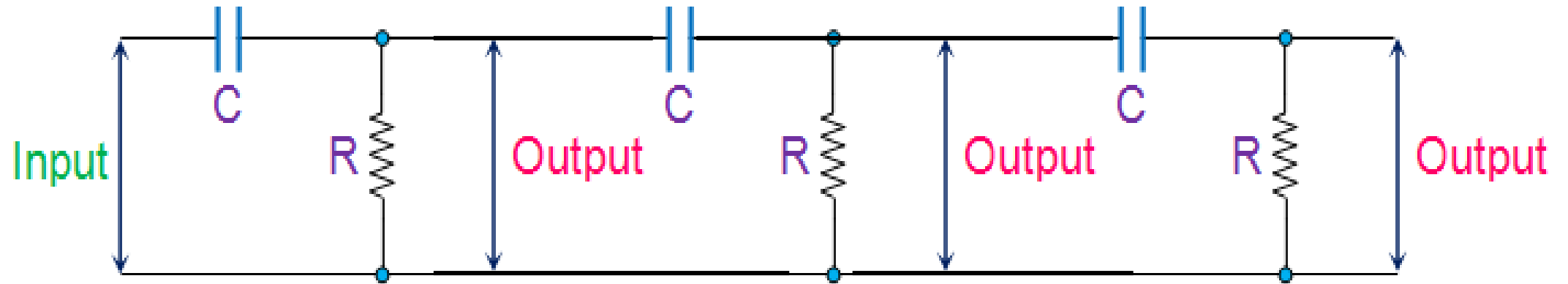


TRAP

Phase shift circuit & schedule

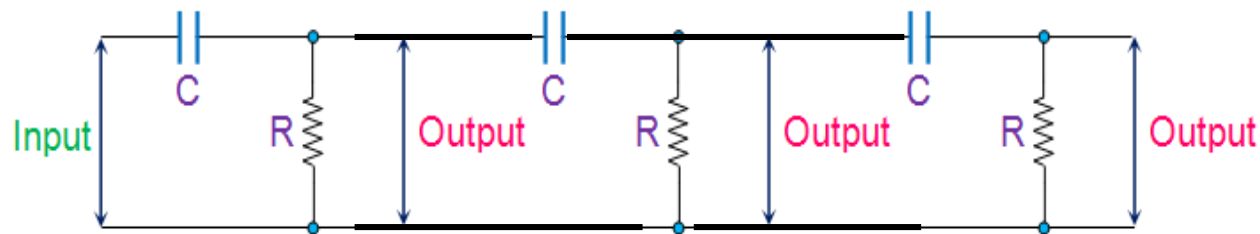
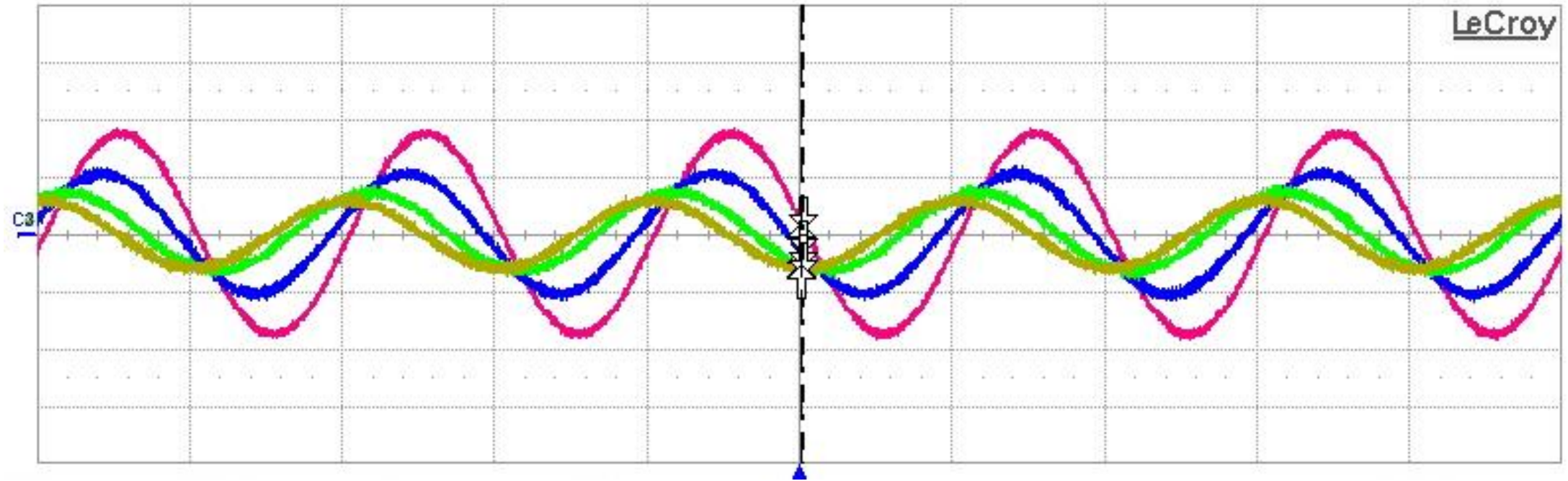
박관형

Phase shift



- $\theta = \tan^{-1} \frac{1}{2\pi fRC}$

Phase shift



$$\theta = \tan^{-1} \frac{1}{2\pi f RC}$$

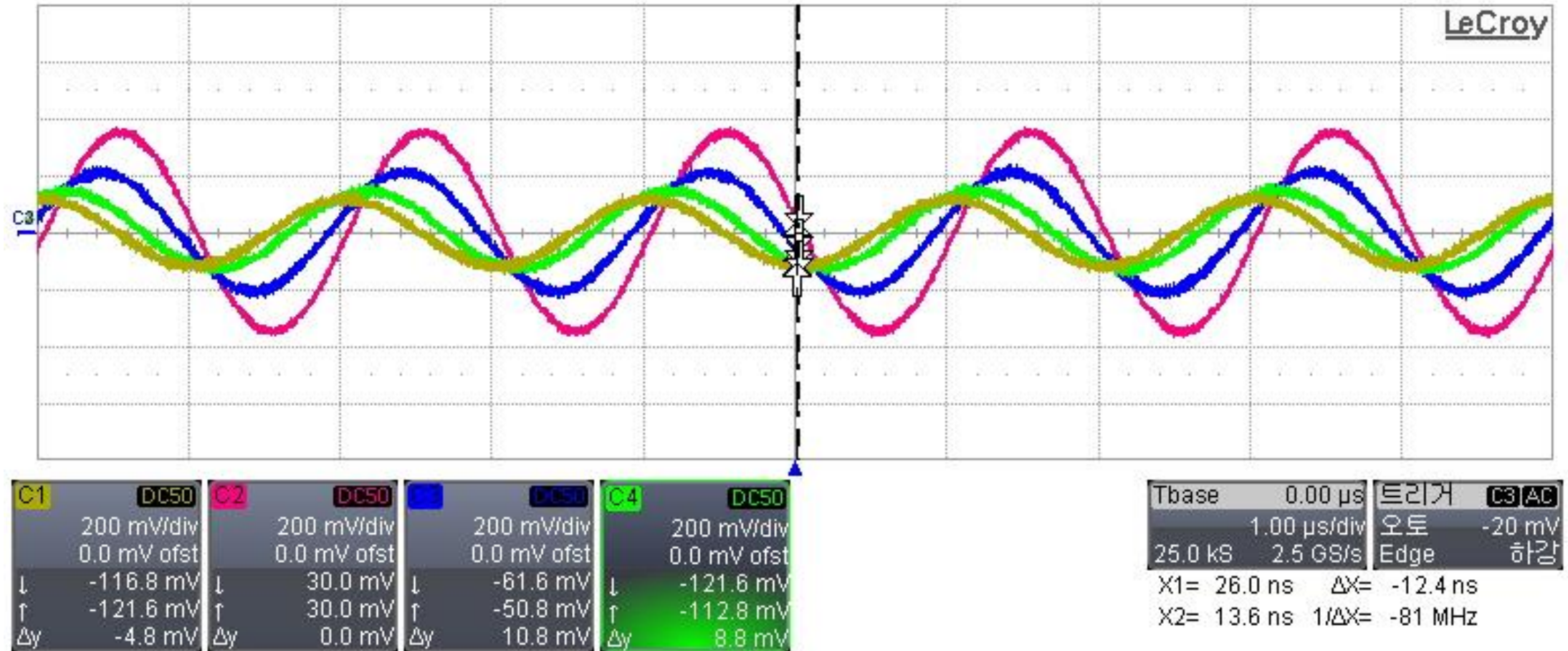
$$f = 500 \text{ kHz}$$

$$C = 10 \text{ nF}$$

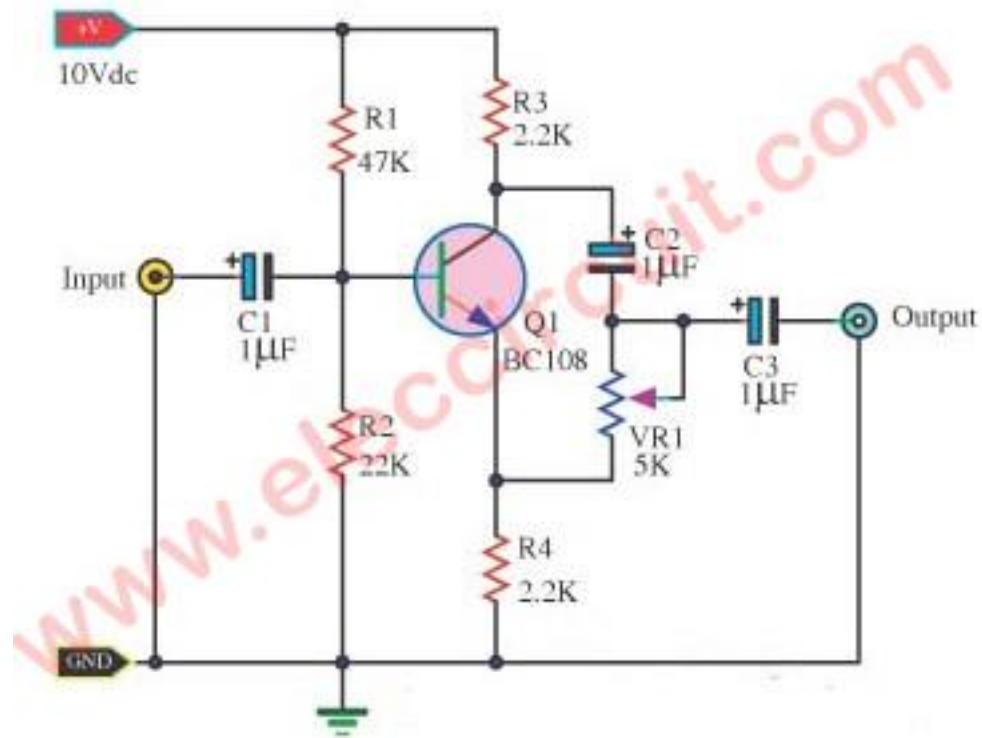
$$R = 50 \text{ Ohm}$$

$$\rightarrow \theta = \tan^{-1} \frac{2}{\pi} \approx 32.5^\circ$$

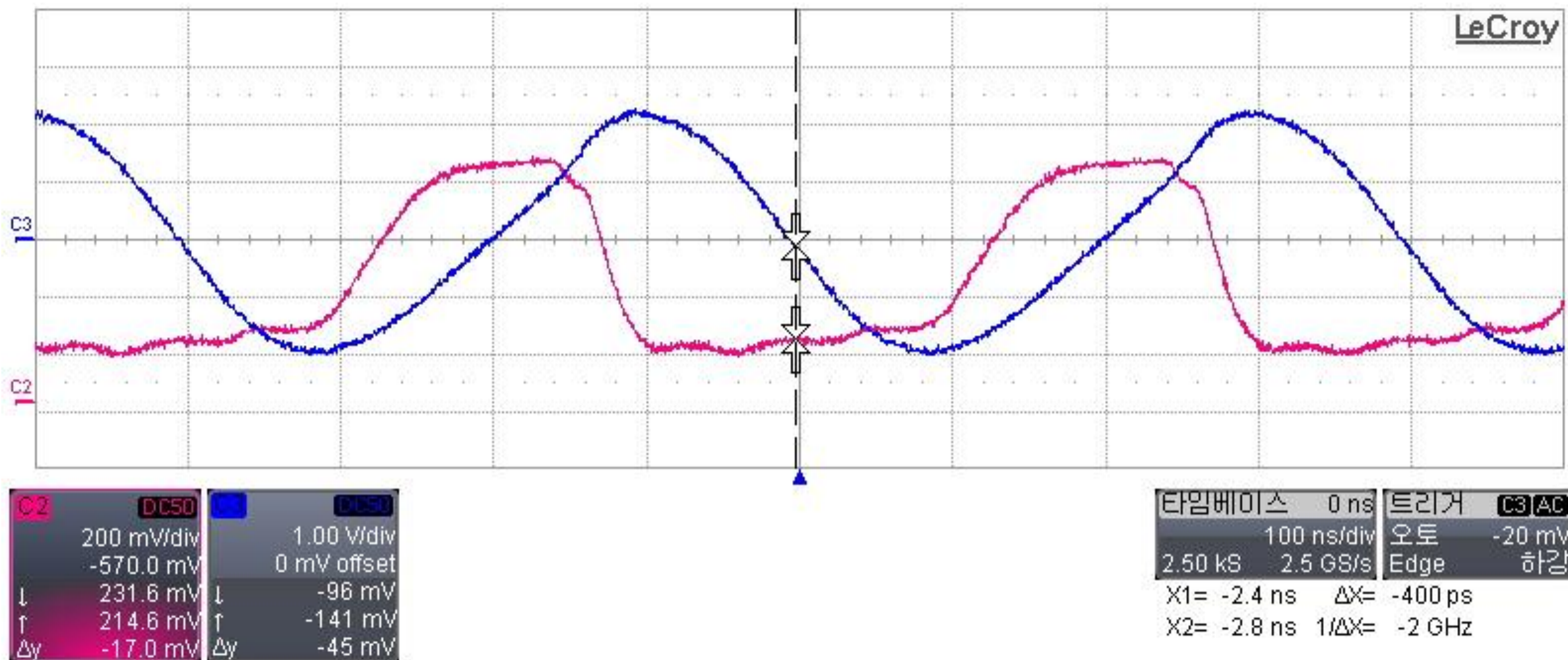
Phase shift



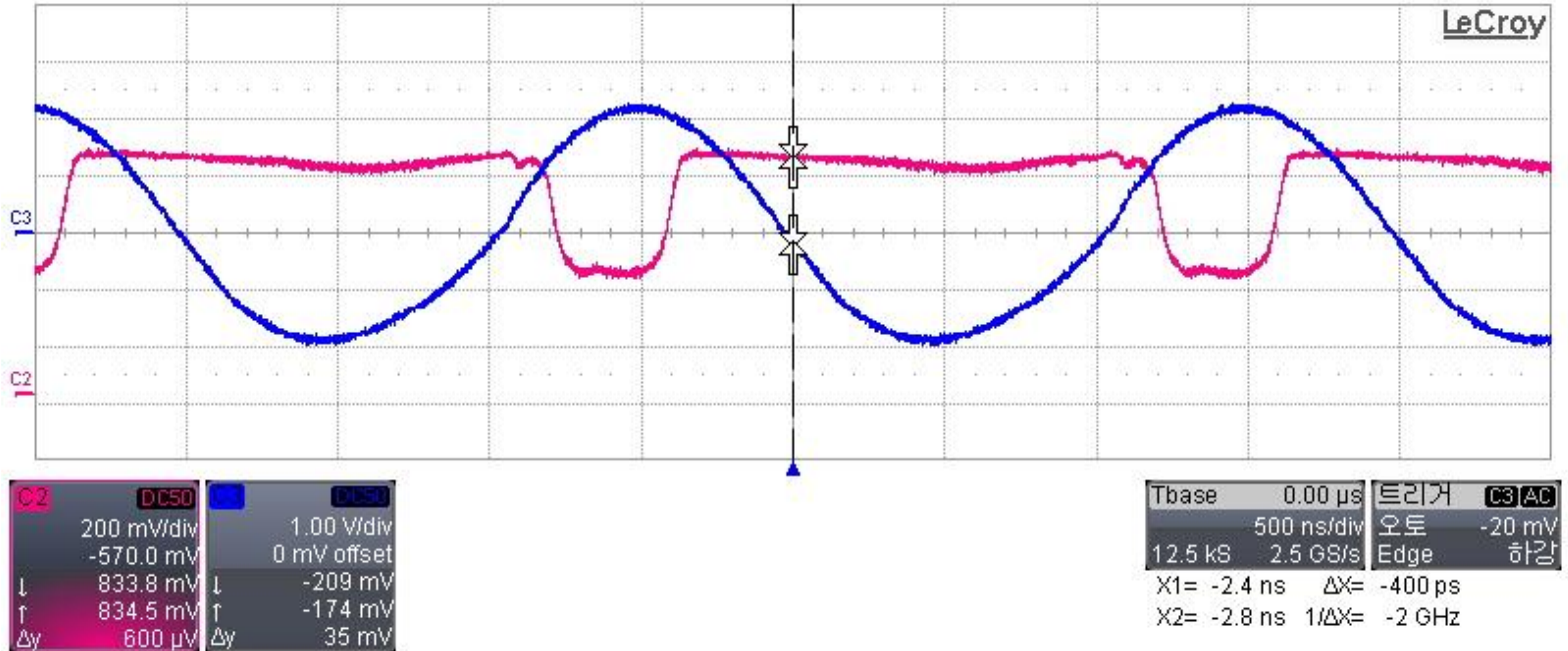
Transistor



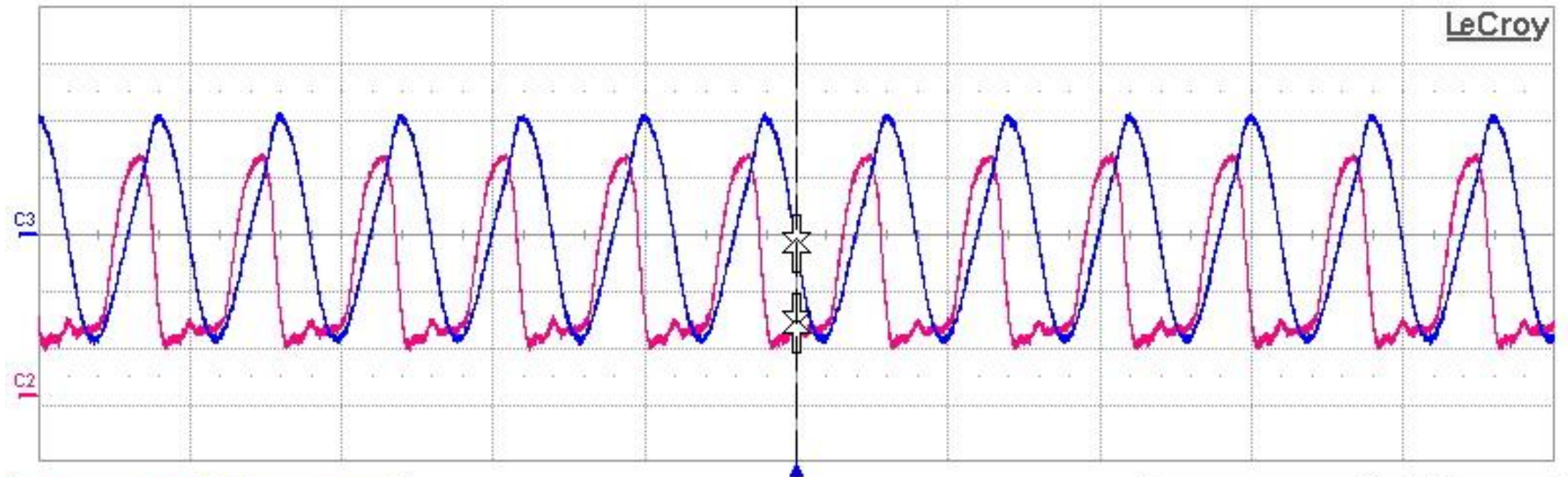
Transistor



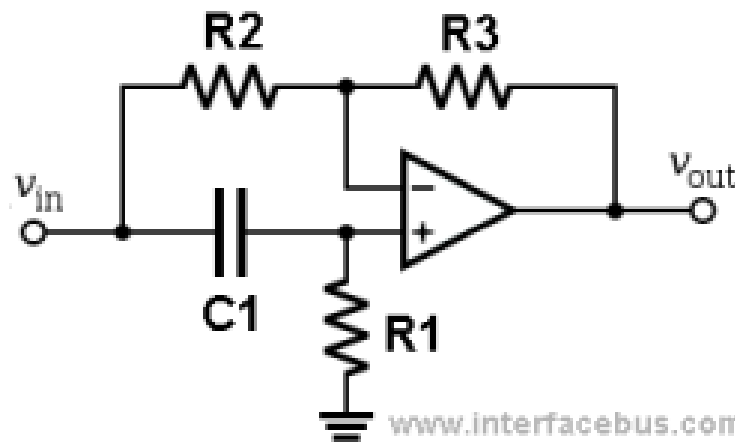
Transistor



OP-amp

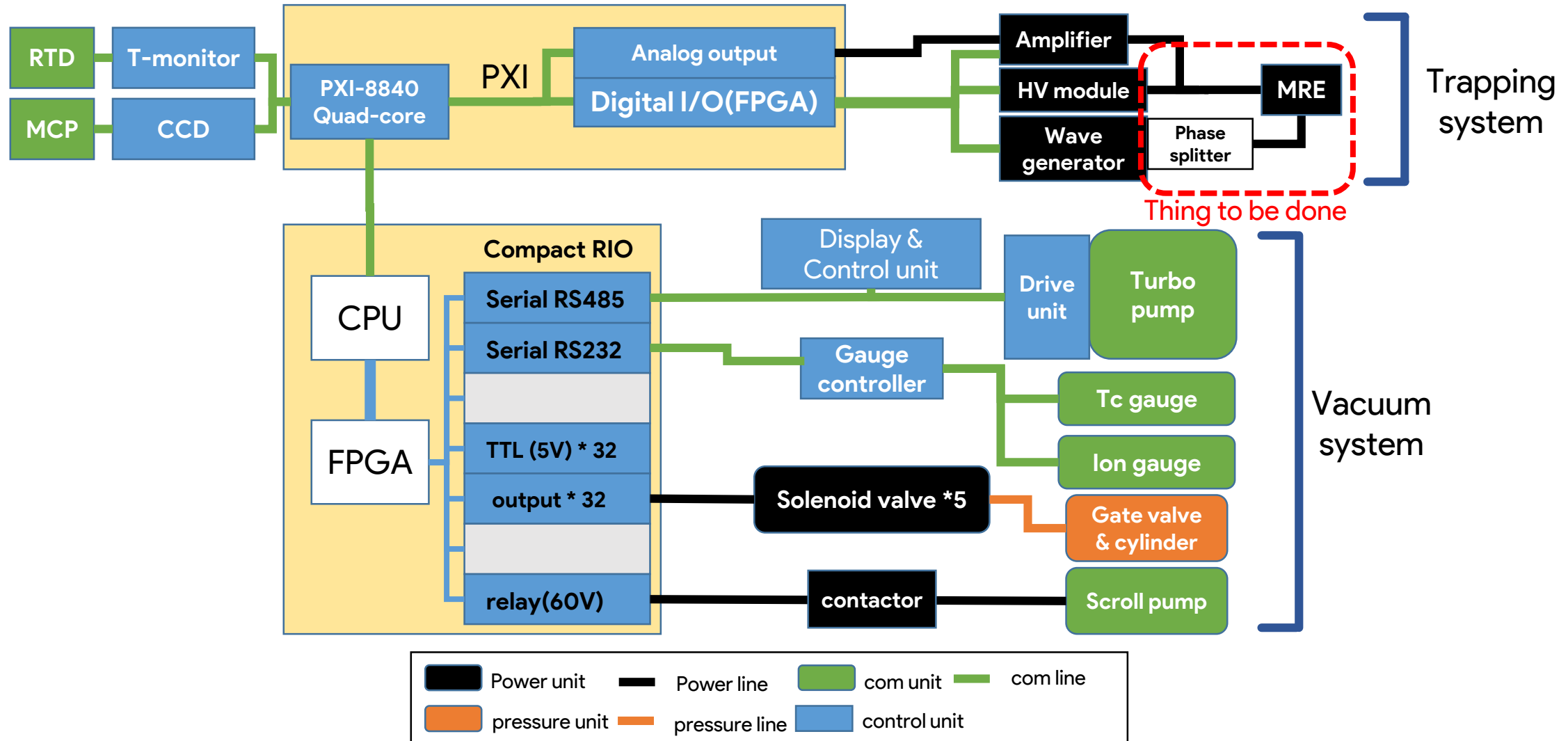


C2	DC50	C3	DC50
200 mV/div	1.00 V/div		
-570.0 mV	0 mV offset		
↓ 254.8 mV	↓ -176 mV		
↑ 260.4 mV	↑ -108 mV		
Δy 5.6 mV	Δy 68 mV		



Tbase	0.00 μ s	트리거	C3 AC
	500 ns/div	오토	-20 mV
12.5 kS	2.5 GS/s	Edge	하강
X1= -2.4 ns	$\Delta X=$ -400 ps		
X2= -2.8 ns	1/ $\Delta X=$ -2 GHz		

Control system of the trap



Schedule for Control

- H/W preparation
 - Phase shifter
 - HV module
 - CCD
 - Thermometer

4/5

- Sequence
 - PXI
 - Amp
 - HV module
 - Wave Generator
- Monitor
 - CCD
 - Thermometer

~4/30

- Commissioning & upgrade
 - Sequence editor
 - Fast & Robust

5/1~