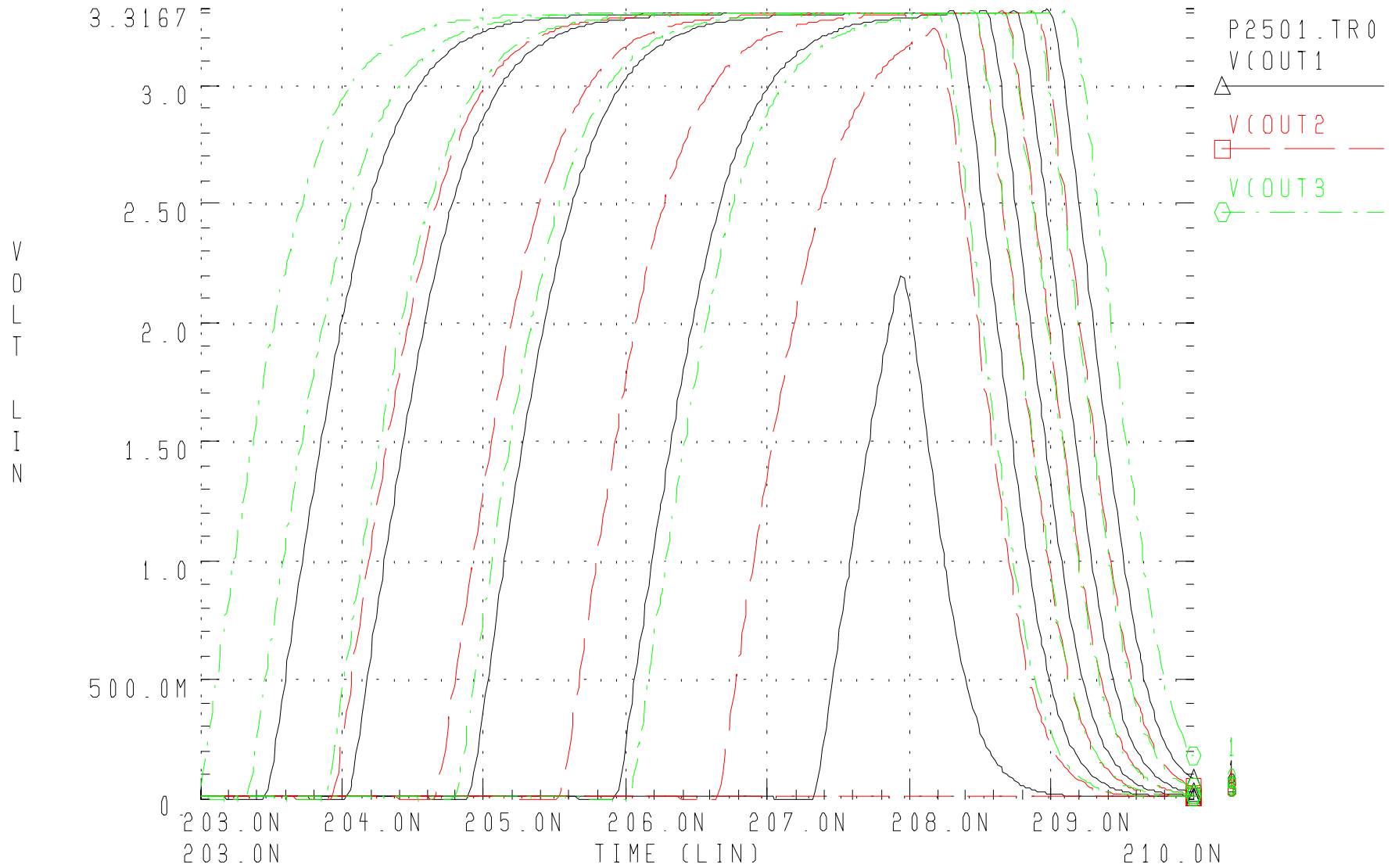


* RECEIVER W/ DIFFERENT COMMON MODE AND BIAS CURRENT

03/23/20

00 18:51:47



25% pre-comp, receiver output

Green, .-.-.-.-. pattern is 101010101010101

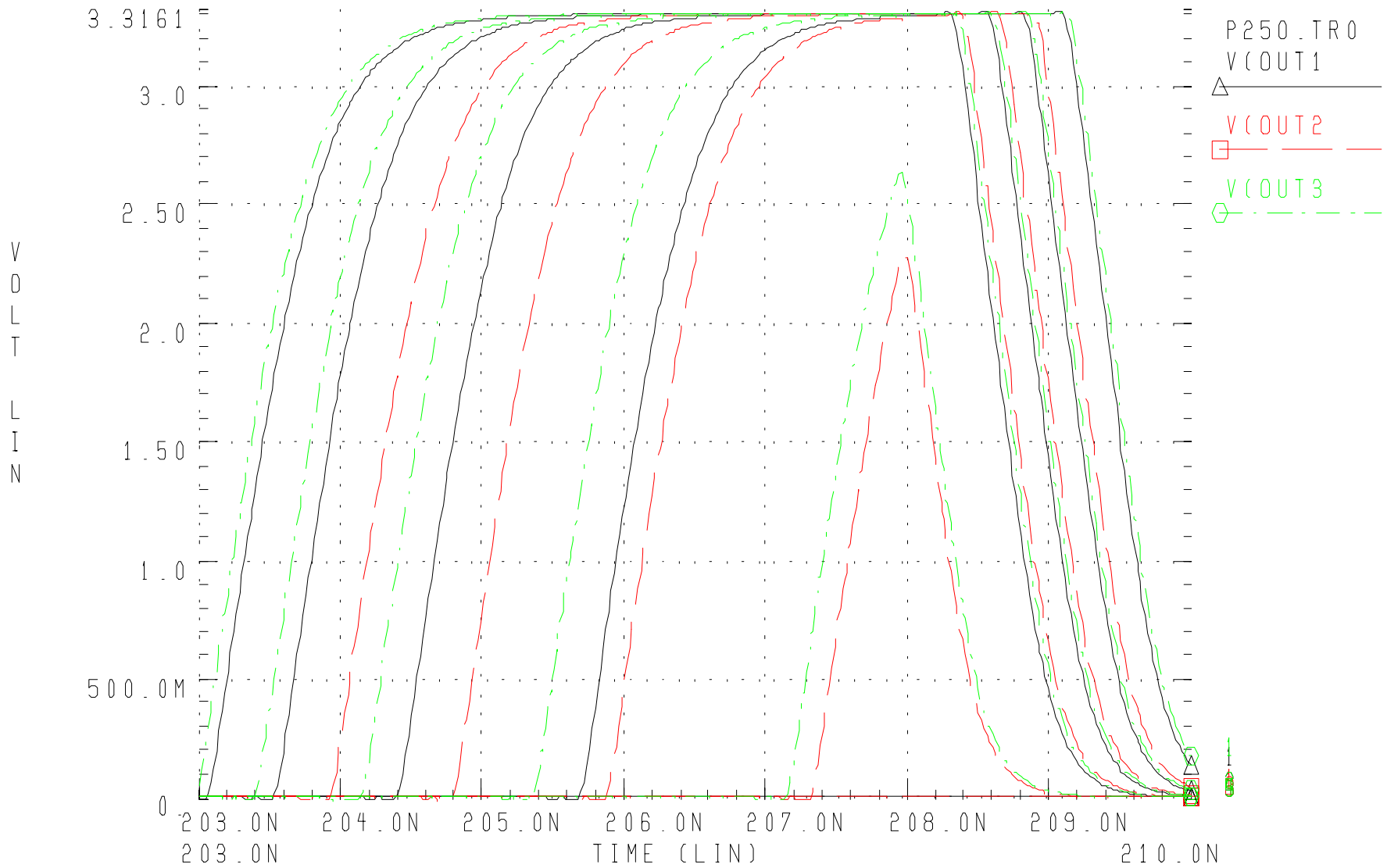
RED, _ _ _ _ _ pattern is
111111101111111011111110 No pre-comp

Solid Black , has pre-comp, same
1111111011111110 pattern as above.

1st solid black signal is ~.5ns delay from 1st green
dot-dash signal. Red dashed signal is 1 ns delayed

* RECEIVER W/ DIFFERENT COMMON MODE AND BIAS CURRENT
00 17:58:48

03/23/20



50% pre-comp, receiver output

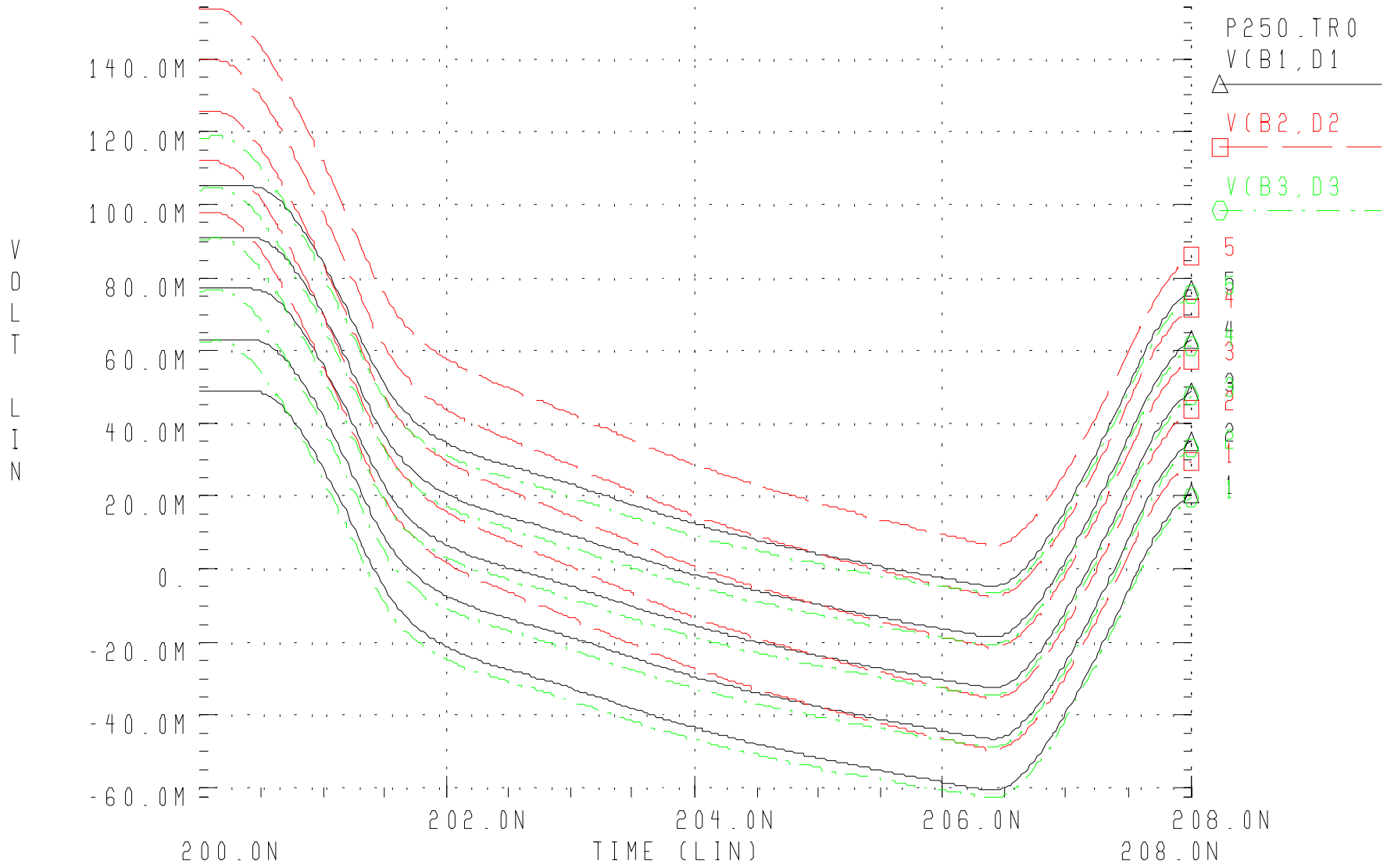
Solid black signal is nearly identical to dot-dash green, so, from this you can see that for 50% pre-comp, no extra overdrive is needed.

Also, note the difference in delay between the 1st green dot-dash and the 1st red dashed delay, about 1ns.

* RECEIVER W/ DIFFERENT COMMON MODE AND BIAS CURRENT

03/23/20

00 17:58:48

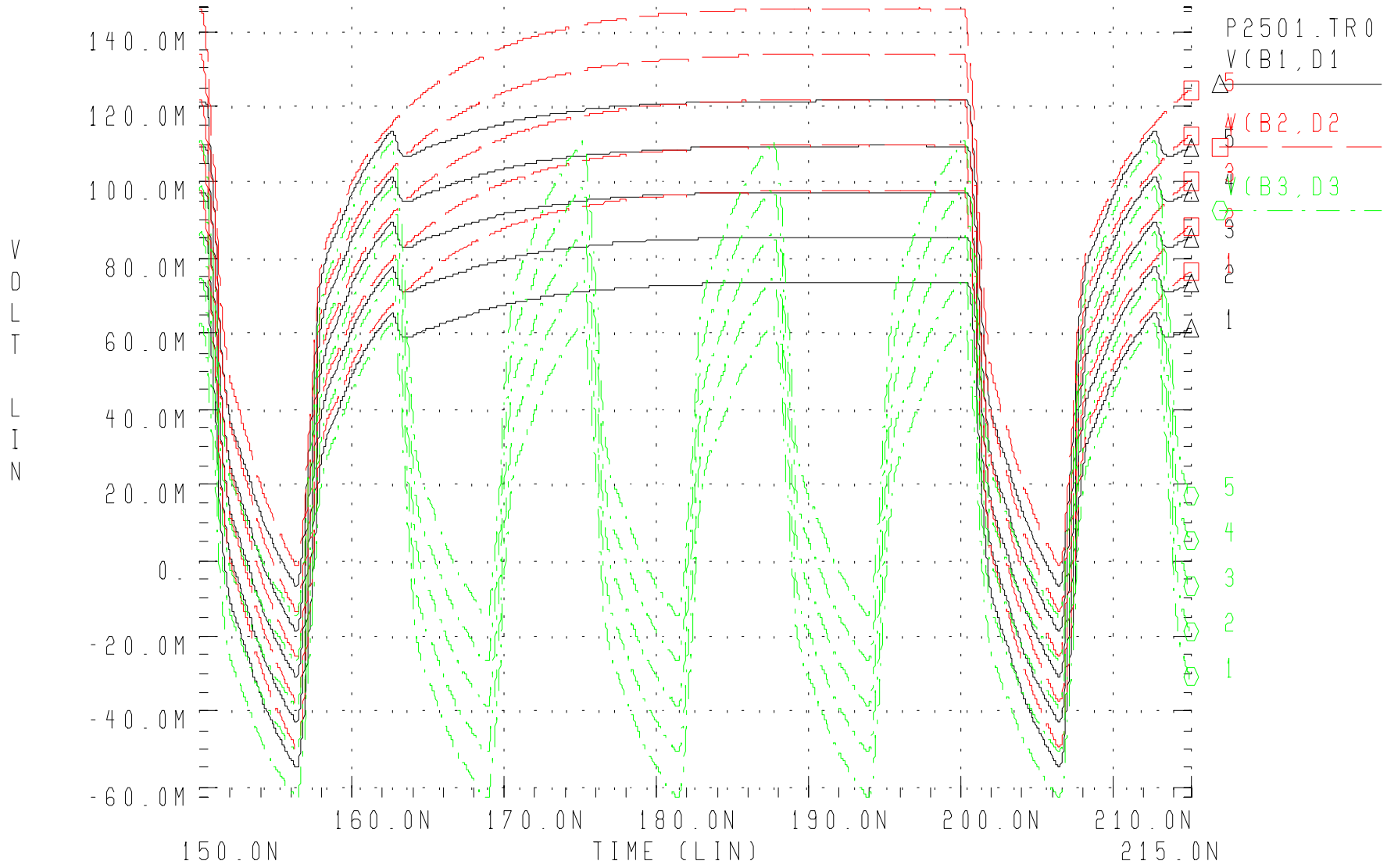


50% pre-comp, reciever input

* RECEIVER W/ DIFFERENT COMMON MODE AND BIAS CURRENT

03/23/20

00 18:51:47

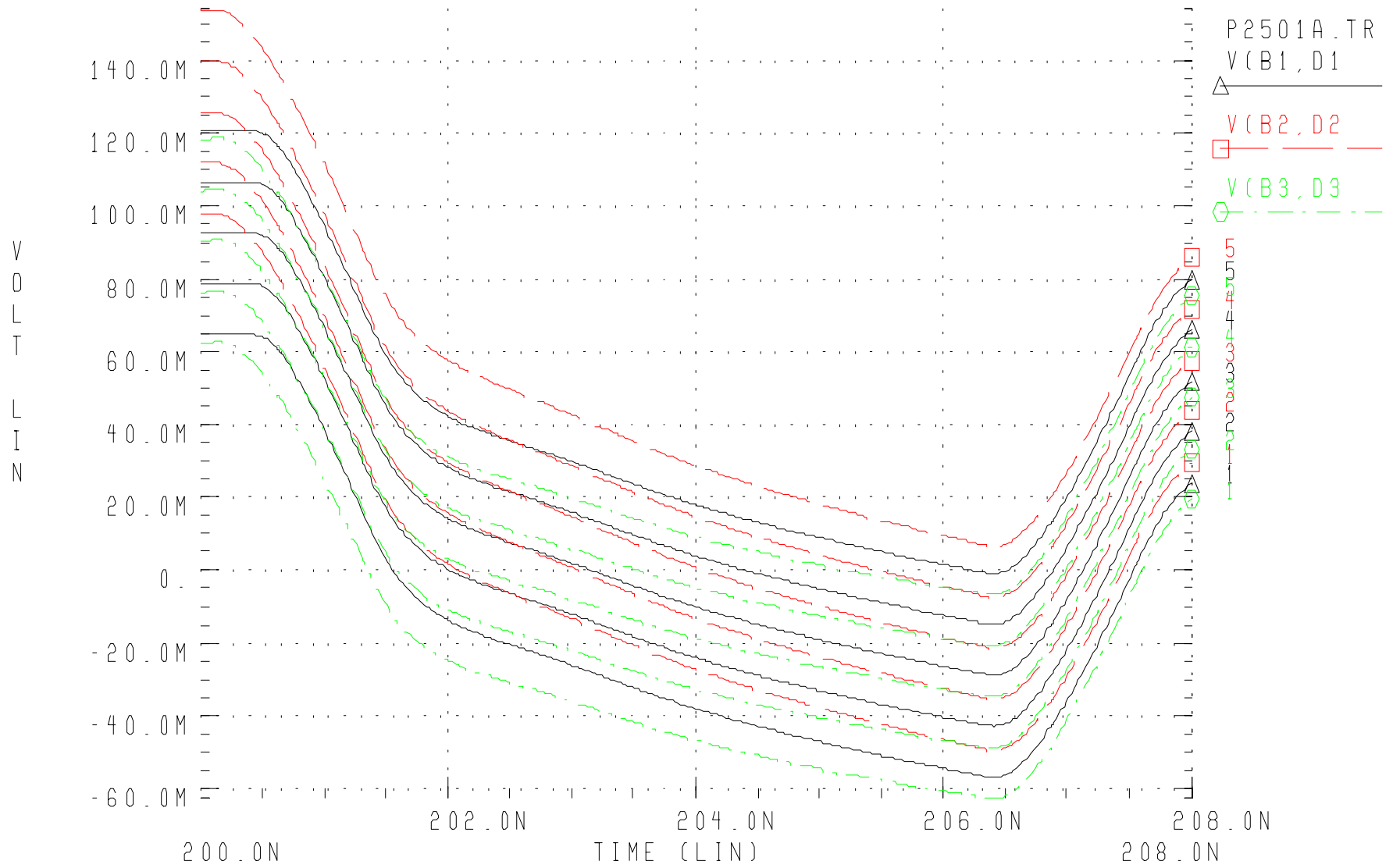


25% pre-comp, receiver input, expanded view

* RECEIVER W/ DIFFERENT COMMON MODE AND BIAS CURRENT

03/24/20

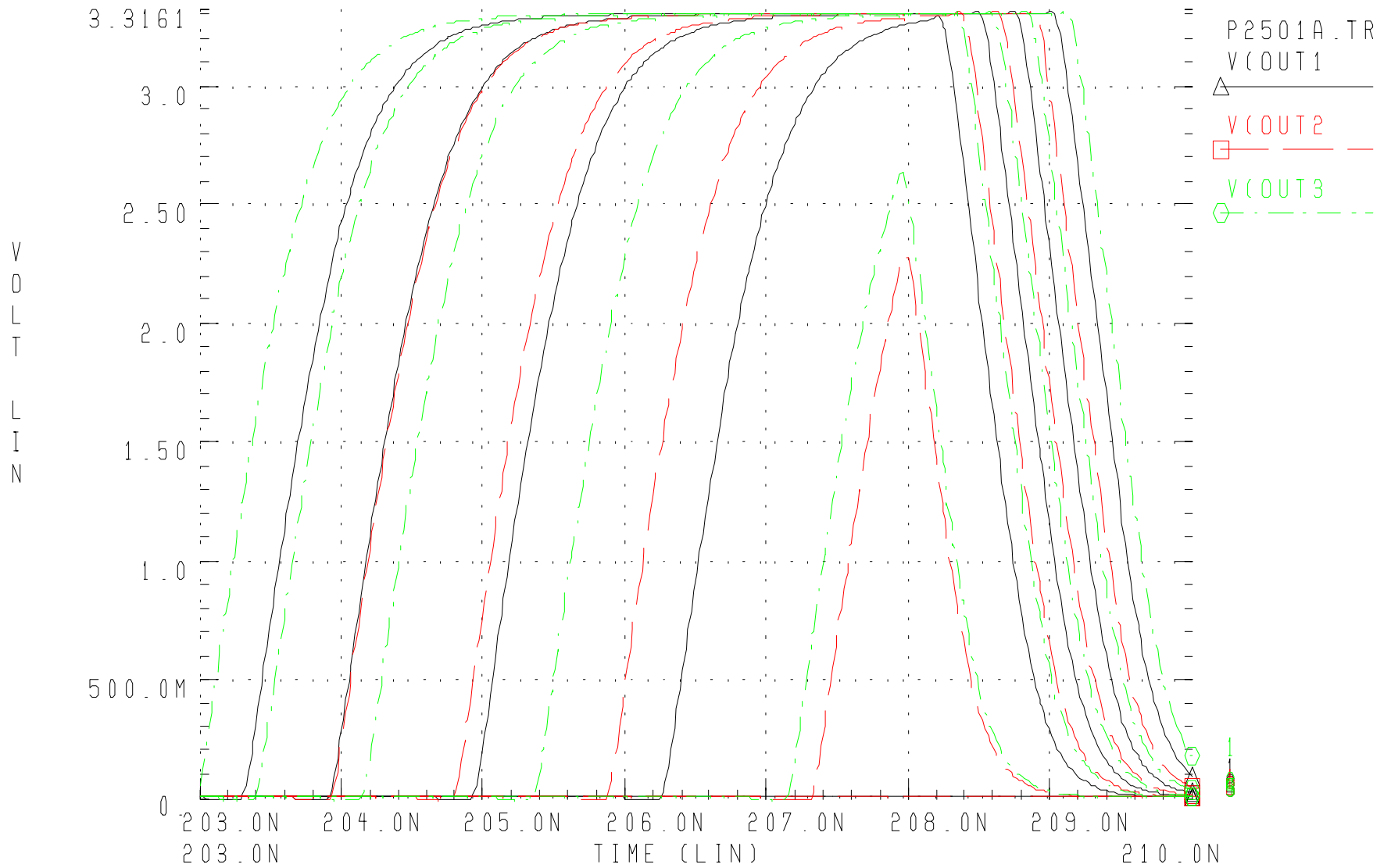
00 11:51:12



33% pre-comp, receiver input

* RECEIVER W/ DIFFERENT COMMON MODE AND BIAS CURRENT
00 11:51:12

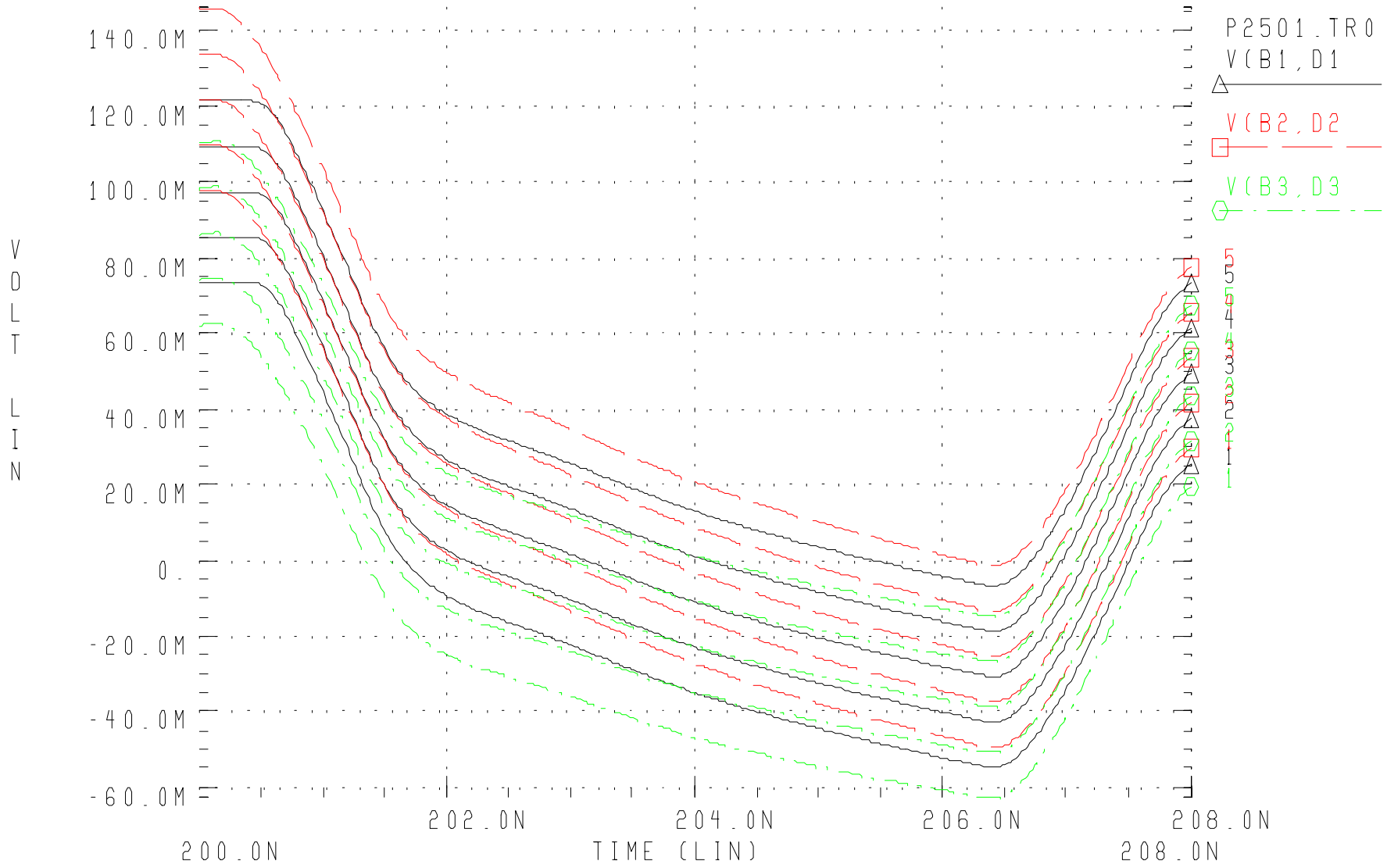
03/24/20



33% pre-comp, receiver output

* RECEIVER W/ DIFFERENT COMMON MODE AND BIAS CURRENT
00 18:51:47

03/23/20



25% pre-comp, receiver input

Conclusions:

- 1) Only 80mV is needed for an eye opening with 50% pre-comp, the extra 70mV of overdrive from ultra160 isn't needed.
- 2) If you do less than 50% pre-comp you can prorate.
- 3) 33% pre-comp only needs 75% of 70mV or about 20mV of extra overdrive.
- 4) 25% pre-comp needs about 35mv of extra overdrive.
- 5) Therefore, since $35\text{mV} + 80\text{mV} = 115\text{mV}$, is much less than 130mV, 130mV is fine for an eye opening.