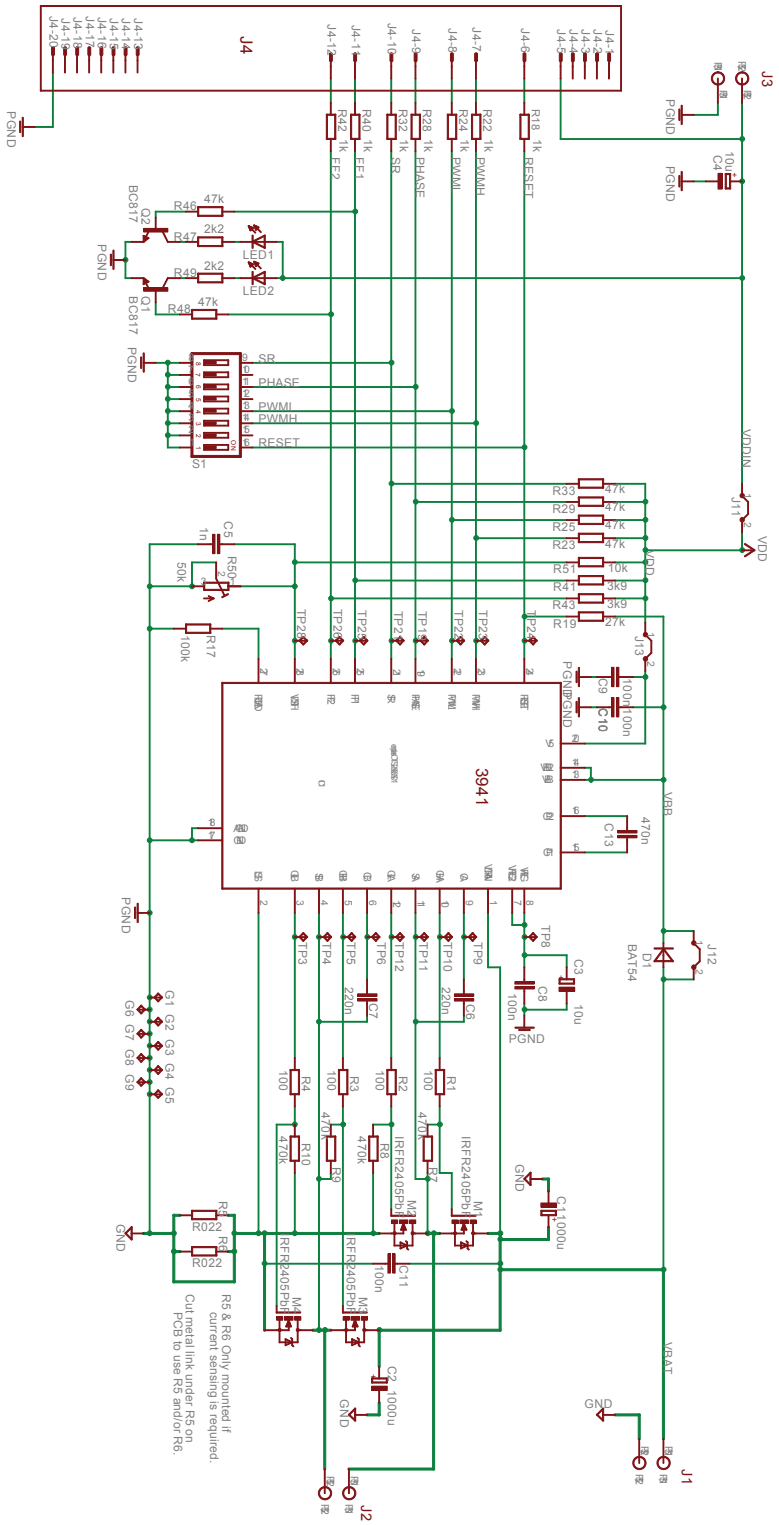
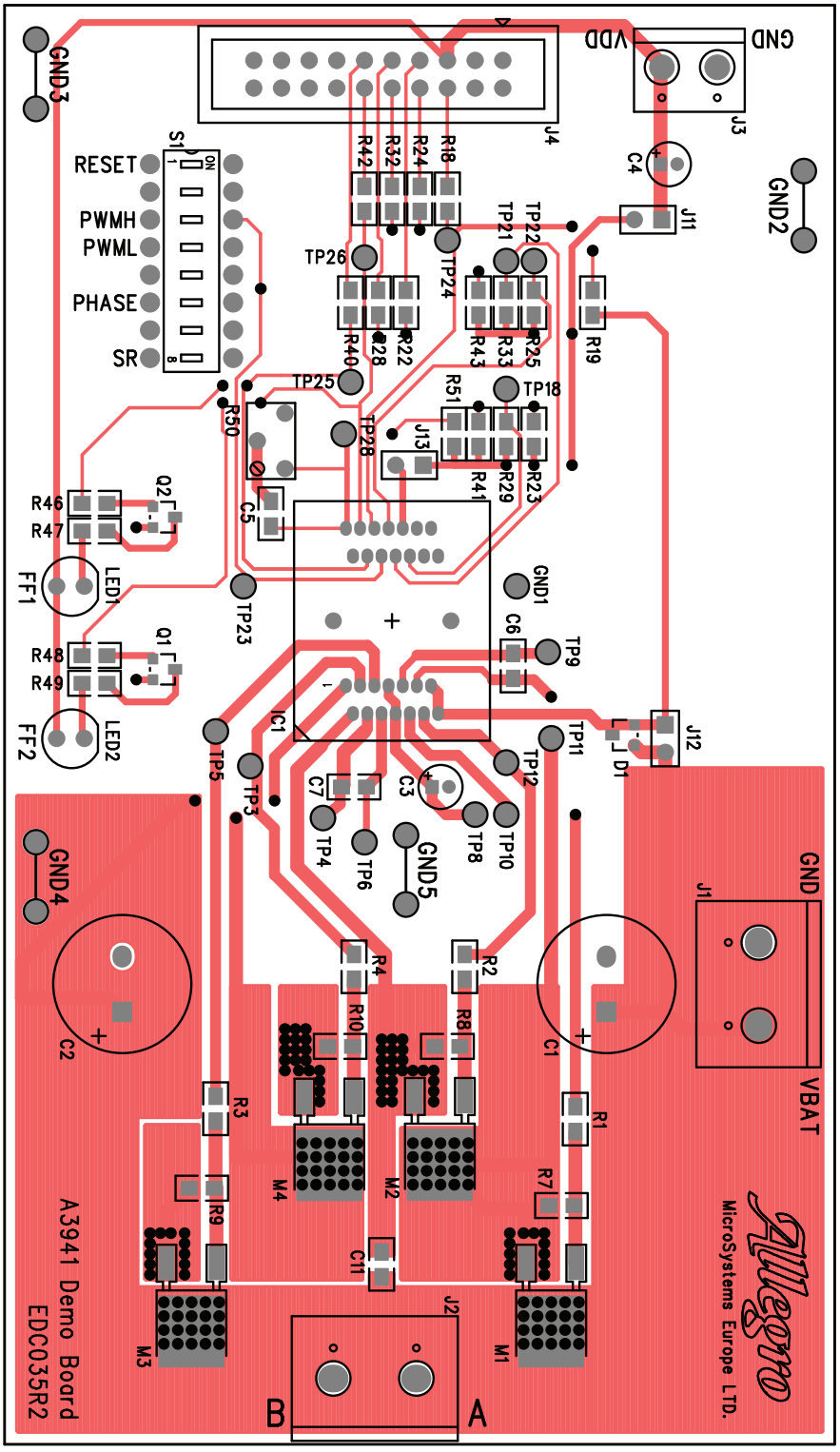
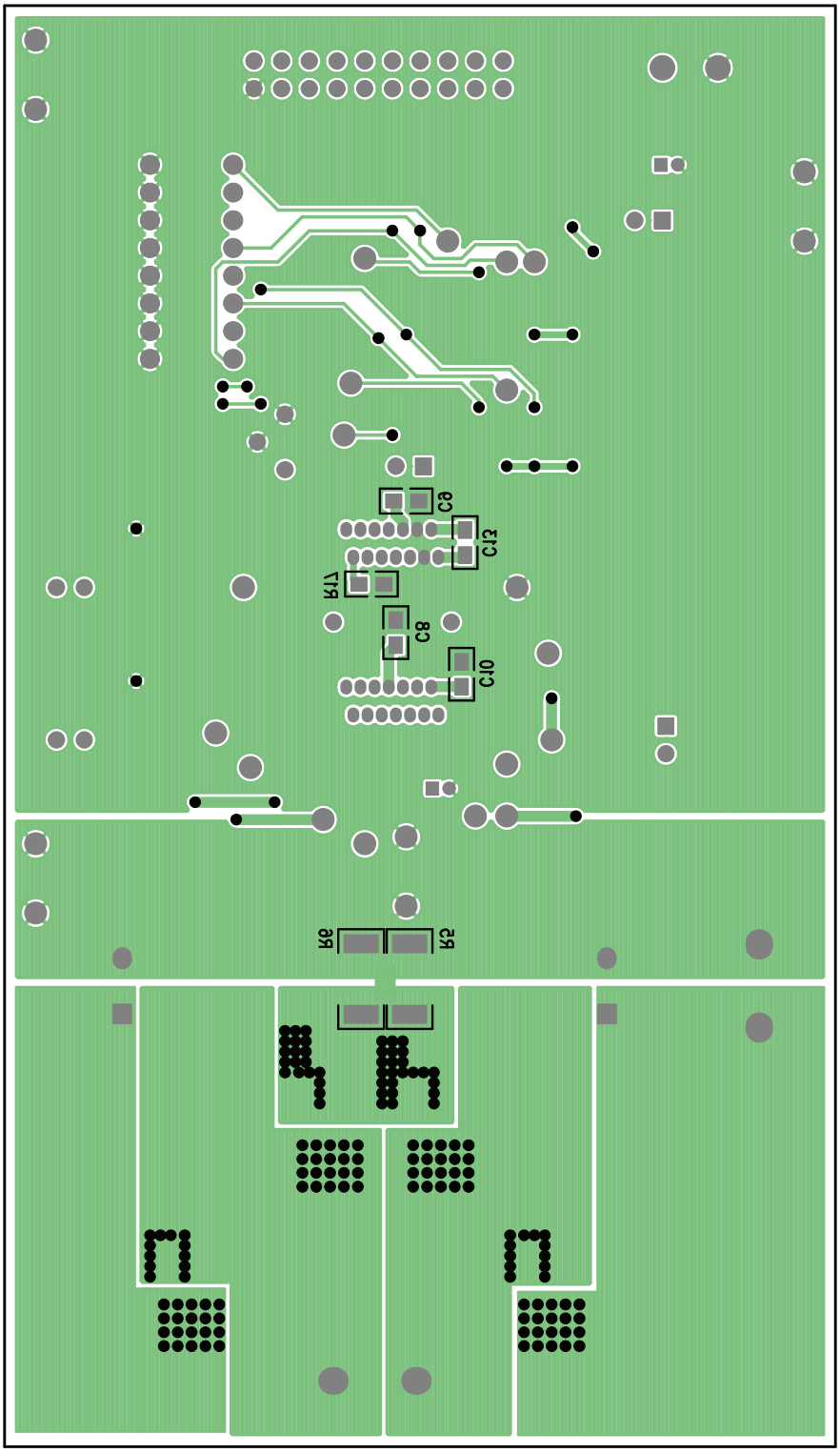
Demo Board Schematic/Layout

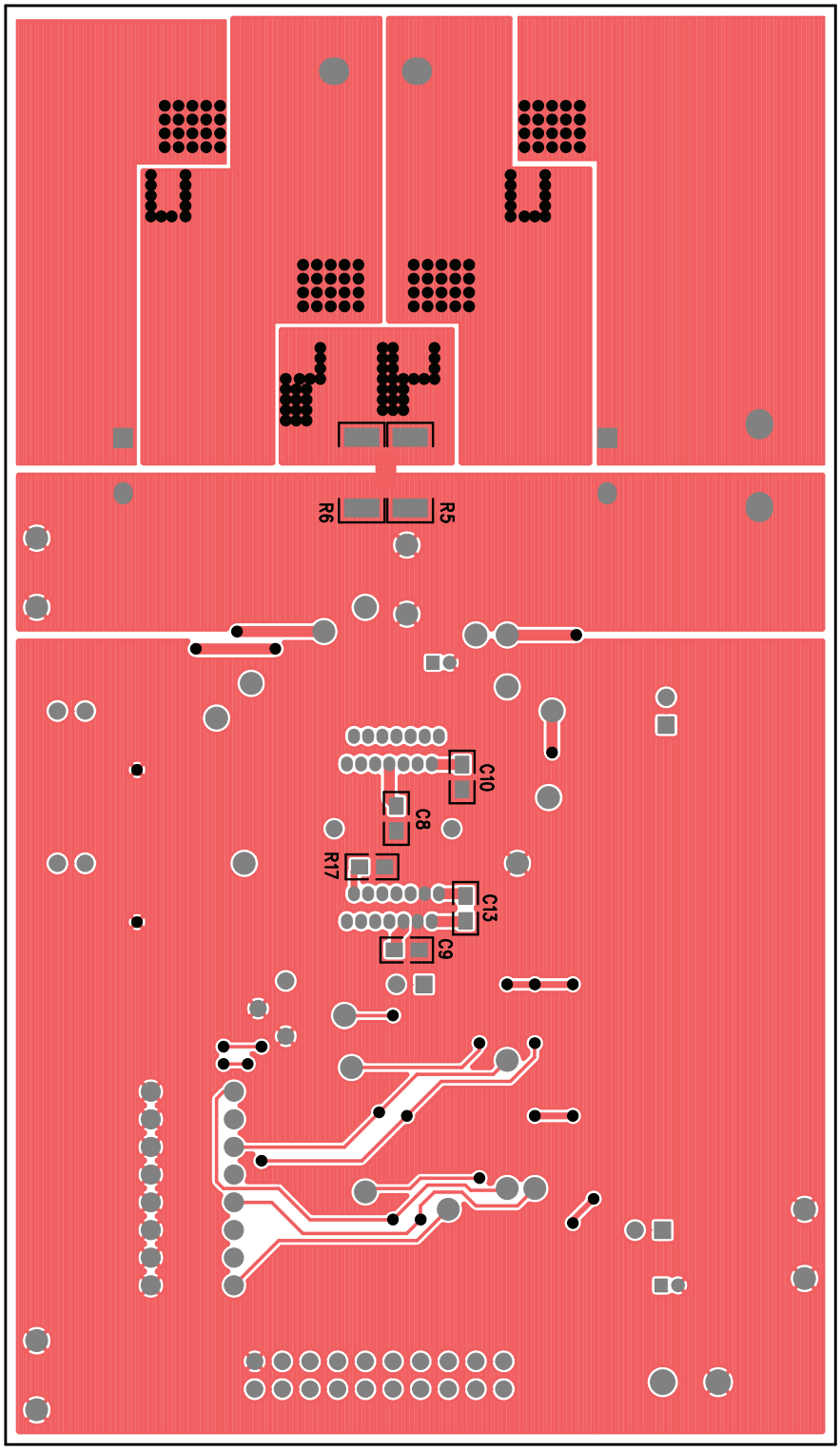
SCHEMATIC



LAYOUT


Top View Orientation watermark
GND3
VDD
GND
J4
J3
S1
RESET
PWMH
PWML
PHASE
SR
R42
R32
R24
R18
C4
J11
GND2
TP26
TP24
TP21
TP22
R40
R28
R22
R43
R33
R25
R19
TP25
R51
TP18
R50
TP28
J13
R41
R29
R23
C5
Q2
R46
R47
LED1
FF1
TP23
GND1
C6
TP9
Q1
R48
R49
LED2
FF2
IC1
TP5
TP3
C7
C3
TP11
TP12
D1
J12
TP4
TP6
GND5
TP8
TP10
GND4
J1
GND
R4
R2
R10
R8
C2
C1
R3
R1
M4
M2
R7
R9
C11
VBAT
A3941 Demo Board
EDC035R2
J2
M3
M1
B
A
MicroSystems Europe LTD.
Allegro


C9
C12
R11
C8
C10
R6
R2


R6
R5
C10
C8
R17
C13
C9

BILL OF MATERIALS

A3941 Demo Rev2 (EDC035R2) Component List — All parts RoHS Compliant

Part	Value	Package	Device	RS Part
C1	1,000uF	12.5mm, 5mm pitch	Alu Electrolytic Cap, >=50V, 105C	365-4329
C2	1,000uF	12.5mm, 5mm pitch	Alu Electrolytic Cap, >=50V, 105C	365-4329
C3	10uF	4mm dia, 1.5mm pitch	Alu Electrolytic Cap, >=16V, 105C	414-9008
C4	10uF	4mm dia, 1.5mm pitch	Alu Electrolytic Cap, >=16V, 105C	414-9008
C5	1nF	0805	Ceramic Chip Cap, >=16V, COG	237-6977
C6	220nF	0805	Ceramic Chip Cap, >=35V, X5R	624-2604
C7	220nF	0805	Ceramic Chip Cap, >=35V, X5R	624-2604
C8	100nF	0805	Ceramic Chip Cap, >=35V, X5R	237-7100
C9	100nF	0805	Ceramic Chip Cap, >=16V, X5R	237-7100
C10	100nF	0805	Ceramic Chip Cap, >=50V, X5R	237-7100
C11	100nF	0805	Ceramic Chip Cap, >=50V, X5R	237-7100
C13	470nF	0805	Ceramic Chip Cap, >=25V, X5R	220-7988
D1	BAT54	SOT23	Schottky Diode, 0.2A, 30V	436-7818
GND1	\	1mm PCB Hole	Test Terminal, Black	262-2179
GND2-5	\	1.2mm Hole Pairs	Ground Bar, 20swg Tinned Copper Wire*	355-063
IC1	A3941	eTSSOP28 socket	Socket, enplas p/n OTS-28-0.65-01	\
J1	\	7.62mm (300mil) pitch	Screw Terminal, 2-way	189-5966
J2	\	7.62mm (300mil) pitch	Screw Terminal, 2-way	189-5966
J3	\	5.08mm (200mil) pitch	Screw Terminal, 2-way	425-8720
J4	\	2x10pins, 100mils pitch	IDC Ribbon Header, 20-way	542-9024
J11	\	2x1mm, 2.54mm pitch	Jumper 2.54mm (Default Open)	251-8503
J12	\	2x1mm, 2.54mm pitch	Jumper 2.54mm (Default Closed)	251-8503
J13	\	2x1mm, 2.54mm pitch	Jumper 2.54mm (Default Closed)	251-8503
LED1	\	3mm	LED, Red, 20mA	228-4979
LED2	\	3mm	LED, Red, 20mA	228-4979
M1	IRFR2405PbF	DPAK (TO252AA)	MOSFET, 56A, 55V	543-2222
M2	IRFR2405PbF	DPAK (TO252AA)	MOSFET, 56A, 55V	543-2222
M3	IRFR2405PbF	DPAK (TO252AA)	MOSFET, 56A, 55V	543-2222
M4	IRFR2405PbF	DPAK (TO252AA)	MOSFET, 56A, 55V	543-2222
PCB	EDC035R2	\	A3941 Demo Board Rev2 PCB	\
Q1	BC817	SOT23	NPN Bipolar Transistor	484-2252
Q2	BC817	SOT23	NPN Bipolar Transistor	484-2252

Part	Value	Package	Device	RS Part
R1	100R	0805	Chip Resistor	223-0297
R2	100R	0805	Chip Resistor	223-0297
R3	100R	0805	Chip Resistor	223-0297
R4	100R	0805	Chip Resistor	223-0297
R7	470k	0805	Chip Resistor	223-0786
R8	470k	0805	Chip Resistor	223-0786
R9	470k	0805	Chip Resistor	223-0786
R10	470k	0805	Chip Resistor	223-0786
R17	100k	0805	Chip Resistor	223-0691
R18	1k	0805	Chip Resistor	223-0427
R19	27k	0805	Chip Resistor	223-0613
R22	1k	0805	Chip Resistor	223-0427
R23	47k	0805	Chip Resistor	223-0641
R24	1k	0805	Chip Resistor	223-0427
R25	47k	0805	Chip Resistor	223-0641
R28	1k	0805	Chip Resistor	223-0427
R29	47k	0805	Chip Resistor	223-0641
R32	1k	0805	Chip Resistor	223-0427
R33	47k	0805	Chip Resistor	223-0641
R40	1k	0805	Chip Resistor	223-0427
R41	3k9	0805	Chip Resistor	223-0506
R42	1k	0805	Chip Resistor	223-0427
R43	3k9	0805	Chip Resistor	223-0506
R46	47k	0805	Chip Resistor	223-0641
R47	2k2	0805	Chip Resistor	223-0477
R48	47k	0805	Chip Resistor	223-0641
R49	2k2	0805	Chip Resistor	223-0477
R50	50k	6mm	Multiturn Trim Resistor	521-9293
R51	10k	0805	Chip Resistor	223-0562
S1	8-Way	DIL-16	8-pole DIP Switch	342-118
TPx (x17)	\	1mm PCB Hole	Test Terminal, Red	262-2185
Optional - Add Sense Resistors if required (Note:cut link under R5 to use sense resistors)				
R5	R022	2512 6.4x3.2mm	1W Chip Resistor	294-5602
R6	R022	2512 6.4x3.2mm	1W Chip Resistor	294-5602
\	\	\	Jumper Shorting Link (Red, x3/board)	251-8531
\	\	\	Rubber Feet (x5/board)	248-451

BOARD BUILD NOTES:-

(1) Jumper shorting link = Fit x3 per board.
(2) *Ground bar = 20swg Tinned Copper Wire, Approx 10mm Height, Square Corner Formed (see pic) :-
(3) Rubber Feet = Fit x5 per board, one in each corner and one near socket (as near as possible).
(4) Final 'active' stage = board wash (no flux present on finished boards).
(5) No manufacturer stick-on label's on topside of pcb, bottom side only.
(6) PCB to have a smooth routed finish with no breakout 'lugs' remaining.

Revision History

Number	Date	Description
–	September 13, 2016	Initial release

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