J2
EXT 5–24V IN

D1
28V TVS (crowbar on reverse)

C1
470uF 50V

C2
100nF 50V X7R

R6
6k8 POWER LED 1% 0.125W

D4
GREEN POWER

SW1
60V 10A TOGGLE SWITCH

D2
2x15A 60V FLYBACK

J3
LOAD + / SWITCHED –

D6
5V SIGNAL ESD

C3
100nF 50V X7R

C4
4.7uF 25V X7R

R1
10R GATE 1% 0.125W

R2
10k GATE PULLDOWN 1% 0.125W

D5
15V GATE CLAMP

R5
1k8 CHG LED 1% 0.125W

D3
AMBER CHG

JP1
CUT D3

JP2
CUT D4

U2
LTC4368MS-28PBF

Q2
CSD18536KTT

Q3
CSD18536KTT

R7
WSL2512L000FEA 5mOhm 1% 1W

R8
56k4 1%

R9
10k 1%

R10
88.1k 1%

R11
10k 1%

C5
220nF 16V X7R very 1.21x typ

R12
22k 1% gate-shaping

C6
47nF 100V X7R inrush

D7
1N4148W-7-F

R13
47k 1% 0.25W

JP3
CUT FAULT

D8
LTST-C170KRKT FAULT

U3
TLV1818IDBZR

R14
88.7k 1%

R15
10k 1%

R16
10k 1% 0.5W

JP4
CUT DVDRVS7A1E

D9
1SS400CST2RA TVS

D10
1N4148W-7-F

R17
1k 1% 1W reverse aux

D11
BZT52C5V1-7-F

U4
LMC6035CIN/NOPB

R18
10k 1%

R19
100k 1%

C7
4.7uF 16V X7R Delay

C8
10nF 16V X7R

C9
10uF 16V X7R reverse aux

R20
10k 1% reverse LED

JP5
CUT RSVD5E

D12
LTST-C170KRKT RSVD5E BLANK

R21
100k 1% SNDN reverse injection limit

PWR_FLAG

PWR_FLAG

PWR_FLAG

PWR_FLAG

J1
3-PIN CONTROL

J4
GADGETEER Y-in

J5
SHIFTED CHAIN

SJ14
SELECT CONTROL

U101
ACPL-M61L-500E

SJ8
FORWARD GPIO

SJ10
FORWARD GPIO

SJ11
FORWARD GPIO

SJ12
FORWARD GPIO

SJ13
FORWARD GPIO

R24
1k8 1%

R25
10k 1%

R26
100k 1%

R27
10k 1%

C10
100nF X7R snubber

C11
100nF X7R snubber

C12
100nF X7R snubber

C13
1nF 100V

D101
1N4148W-7-F reverse clamp

U102
TPS3808G01DBVR

U1
LTC7871JV#PBF

U103
LM25041SQNGTRF

C14
4.7uH 1PH5045A-4.7UMHC

C15
4.7uH 1PH5045A-4.7UMHC

D102
PMEG6010CEJ

R28
2k2 1%

R29
100k 1%

R30
10k 1%

R31
10k 1%

C16
4.7uF 25V X7R

C17
2uF 50V X7R

C18
2uF 50V X7R

C19
4.7uF 50V X7R

C20
4.7uF 50V X7R

C21
4.7uF 50V

Isolated control integration triac
Smoothieware / CERN-OHL-S-2.0
Sheet: /
File: large-mosfet.kicad_sch
Title: Single-channel large MOSFET output
Size: A0 | Date: 2026-10-01 | Rev:
KiCad 10.0.X 9.0.8
id: 1/1