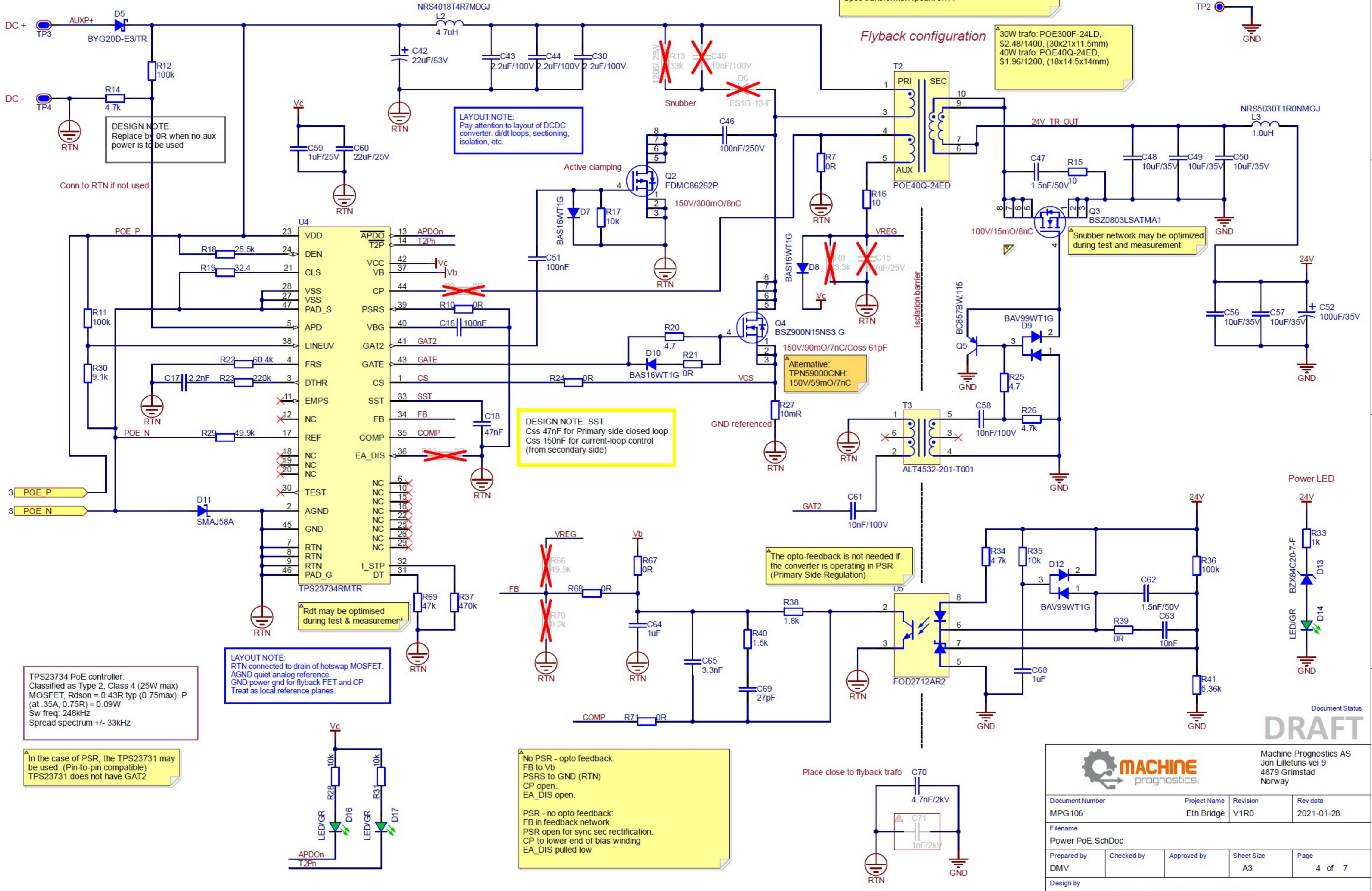


Power PoE

Power over Ethernet 25W, 24V DC (PoE+)

Primary:
 I_{avg_max} : 0.75A
 I_{step} : 1.86A
 I_{dIL} : 1.75A
 I_{peak} : 2.91A
 Spec transformer: I_{peak} : 3.7A

Aux power (35V - 57V) (for test only - not production)



DESIGN NOTE:
 Replace by 0R when no aux power is to be used

LAYOUT NOTE:
 Pay attention to layout of DCDC converter. di/dt loops, sectioning, isolation, etc.

DESIGN NOTE: SST
 C_{ss} 47nF for Primary side closed loop
 C_{ss} 150nF for current-loop control (from secondary side)

The opto-feedback is not needed if the converter is operating in PSR (Primary Side Regulation)

No PSR - opto feedback:
 FB to Vb
 PSRS to GND (RTN)
 CP open.
 EA_DIS open.

PSR - no opto feedback:
 FB in feedback network
 PSR open for sync sec rectification.
 CP to lower end of bias winding
 EA_DIS pulled low

TPS23734 PoE controller:
 Classified as Type 2, Class 4 (25W max)
 MOSFET, $R_{ds(on)}$ = 0.43R typ (0.75max). P (at .35A, 0.75R) = 0.09W
 Sw freq: 248kHz
 Spread spectrum +/- 33kHz

LAYOUT NOTE:
 RTN connected to drain of hotswap MOSFET.
 AGND quiet analog reference.
 GND power gnd for flyback FET and CP.
 Treat as local reference planes.

In the case of PSR, the TPS23731 may be used. (Pin-to-pin compatible)
 TPS23731 does not have GAT2

Document Status
DRAFT

Machine Prognostics AS
 Jon Lilletunns vei 9
 4879 Grimstad
 Norway

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