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(*Transimpedance amplifier using TI OPA657
  [1] TI application report, AN-1803 design considerations for a transimp amp
   [2] TI application report, Compensate tranimp damp intuitively *)
pF = 10^-12;
kΩ = 10^3;
MΩ = 10^6;
MHz = 10^6;
ns = 10^-9;

Cpmt = 21.8 pF;
GBW = 1600 MHz;

(*Eqs. 3 and 4 in *)
Rf = 1 kΩ;

f3dB = Sqrt[GBW / (2 π Cpmt Rf)] / MHz (*cut-off freq at 3dB. Eq. 4 in [1]*)

cf = Sqrt[Cpmt / (2 π Rf GBW)] / pF (*feedback capacitor for a smooth freq response. Eq. 3 in [1]*)

(*cf= 1/(4π Rf GBW) (1+Sqrt[1+8π Rf Cpmt GBW]) / pF (*More precise equation. Eq. 5 in [2]*)
108.079

1.47258

T = 20 ns;(*fall time, from 90% to 10%*)
τ = T / Log[9.];(*exponential time constant*)
1 / τ / MHz (*bandwidth*)
109.861
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