Discrete Si-BJT Totem Pole Gate Driver

Supply Sources

V1 +3V3 3.3
V2 VCC 6.5

Decoupling Capacitors

C1 1µ
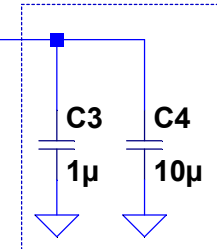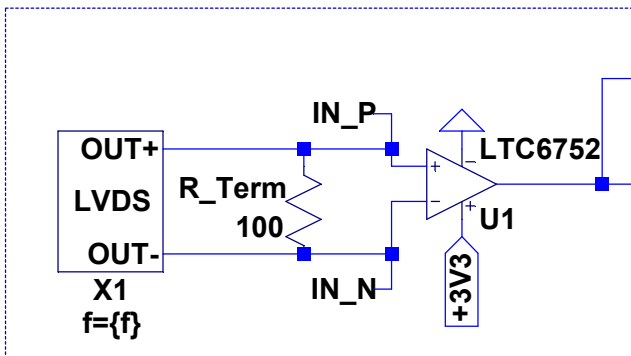C2 10µ

VCC
Lp11 1n
Lp13 1n

VCC
Lp12 1n
Lp14 1n

Decoupling Capacitors

C3 1µ
C4 10µ

Totem-Pole Driver Stage

R_LIM1 {Rc1}
R_LIM2 {Rc2}

Q2_B
Q2 BFU660F

Lp5 .1n
D1 BAT54
Lp6 .1n
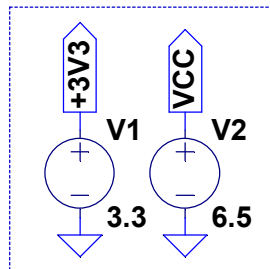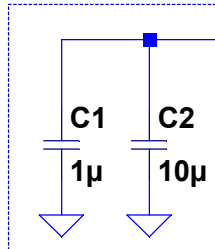
Most critical parasitic inductances

LVDS Signal Source and Comparator

LTC_OUT

IN_P
LTC6752
U1
+3V3

OUT+
LVDS
OUT-
X1
f={f}

R_Term 100

IN_N

Lp1 1n

Q1_B
R_B1 {Rb1}
Q1 BFU660F

Lp2 1n

Lp3 1n

Lp7 1n

TotemOut

Supply Switch Gate

Rg {R_Gate}
LOAD
Rgs {RGS}
Cgs 1p

Lp10 .1n

Lp8 1n

Q3_B
R_stab {Re1}
Q3 BFU660F

Simulation Commands and Parameters

Analysis Command
.tran 0 {15*T} {13*T}

Input Signal Parameters
.param f=.28G T={1/F}

Totem Pole Parameters
.param Rb1=.8k Rc1=120 Re1=100 Rc2=25
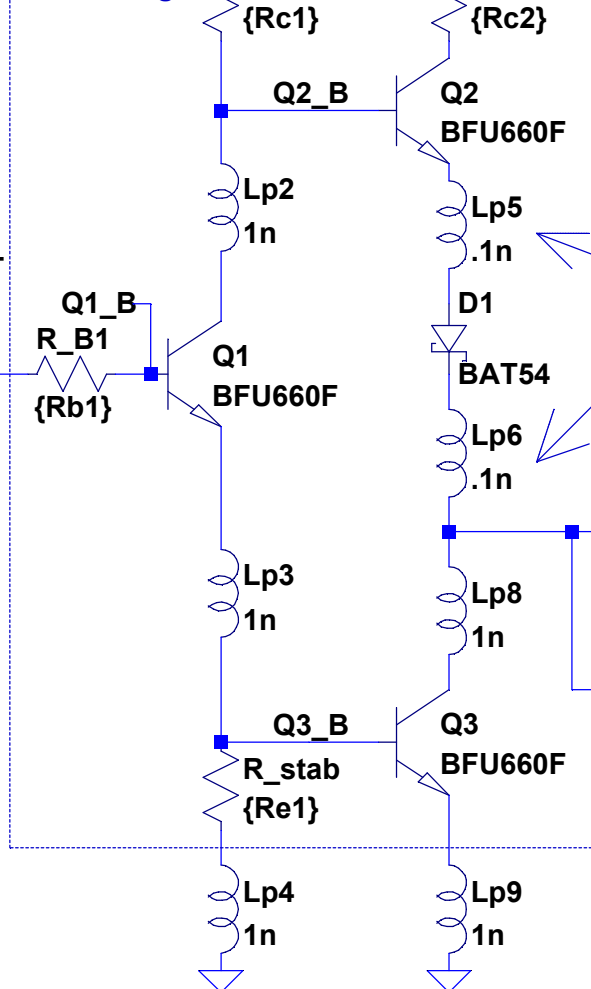
Load (Supply Switch Gate) Parameter
.param R_Gate=10 RGS=100k

BFU668 Bipolar Transistor Model Library
.include BFU668F_spice.lib

Lp4 1n

Lp9 1n