

*Log
 1. R21~R24 : current sensing resistor
 2. Valve Current = 64.39mA ~ 83.33mA
 3. sensing volt = 0.321V ~ 0.416V(typ.0.35V)
 4. resistor watt = $83.33^2 \times 2(\text{mA}) \times 5 = 34.72\text{mW}$
 5. TBD will be fixed after test
 6. R13~R20, D1~D8 is optional
 7. C4~C5 circuit is optional

Valve ID

Valve1 = V1

Valve2 = 2V1

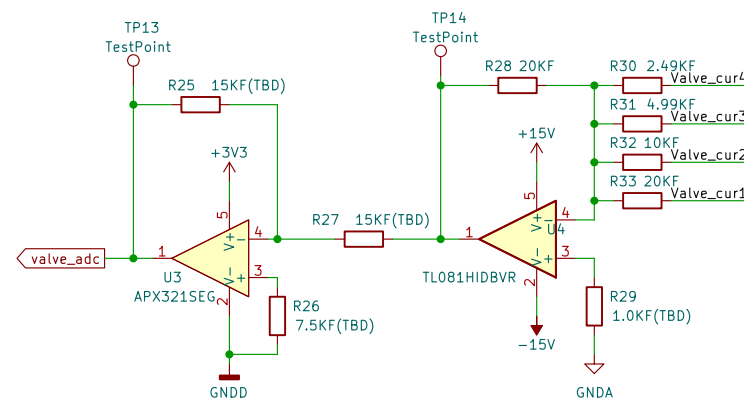
Valve3 = 4V1

Valve4 = 8V1

Valve ID Max = 2.31V

Valve1+	1
Valve1-	2
Valve2+	3
Valve2-	4
Valve3+	5
Valve3-	6
Valve4+	7
Valve4-	8

Screw_Terminal_01x08



Sheet: /Actuator_Valve_Drive/
 File: Actuator_Valve_Drive.kicad_sch

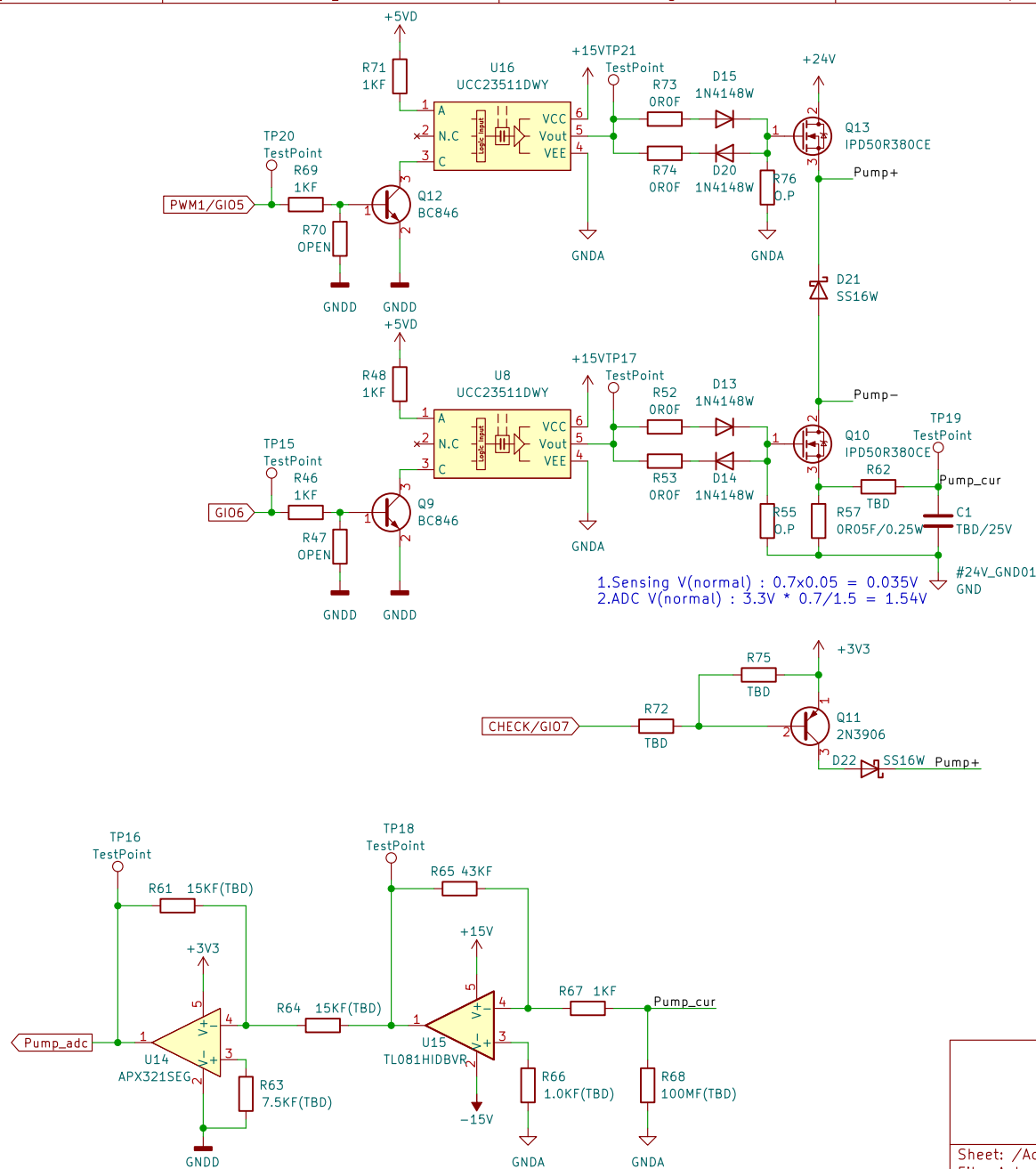
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Size: A4 Date: 2022-03-28

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Rev: rev03

Id: 5/8



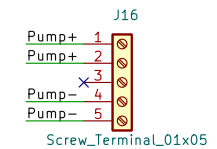
*FET Spec

Table 1 Key Performance Parameters

Parameter	Value	Unit
$V_{DS} @ T_{j,max}$	550	V
$R_{DS(on),max}$	0.38	Ω
I_D	14.1	A
$Q_{g,typ}$	24.8	nC
$I_{D,pulse}$	32.4	A
$E_{oss} @ 400V$	2.54	μJ

*Log

1. Pump current(typ.) : 700mA
2. Fault current : 700mA <
3. Pump voltage : 20.0V ~ 25.0V(-4V ~ 1V)
4. FET V_{ds} : $0.38 \times 0.7 = 0.27V$
5. Pump voltage error : -5% ~ +5%
6. Max sensing voltage : $24 \times 0.05 - 0.27 = 0.93V$
7. Max sensing resistor : $0.93/0.7 = 1.3ohm$
8. Pump Max peak current : 1.5A(from test)



Sheet: /Actuator_Pump_Drive/
 File: Actuator_Pump_Drive.kicad_sch

Title: Actuator_Pump_Drive

Size: A4 Date: 2022-04-22

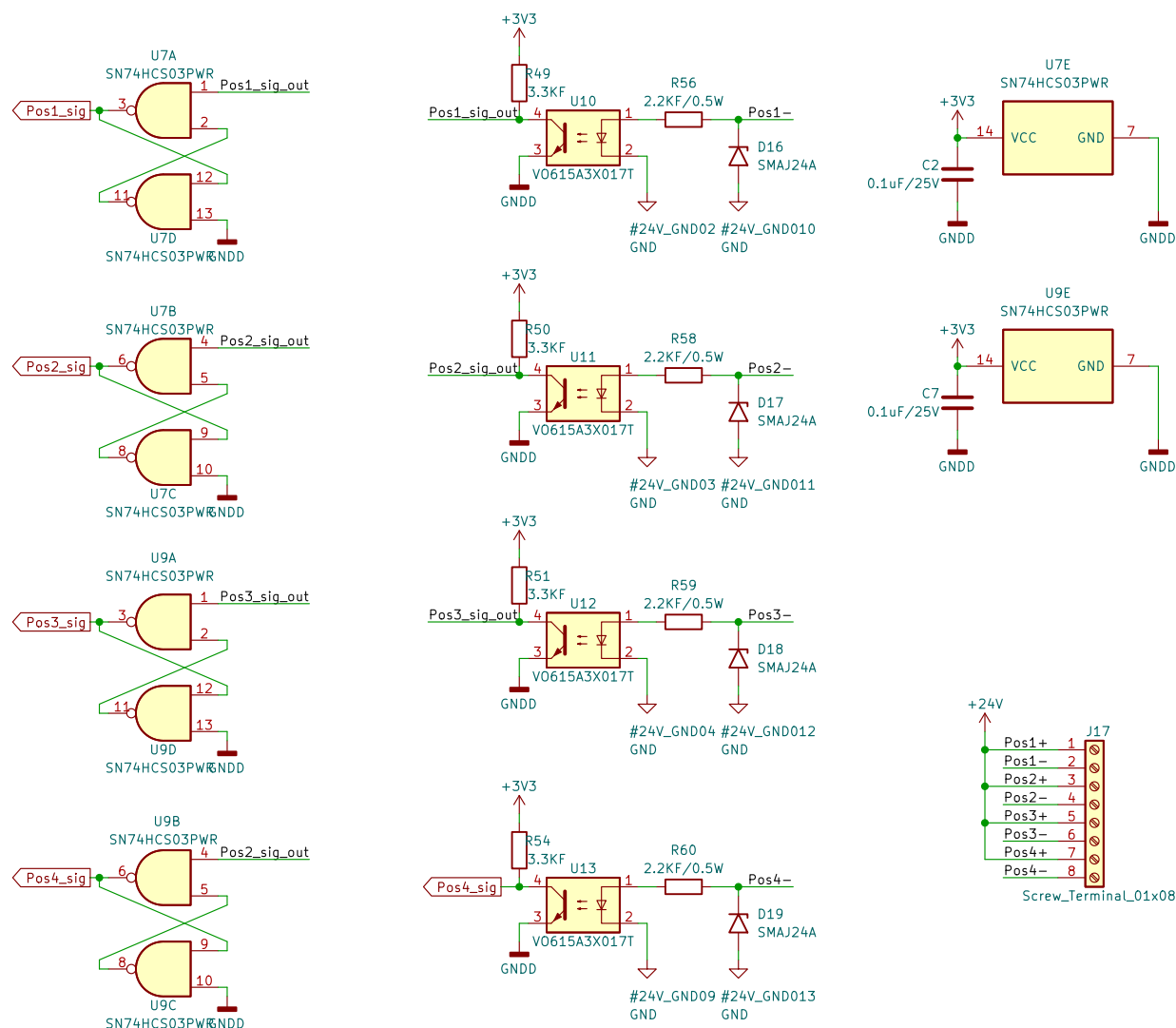
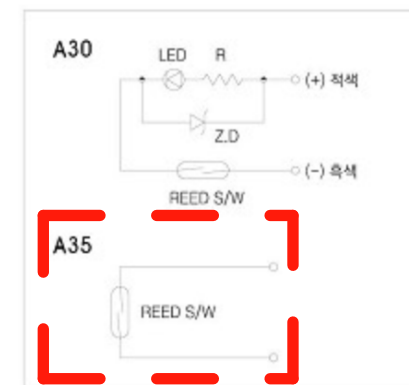
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Rev: rev01

Id: 6/8

*Cylinder position sensor

■ 내부회로도

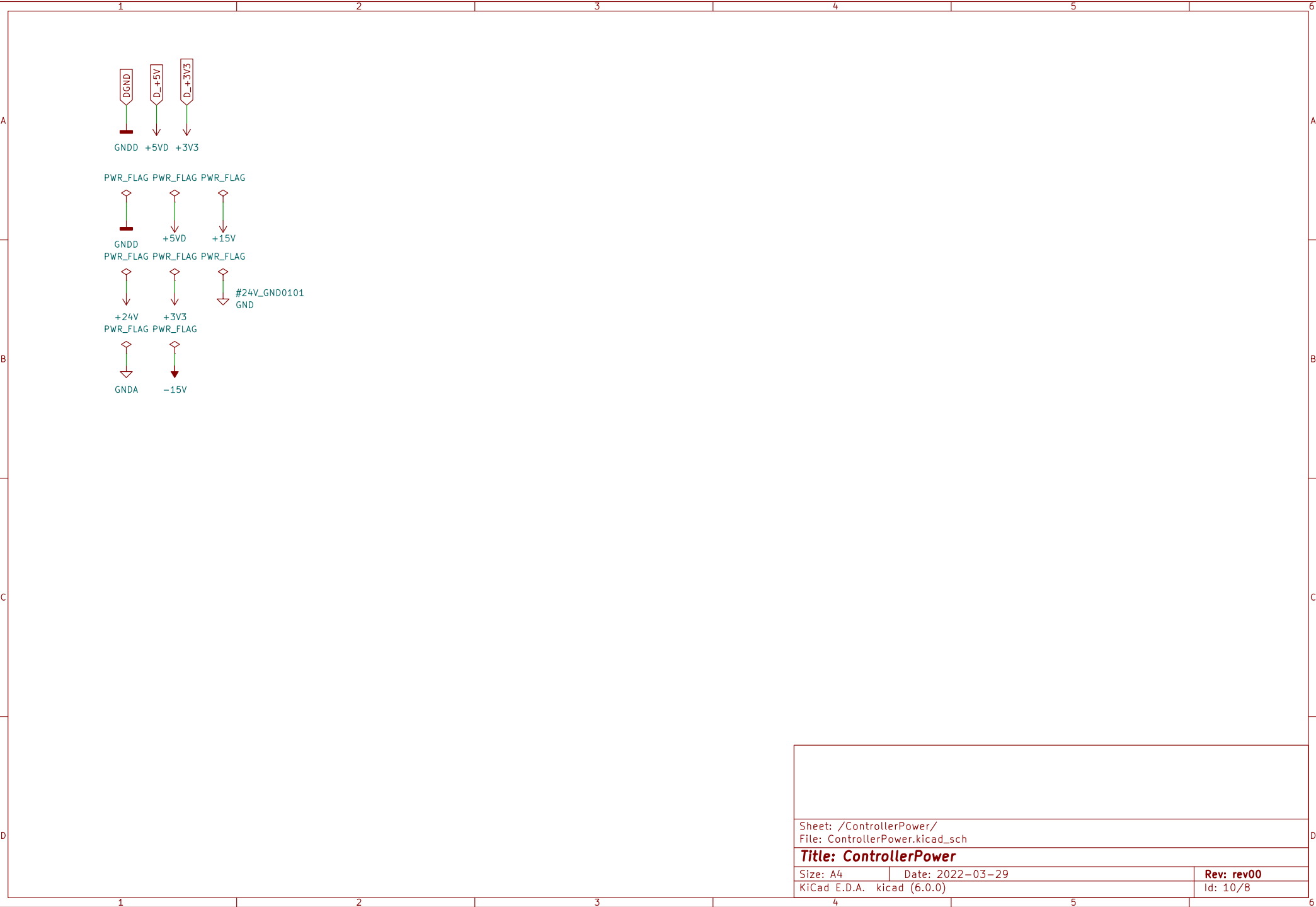


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Title: ExtSensor_sig_process

Size: A4 Date: 2022-04-06
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Rev: rev00
Id: 7/8



Sheet: /ControllerPower/		
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