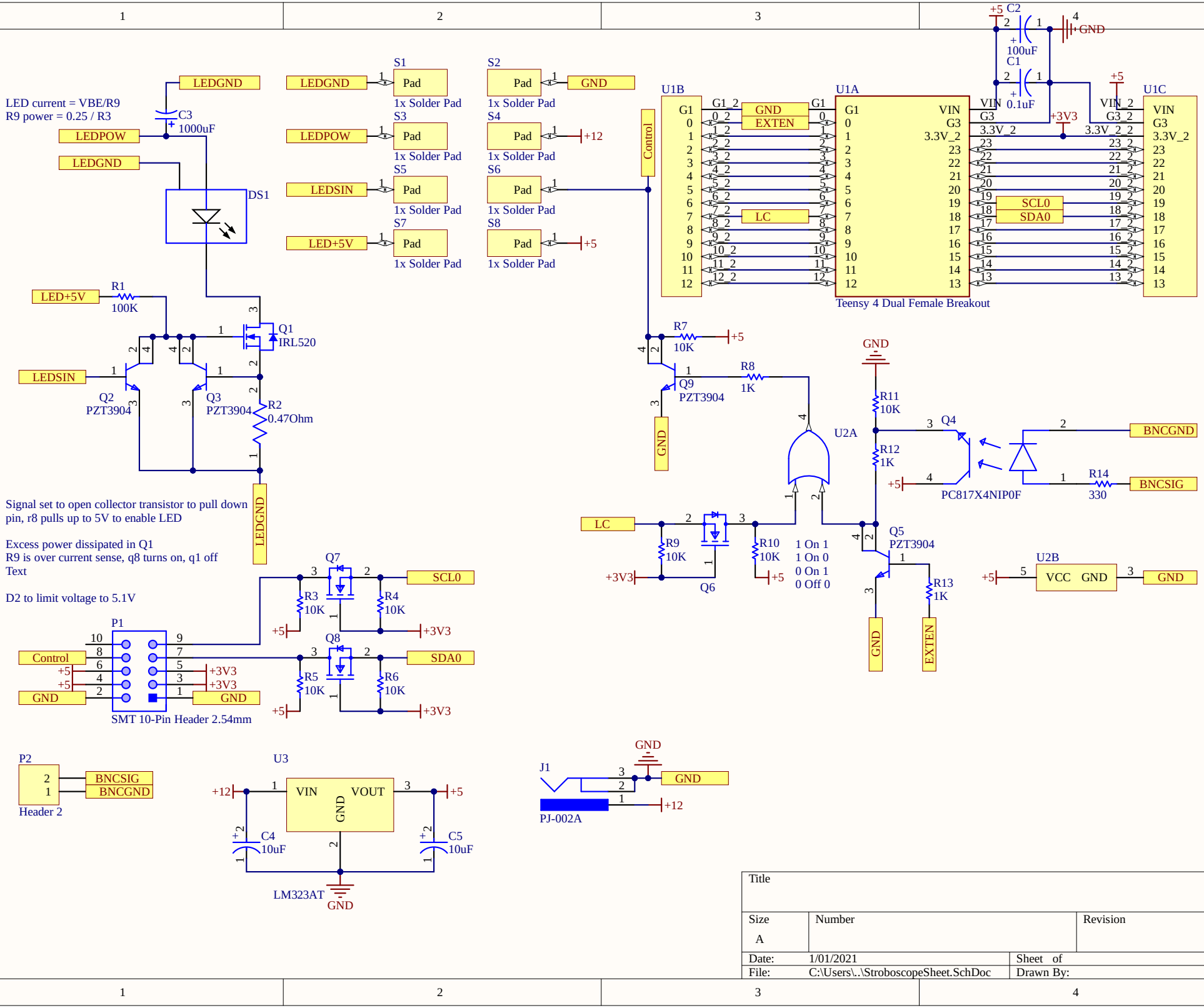
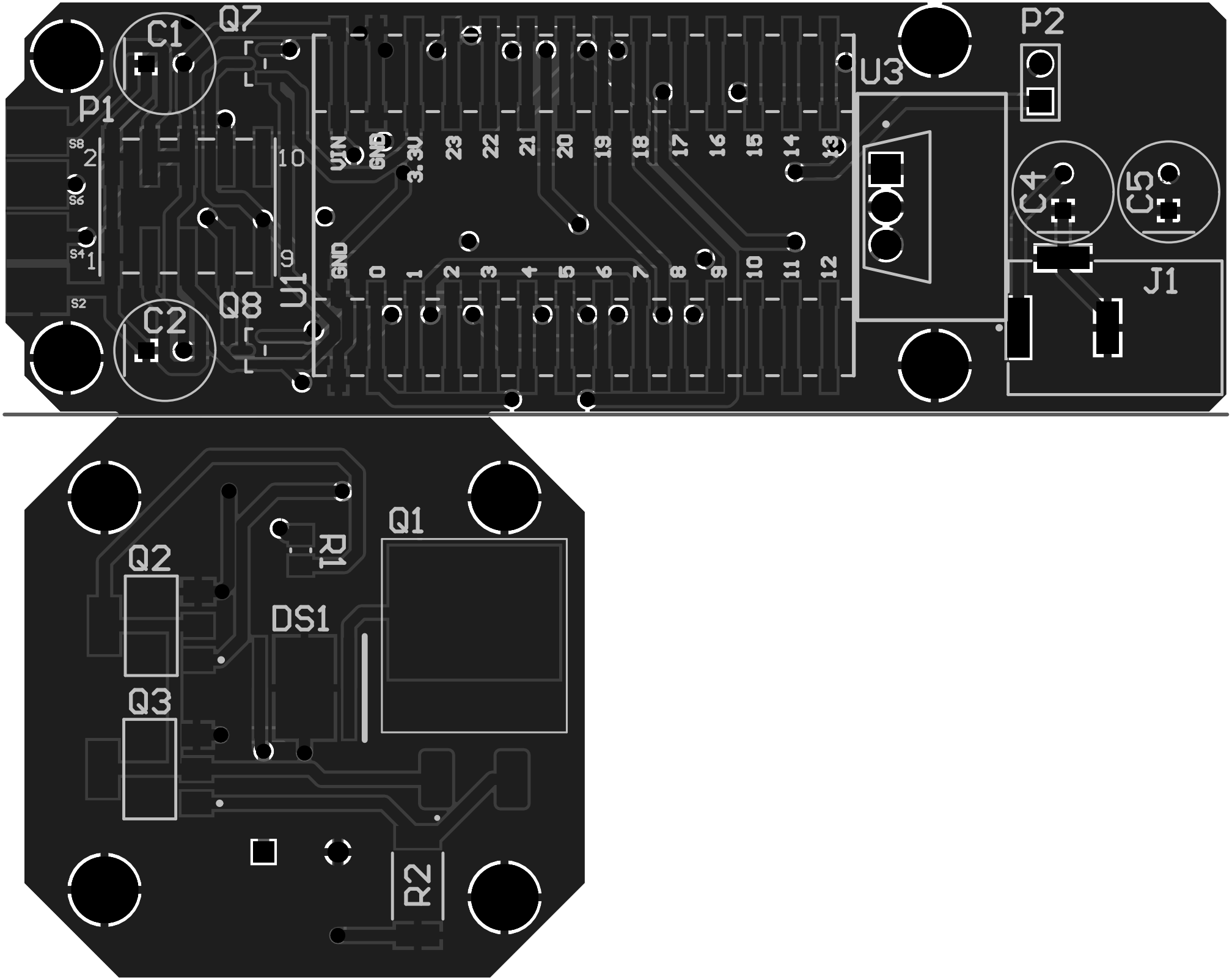

LED current = VBE/R9
R9 power = 0.25 / R3
LEDGND
LEDPOW
LEDSIN
LED+5V
C3
1000uF
DS1
R1
100K
Q1
IRL520
Q2
PZT3904
Q3
PZT3904
R2
0.47Ohm
Signal set to open collector transistor to pull down pin, r8 pulls up to 5V to enable LED
Excess power dissipated in Q1
R9 is over current sense, q8 turns on, q1 off
Text
D2 to limit voltage to 5.1V
P1
SMT 10-Pin Header 2.54mm
Control
SCL0
SDA0
+3V3
+5
GND
Q7
Q8
R3
10K
R4
10K
R5
10K
R6
10K
P2
Header 2
BNCSIG
BNCGND
U3
LM323AT
VIN
VOUT
C4
10uF
C5
10uF
S1
S2
S3
S4
S5
S6
S7
S8
Pad
1x Solder Pad
+12
U1B
U1A
U1C
Teensy 4 Dual Female Breakout
EXTEN
LC
R7
10K
R8
1K
Q9
PZT3904
U2A
R11
10K
R12
1K
Q4
PC817X4NIP0F
R14
330
R9
10K
R10
10K
Q6
Q5
PZT3904
R13
1K
1 On 1
1 On 0
0 On 1
0 Off 0
U2B
VCC
J1
PJ-002A
C2
100uF
C1
0.1uF
Title
Size
A
Number
Revision
Date:
1/01/2021
Sheet of
File:
C:\Users\..\StroboscopeSheet.SchDoc
Drawn By:


C1
Q7
P1
S8
2
S6
S4
1
S2
10
9
U1
Q8
C2
VIN
GND
3.3V
23
22
21
20
19
18
17
16
15
14
13
GND
0
1
2
3
4
5
6
7
8
9
10
11
12
U3
P2
C4
C5
J1
Q1
Q2
R1
DS1
Q3
R2

Comment	Description	Designator	Footprint	LibRef	Quantity
0.1uF	CAP ALUM 47UF 20% 25V RADIAL	C1	FP-ZLG6_3X7-MFG	CMP-35376-000005-1	1
100uF	CAP ALUM 47UF 20% 25V RADIAL	C2	FP-ZLG6_3X7-MFG	CMP-35376-000005-1	1
1000uF	Aluminum Electrolytic Capacitor, 1000 uF, +/-20%, 16 V, -40 to 105 degC, 2-Pin THD, RoHS, Tape and Reel	C3	PNSC-EEUFM1H221-2	CMP-2000-05313-1	1
10uF	CAP ALUM 47UF 20% 25V RADIAL	C4, C5	FP-ZLG6_3X7-MFG	CMP-35376-000005-1	2
MKRAWT-00-0000-0B00H40E5	LED, White, 6 V, 2-Pin SMD, RoHS, Tape and Reel	DS1	CREE-MK-R-2_V	CMP-2100-00930-1	1
PJ-002A	Through Hole Right Angle DC Power Jack, 2.5 A, 2 mm Center Pin, 3 Position, -25 to 85 degC, RoHS, Bulk	J1	CUI-PJ-002A_V	CMP-2000-06895-1	1
SMT 10-Pin Header 2.54mm		P1	SMT 10 Pin Header-Footprint-1	CMP-001-0001-1	1
Header 2	Header, 2-Pin	P2	HDR1X2	Header 2	1
IRL520	Hexfet 9.2A 100V TO-220 50PCS/TUBE	Q1	IRL520-Footprint-1	CMP-013-00034-2	1
PZT3904	TRANS NPN 40V 0.2A SOT223	Q2, Q3, Q5, Q9	FP-318H-01-MFG	CMP-07170-000017-1	4
PC817X4NIP0F	OPTOISOLATOR 5KV TRANS 4SMD	Q4	FP-PC817X4NIP0F-MFG	CMP-65434-000001-1	1
BSS138	MOSFET N-CH 50V 220MA SOT-23	Q6, Q7, Q8	FP-318-08-IPC_B	CMP-07173-000101-1	3
100K		R1	RESC2013X50X30ML20T20	CMP-2001-03735-1	1
0.47Ohm	RES 0.22 OHM 1% 1W 2512	R2	FP-ERJ1TR-MFG	CMP-05422-000060-1	1
10K		R3, R4, R5, R6, R7, R9, R10, R11	RESC2013X50X30ML20T20	CMP-2001-03735-1	8
1K		R8, R12, R13	RESC2013X50X30ML20T20	CMP-2001-03735-1	3
330		R14	RESC2013X50X30ML20T20	CMP-2001-03735-1	1
1x Solder Pad	3mmx4mm Solder Pad	S1, S2, S3, S4, S5, S6, S7, S8	Solder Pad-Footprint-1	CMP-00000-2	8
Teensy 4 Dual Female Breakout	Teensy 4.0 Microcontroller layout for dual-female SMT headers	U1	Teensy 4 Dual Female Breakout-Footprint-1	CMP-016-0001-2	1
SN74LVC1G32DCKR	Single 2-Input Positive-OR Gate, DCK0005A, LARGE T&R	U2	DCK0005A_N	CMP-0859-00376-3	1
LM323AT	IC REG LINEAR 5V 3A TO220AB	U3	New footprint 1	CMP-001-0000-3	1