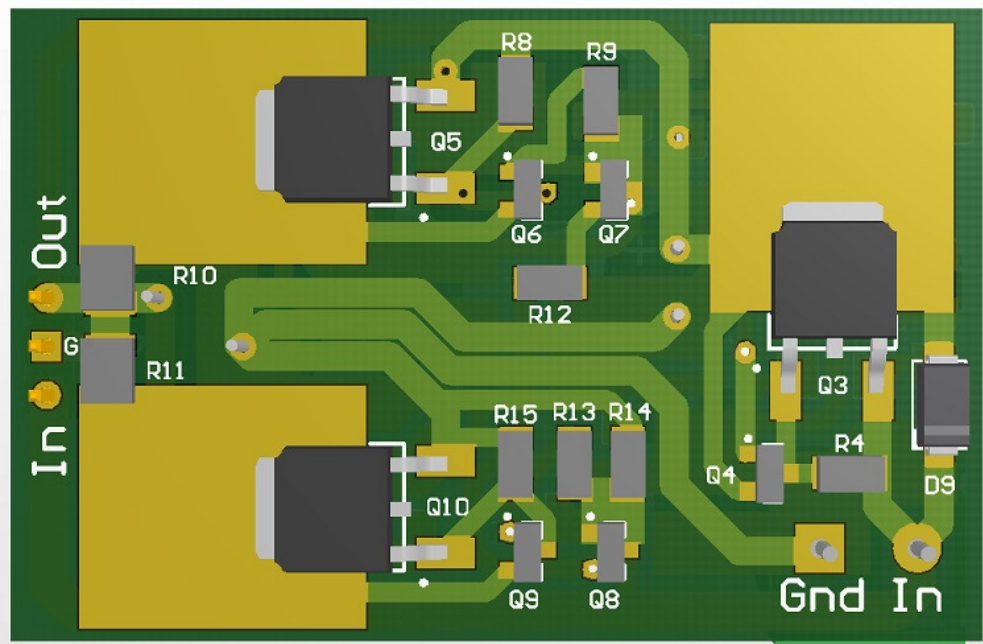
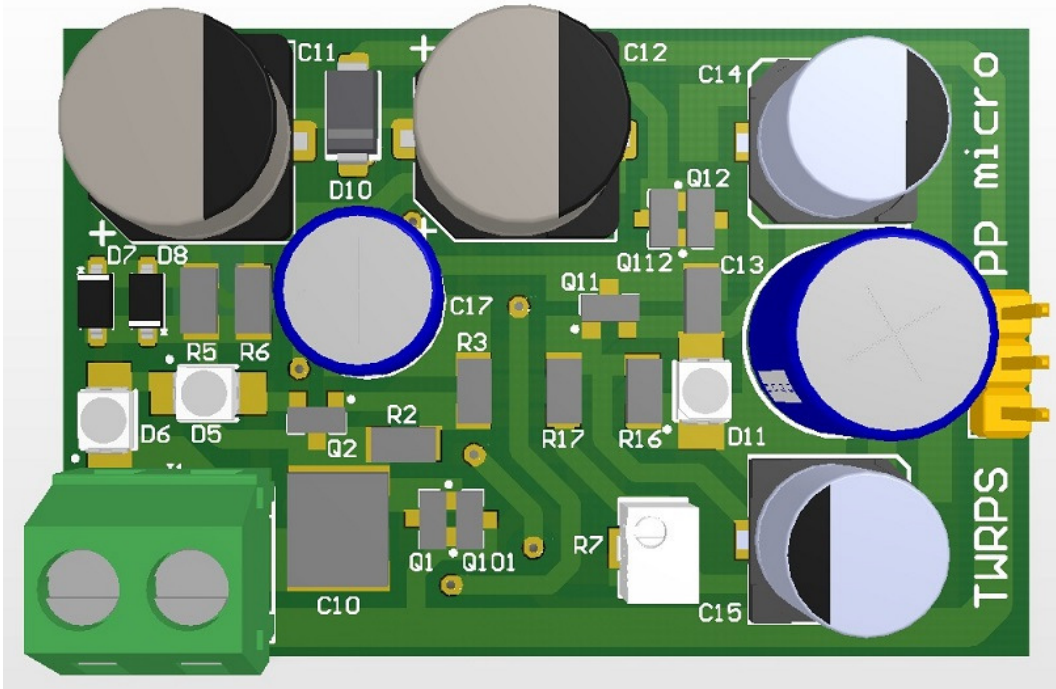


(1) positive regulator
 (2) negative regulator

Title		
TWRPS-pp micro		
Size	Number	Revision
A4	1	0
Date:	17/09/2016	Sheet 1 of 1
File:	C:\Users\...\TWRPS-pp_micro.SchDoc	Drawn By: Andrea Mori

PCB layout



BOM +3V3

Label	Item	Manufacturer	Manufacturer part	Supplier	Supplier part	Quantity
C10	1 uF 63V film	Wima	SMDTC04100QB00KQ00	Mouser	505-PET22-1/63/10	1
C11 C12	470 uF 16/25V	Vishay	MAL214699502E3	Mouser	594-MAL214699502E3	2
C14 C15	220 uF 16/25V	Nichicon	PCJ1C221MCL4GS	Mouser	647-PCJ1C221MCL4GS	2
C13	100 nF 50V MLCC	AVX	12065C104JAT2A	Mouser	581-12065C104J	1
C17	100 uF 16/25V	Nichicon	RR71C101MDN1	Mouser	647-RR71C101MDN1	1
C16	47 uF 25V	Nichicon	RNU1H470MDN1PH	Mouser	647-RNU1H470MDN1PH	1
R2	2K8 0.125W 1% metal film	Susumu	RG3216P-2801-B-T5	Mouser	754-RG3216P-2801-BT5	1
R3 R14	2K2 0.125W 1% metal film	Susumu	RG3216P-2201-B-T5	Mouser	754-RG3216P-2201-BT5	2
R4 R8 R9 R13 R15	47R 0.125W 1% metal film	Susumu	RG3216P-47R0-D-T5	Mouser	754-RG3216P-47R0DT5	5
R5	1K 0.125W 1% metal film	Susumu	RG3216P-1001-B-T5	Mouser	754-RG3216P-1001-BT5	1
R6	10K 0.125W 1% metal film	Susumu	RG3216P-1002-D-T5	Mouser	754-RG3216P-1002DT5	1
R7	500R cermet	Bourns	3224W-1-501E	Mouser	652-3224W-1-501E	1
R16	1K5 0.125W 1% metal film	Susumu	RG3216P-1501-B-T1	Mouser	754-RG3216P-1501-BT1	1
R17 R12	100R 0.125W 1% metal film	Susumu	RG3216P-1000-B-T5	Mouser	754-RG3216P-1000-BT5	2
R10 R11	0R22 1W 1% wirewound	Panasonic	ERJ-14BQFR22U	Mouser	667-ERJ-14BQFR22U	2
D5 D6 D11	Green LED	Vishay Semiconductor	VLMC3100-GS08	Mouser	78-VLMC3100	3
D7 D8	1N5817	MCC	SM5817PL-TP	Mouser	833-SM5817PL-TP	2
D9 D10	S1KB	Diodes Inc.	S1KB-13-F	Mouser	621-S1KB-F	3
Q1 Q12	LSK170B	Linear System	LSK170B	Micross	LSK170B	2
Q2 Q11	2SC3324	Toshiba	2SC3324GRTE85LF	Mouser	757-2SC3324GRTE85LF	2
Q4 Q6 Q7	BC850C	NXP	BC850C,235	Mouser	771-BC850C235	3
Q3 Q5	D45H11	On Semiconductor	MJD45H11G	Mouser	863-MJD45H11G	2
Q8 Q9	BC860C	NXP	BC860C,235	Mouser	771-BC860C235	2
Q10	D44H11	On Semiconductor	MJD44H11G	Mouser	863-MJD44H11G	1
J1	3 pole strip header	Te Connectivity	826646-3	Mouser	571-826646-3	1
J3	Header 2 screw	Molex	39880-0302	Mouser	538-39880-0302	4

BOM +5V to +6V

Label	Item	Manufacturer	Manufacturer part	Supplier	Supplier part	Quantity
C10	1 uF 63V film	Wima	SMDTC04100QB00KQ00	Mouser	505-PET22-1/63/10	1
C11 C12	470 uF 16/25V	Vishay	MAL214699502E3	Mouser	594-MAL214699502E3	2
C14 C15	220 uF 16/25V	Nichicon	PCJ1C221MCL4GS	Mouser	647-PCJ1C221MCL4GS	2
C13	100 nF 50V MLCC	AVX	12065C104JAT2A	Mouser	581-12065C104J	1
C17	100 uF 16/25V	Nichicon	RR71C101MDN1	Mouser	647-RR71C101MDN1	1
C16	47 uF 25V	Nichicon	RNU1H470MDN1PH	Mouser	647-RNU1H470MDN1PH	1
R2	3K 0.125W 1% metal film	Susumu	HRG3216P-3001-B-T1	Mouser	754-HRG3216P3001BT1	1
R3	2K 0.125W 1% metal film	Susumu	RG3216P-2001-B-T1	Mouser	754-RG3216P-2001-BT1	1
R4 R8 R9 R13 R15	47R 0.125W 1% metal film	Susumu	RG3216P-47R0-D-T5	Mouser	754-RG3216P-47R0DT5	5
R5	1K 0.125W 1% metal film	Susumu	RG3216P-1001-B-T5	Mouser	754-RG3216P-1001-BT5	1
R6	10K 0.125W 1% metal film	Susumu	RG3216P-1002-D-T5	Mouser	754-RG3216P-1002DT5	1
R7	2K cermet	Bourns	3224W-1-202E	Mouser	652-3224W-1-202E	1
R16	1K5 0.125W 1% metal film	Susumu	RG3216P-1501-B-T1	Mouser	754-RG3216P-1501-BT1	1
R12	100R 0.125W 1% metal film	Susumu	RG3216P-1000-B-T5	Mouser	754-RG3216P-1000-BT5	1
R10 R11	0R22 1W 1% wirewound	Panasonic	ERJ-14BQFR22U	Mouser	667-ERJ-14BQFR22U	2
R14	4K7 0.125W 1% metal film	Susumu	RG3216P-4701-B-T5	Mouser	754-RG3216P-4701-BT5	1
R17	470R 0.125W 1% metal film	Susumu	RG3216P-4700-B-T5	Mouser	754-RG3216P-4700-BT5	1
D5 D6 D11	Green LED	Vishay Semiconductor	VLMC3100-GS08	Mouser	78-VLMC3100	3
D7 D8	1N5817	MCC	SM5817PL-TP	Mouser	833-SM5817PL-TP	2
D9 D10	S1KB	Diodes Inc.	S1KB-13-F	Mouser	621-S1KB-F	3
Q1 Q12	LSK170B	Linear System	LSK170B	Micross	LSK170B	2
Q2 Q11	2SC3324	Toshiba	2SC3324GRTE85LF	Mouser	757-2SC3324GRTE85LF	2
Q4 Q6 Q7	BC850C	NXP	BC850C,235	Mouser	771-BC850C235	3
Q3 Q5	D45H11	On Semiconductor	MJD45H11G	Mouser	863-MJD45H11G	2
Q8 Q9	BC860C	NXP	BC860C,235	Mouser	771-BC860C235	2
Q10	D44H11	On Semiconductor	MJD44H11G	Mouser	863-MJD44H11G	1
J1	3 pole strip header	Te Connectivity	826646-3	Mouser	571-826646-3	1
J3	Header 2 screw	Molex	39880-0302	Mouser	538-39880-0302	4

BOM +15V

Label	Item	Manufacturer	Manufacturer part	Supplier	Supplier part	Quantity
C10	1 uF 63V film	Wima	SMDTC04100QB00KQ00	Mouser	505-PET22-1/63/10	1
C11 C12	470 uF 25V	Vishay	MAL214699603E3	Mouser	594- MAL214699603E3	2
C14 C15	220 uF 16/25V	Nichicon	PCJ1C221MCL4GS	Mouser	647-PCJ1C221MCL4GS	2
C13	100 nF 50V MLCC	AVX	12065C104JAT2A	Mouser	581-12065C104J	1
C17	100 uF 25V	Nichicon	RPS1E101MCN1GS	Mouser	647-RPS1E101MCN1GS	1
C16	47 uF 25V	Nichicon	RNU1H470MDN1PH	Mouser	647-RNU1H470MDN1PH	1
R2	8K06 0.125W 1% metal film	Susumu	RG3216P-8061-B-T5	Mouser	754-RG3216P-8061-BT5	1
R3 R17	2K2 0.125W 1% metal film	Susumu	RG3216P-2201-B-T5	Mouser	754-RG3216P-2201-BT5	2
R4 R8 R9 R13 R15	47R 0.125W 1% metal film	Susumu	RG3216P-47R0-D-T5	Mouser	754-RG3216P-47R0DT5	5
R5	1K 0.125W 1% metal film	Susumu	RG3216P-1001-B-T5	Mouser	754-RG3216P-1001-BT5	1
R6 R14	10K 0.125W 1% metal film	Susumu	RG3216P-1002-D-T5	Mouser	754-RG3216P-1002DT5	2
R7	2K cermet	Bourns	3224W-1-202E	Mouser	652-3224W-1-202E	1
R16	680R 0.125W 1% metal film	Susumu	RG3216P-6800-B-T5	Mouser	754-RG3216P-6800-BT5	1
R12	27R 0.125W 1% metal film	Vishay	TNPW120627R1BEEN	Mouser	71-TNPW120627R1BEEN	1
R10 R11	0R22 1W 1% wirewound	Panasonic	ERJ-14BQFR22U	Mouser	667-ERJ-14BQFR22U	2
R14	4K7 0.125W 1% metal film	Susumu	RG3216P-4701-B-T5	Mouser	754-RG3216P-4701-BT5	1
R17	470R 0.125W 1% metal film	Susumu	RG3216P-4700-B-T5	Mouser	754-RG3216P-4700-BT5	1
D5 D6 D11	Green LED	Vishay Semiconductor	VLMC3100-GS08	Mouser	78-VLMC3100	3
D7 D8	1N5817	MCC	SM5817PL-TP	Mouser	833-SM5817PL-TP	2
D9 D10	S1KB	Diodes Inc.	S1KB-13-F	Mouser	621-S1KB-F	3
Q1 Q12	LSK170B	Linear System	LSK170B	Micross	LSK170B	2
Q2 Q11	2SC3324	Toshiba	2SC3324GRTE85LF	Mouser	757-2SC3324GRTE85LF	2
Q4 Q6 Q7	BC850C	NXP	BC850C,235	Mouser	771-BC850C235	3
Q3 Q5	D45H11	On Semiconductor	MJD45H11G	Mouser	863-MJD45H11G	2
Q8 Q9	BC860C	NXP	BC860C,235	Mouser	771-BC860C235	2
Q10	D44H11	On Semiconductor	MJD44H11G	Mouser	863-MJD44H11G	1
J1	3 pole strip header	Te Connectivity	826646-3	Mouser	571-826646-3	1
J3	Header 2 screw	Molex	39880-0302	Mouser	538-39880-0302	4