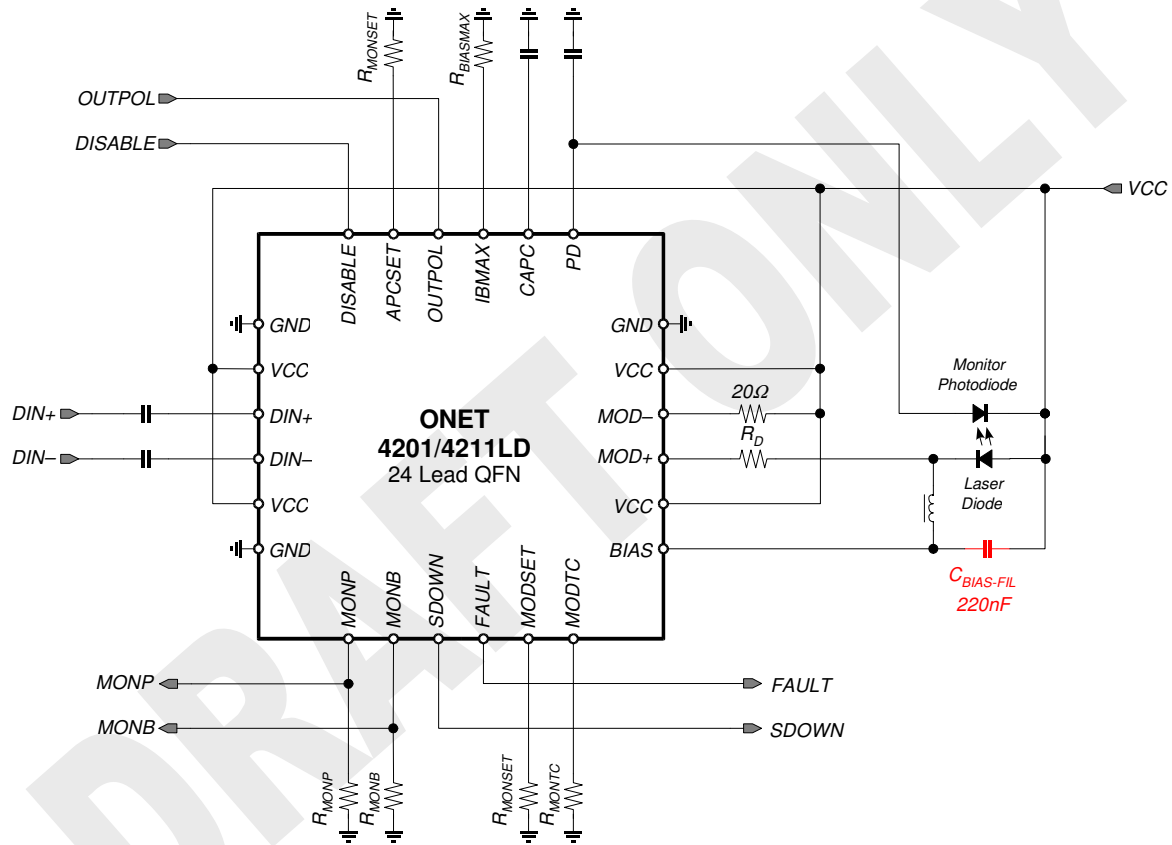


Figure 1: Application circuit for the ONET4201LD / ONET4211LD pre-RTP samples.

The currently sampled ONET4201LD / ONET4211LD laser drivers show a tendency to instability of the APC loop at bias currents in an intermediate current range. For minimum and maximum bias currents the APC loop is stable.

As an interim solution, the APC loop can be stabilized under all conditions using an external capacitor $C_{BIAS-FIL}$. This capacitor should be connected from BIAS (pin 13) to VCC. The recommended capacitance value is 220nF. This value is based on an assumed 10-ohms (low-frequency) impedance of the laser diode. If the actual used diode has significantly lower low-frequency impedance, the capacitance value should be increased accordingly.

For the final version of the ONET4201LD / ONET4211LD laser drivers, which will be released to production soon, the APC loop is stabilized on-chip thus no external filter capacitor will be required.

ASSEMBLY RECOMMENDATION