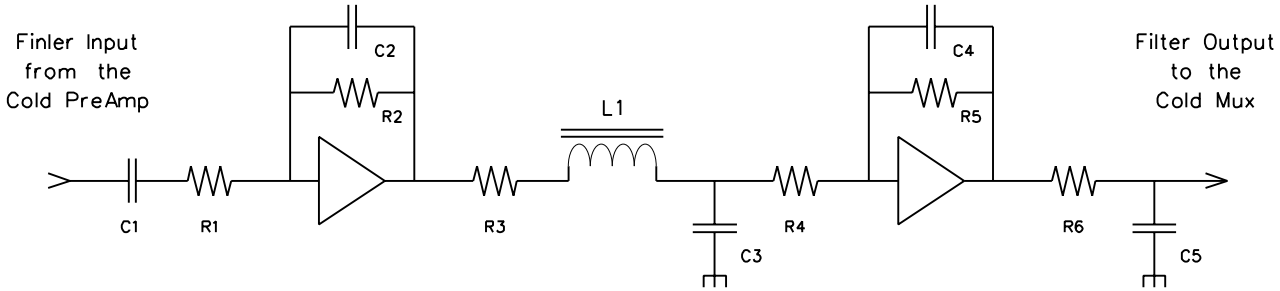
Cold 3-Pole Filter



The Drift Velocity is 1.5 mm/usec in a 500 V/cm field.
For a 3 to 5 mm plane spacing the risetime will be 2 to 3.3 usec.
For now pick a 2.5 usec peaking time or about 64 kHz.

R1C1 Tau 1.64 usec
R1 = 2k Ohm
C1 = 820 pFd

R2C2 Tau 560 nsec
R2 = 10k Ohm
C2 = 56 pFd

R3 = 845 Ohm
L1 = 560 uH
C3 = 2.2 nFd
R4 = 10k Ohm

R5C4 Tau 500 nsec
R5 = 49.9k Ohm
C4 = 10 pFd

R6C5 Tau 110 nsec
R6 = 499 Ohm
C5 = 220 pFd
See the Cold Mux Circuit

R2/R1 = 5.0

1/SQRT(L1 C3) = 901k
R3/(2xL1) = 754k
Wo > v --> underdamped

R5/R4 = 5.0

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