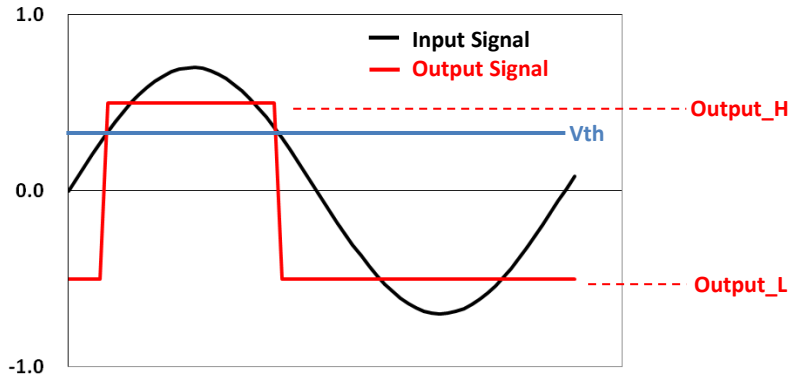


# Needed Signal Spec



### Requested Spec

$V_{in} > V_{th} \rightarrow V_{out}=H$

$V_{out} < V_{th} \rightarrow V_{out}=L$

\*\*  $V_{in}$  comes from HMC659LC5

### Signal Condition

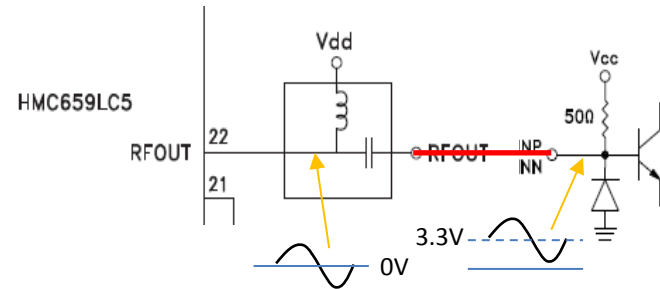
$V_{in} : 0.8V$  pk-pk,  $T=200ps$

$V_{out} : (LV)$  PECL

$V_{th} : -0.7V$  to  $+0.7V$ , DC Voltage (Adjustable)

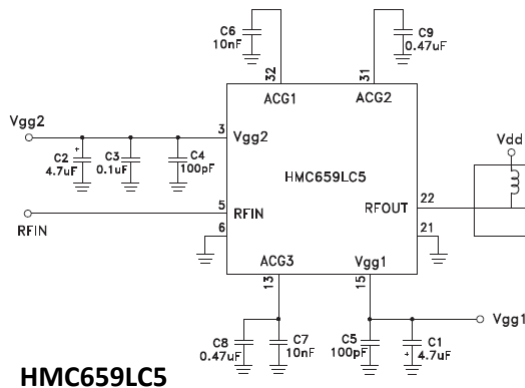
## Questions

1. Currently RFOUT of HMC659 is connected to INP of HMC914 directly as below. In that case the INP voltage becomes over 3.3V due to the internal pull-up. INP becomes  $3.3V \pm 0.4V$ . The  $3.3V + 0.4V = 3.7V$  exceed the absolute maximum ratings. You don't recommend our below design, don't you?



2. Do you have any good ideas to meet our spec using HMC914? (HMC659 is fixed part, we will not change this part)
3. If HMC914 can not meet, what part do you recommend? How do you think HMC674LC3C(High Speed Comparator) ?

# Current Circuit Design (HMC659 + HMC914)



$V_{th}$  is provided by a DC power supply.

