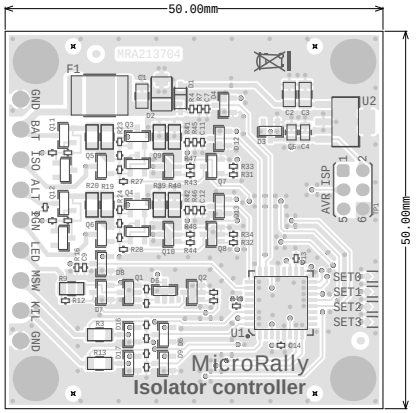
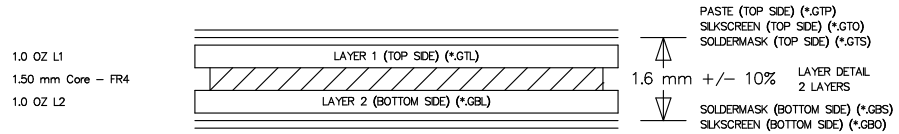
GERBER NOTES

Symbol	Count	Hole Size	Plated	Hole Type	Via/Pad
⌖	265	0.300mm	PTH	Round	Via
▽	6	1.000mm	PTH	Round	Pad
⊠	4	1.152mm	NPTH	Round	Pad
✡	9	1.300mm	PTH	Round	Pad
○	4	3.600mm	PTH	Round	Pad
	288 Total				





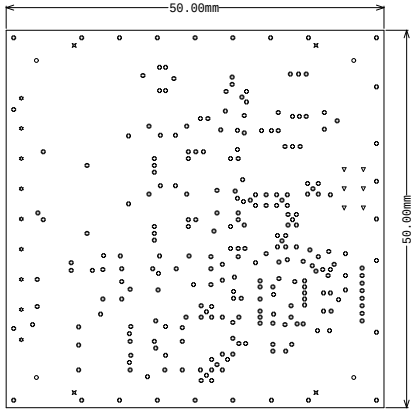
NOTES: (UNLESS OTHERWISE SPECIFIED)

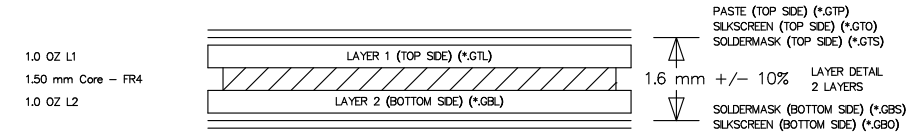
1) THIS IS 2 LAYER BOARD
2) MATERIAL: FR4, TG 150 DEGREE C MIN
3) FR4 DIELECTRIC CONSTANT NOT SPECIFIED
4) FINISHED BOARD THICKNESS TO BE 1.60MM +/- 10%
5) TRACE WIDTHS IN ARTWORK ARE FINISHED SIZES
6) SEE FILM FOR LAYER SEQUENCE AND COPPER THICKNESSES (SHOWN BEFORE PLATING)
7) MIN TRACE/SPACE 0.25/0.25MM
8) SEE DRILL CHART FOR FINISHED HOLE SIZES
9) MIN DRILL 0.30MM
10) HOLE TOLERANCE IS +/-3MIL UNLESS OTHERWISE SPECIFIED
    HOLE COPPER THICKNESS MIN 0.7MIL
    SLOT TOLERANCE +/-0.1MM
    BORDER OUTLINE TOLERANCE +/-0.15MM
11) SURFACE PLATING: HASL, Pb FREE
12) SOLDERMASK: LPI, BOTH SIDES. COLOR GREEN
13) SILKSCREEN: TOP AND BOTTOM SIDE. COLOR WHITE
14) ALL BOARDS MUST BE ELECTRICALLY TESTED FOR ISOLATION (SHORTS) AND CONTINUNITY (OPENS)

Project: Isolator Controller	
Author: Andis Jargans	Revision: 4
Date: 15.09.2021	Size: A4
File: Isolator_controller_r4.PcbDoc	MicroRally

GERBER NOTES

Symbol	Count	Hole Size	Plated	Hole Type	Via/Pad
⌖	265	0.300mm	PTH	Round	Via
▽	6	1.000mm	PTH	Round	Pad
⌘	4	1.152mm	NPTH	Round	Pad
✡	9	1.300mm	PTH	Round	Pad
○	4	3.600mm	PTH	Round	Pad
	288 Total				





NOTES: (UNLESS OTHERWISE SPECIFIED)

1) THIS IS 2 LAYER BOARD
2) MATERIAL: FR4, TG 150 DEGREE C MIN
3) FR4 DIELECTRIC CONSTANT NOT SPECIFIED
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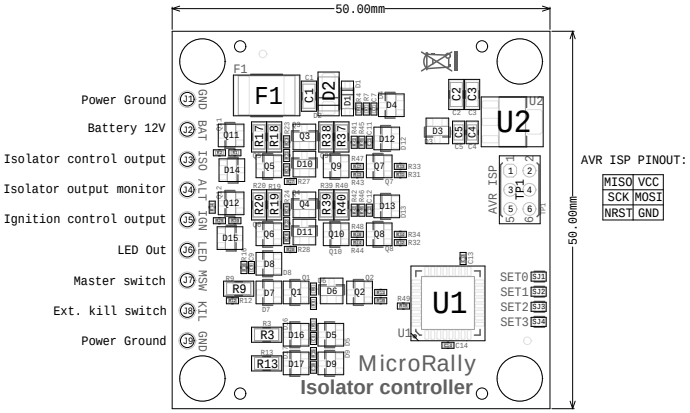
    HOLE COPPER THICKNESS MIN 0.7MIL
    SLOT TOLERANCE +/-0.1MM
    BORDER OUTLINE TOLERANCE +/-0.15MM
11) SURFACE PLATING: HASL, Pb FREE
12) SOLDERMASK: LPI, BOTH SIDES. COLOR GREEN
13) SILKSCREEN: TOP AND BOTTOM SIDE. COLOR WHITE
14) ALL BOARDS MUST BE ELECTRICALLY TESTED FOR ISOLATION (SHORTS) AND CONTINUNITY (OPENS)

Project: Isolator Controller	
Author: Andis Jargans	Revision: 4
Date: 15.09.2021	Size: A4
File: Isolator_controller_r4.PcbDoc	MicroRally

ASSEMBLY NOTES



AVR ISP PINOUT:

MISO	VCC
SCK	MOSI
NRST	GND

Bootstrap settings:

SET0 to SET4 are solder jumpers. Connect necesery jumper pads with lump of solder.
Refer to datasheet for functions.

LED brighness:

Use R37 to control LED current and thus brighness.

If LED has built-in LED, then replace R37 with 0 ohm resistor.

LED power source

To control LED directly from MCU GPIO:

Load R40, D12. Not-load R37, Q9, Q10, D11.

Use R40 to control LED current.

Project: Isolator Controller	
Author: Andis Jargans	Revision: 4
Date: 15.09.2021	Size: A4
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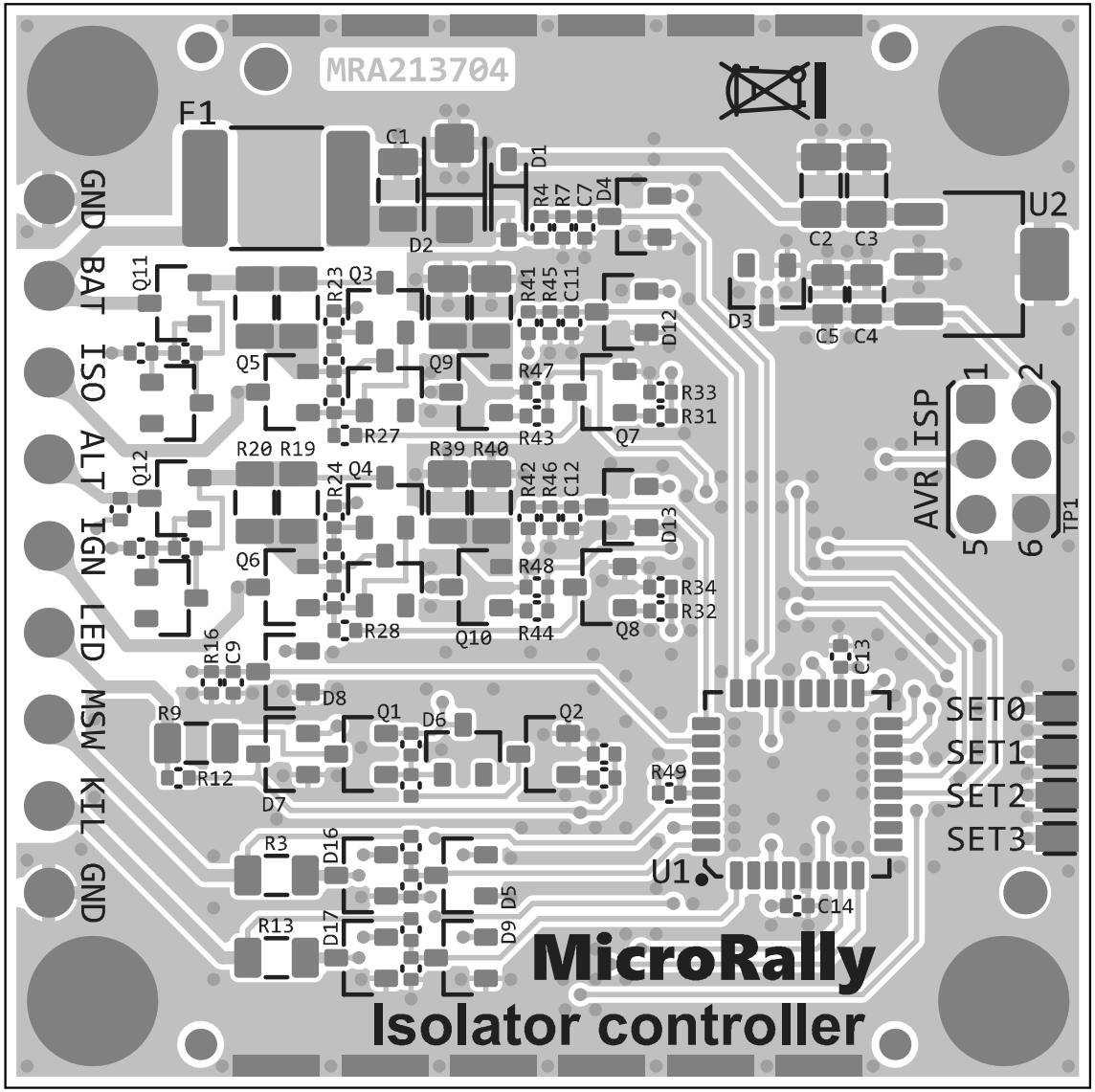
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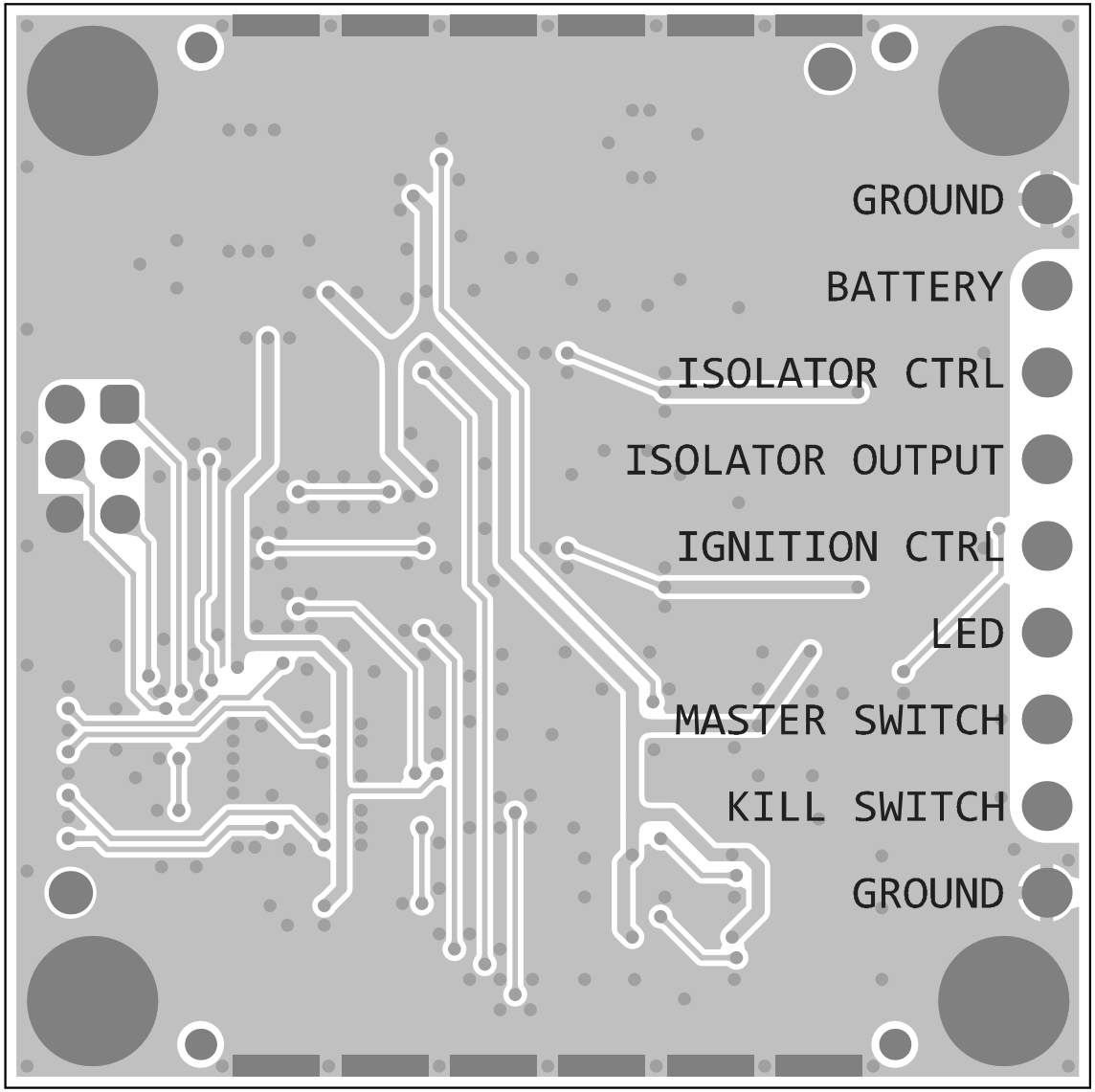
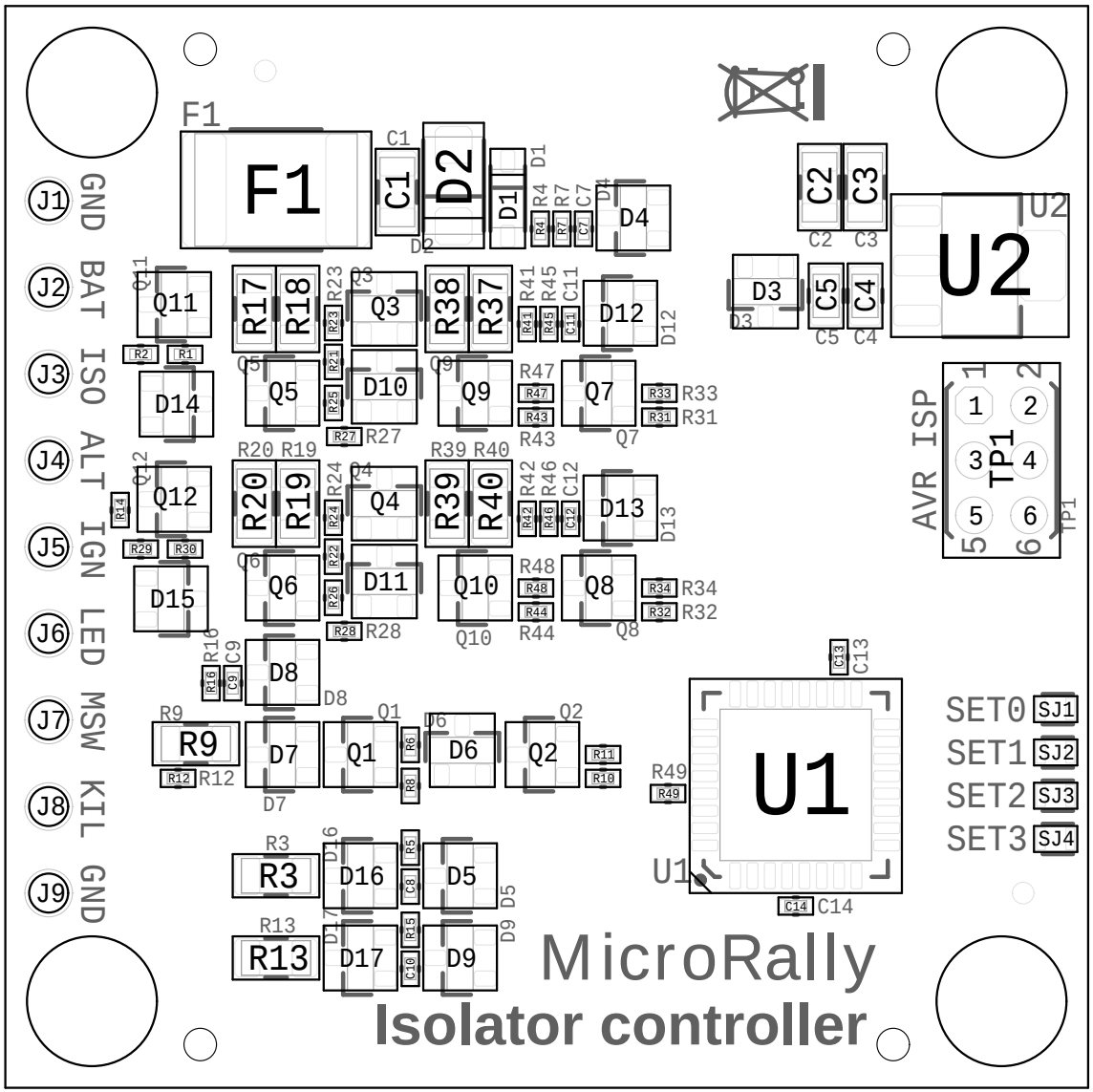
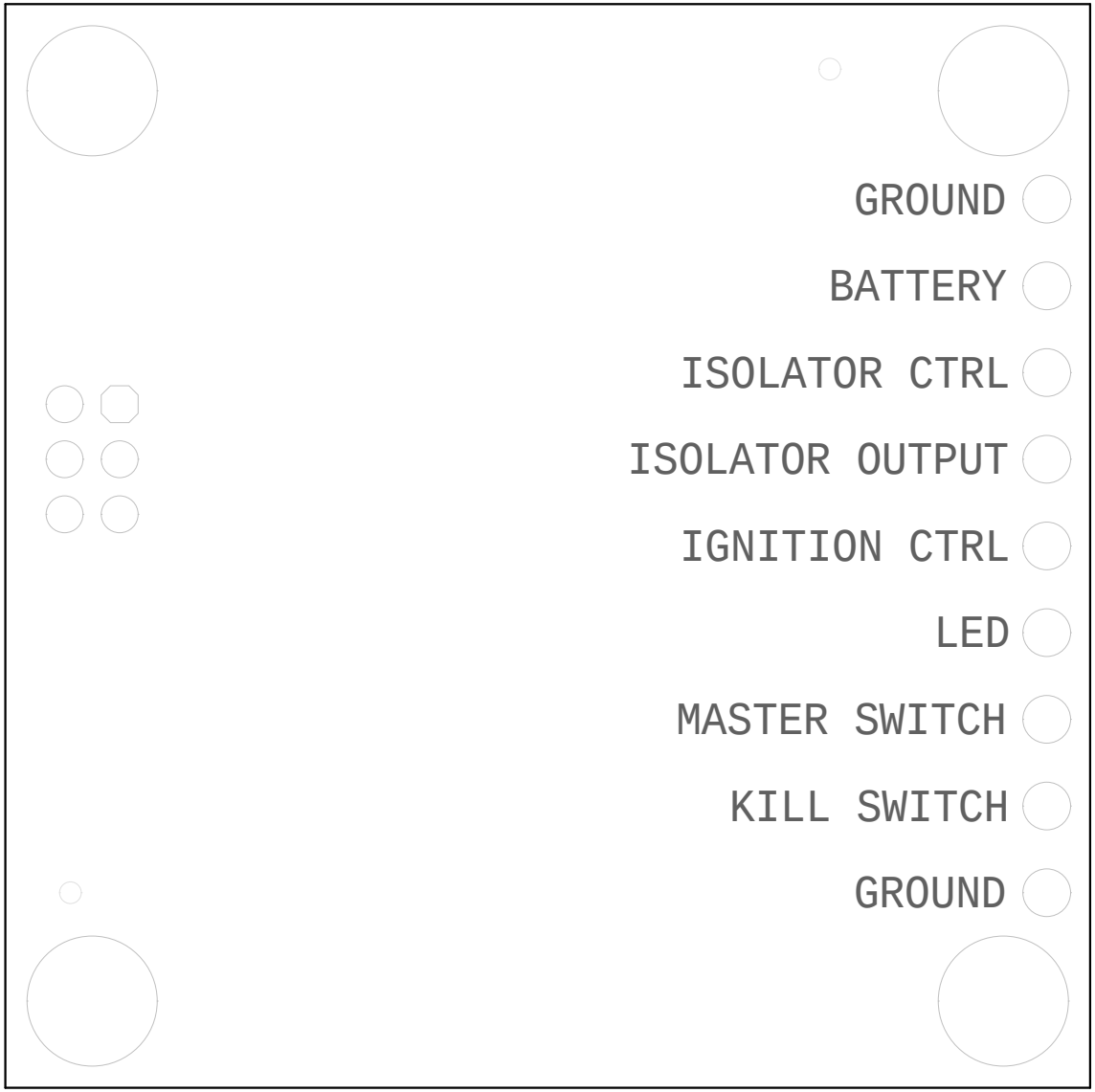
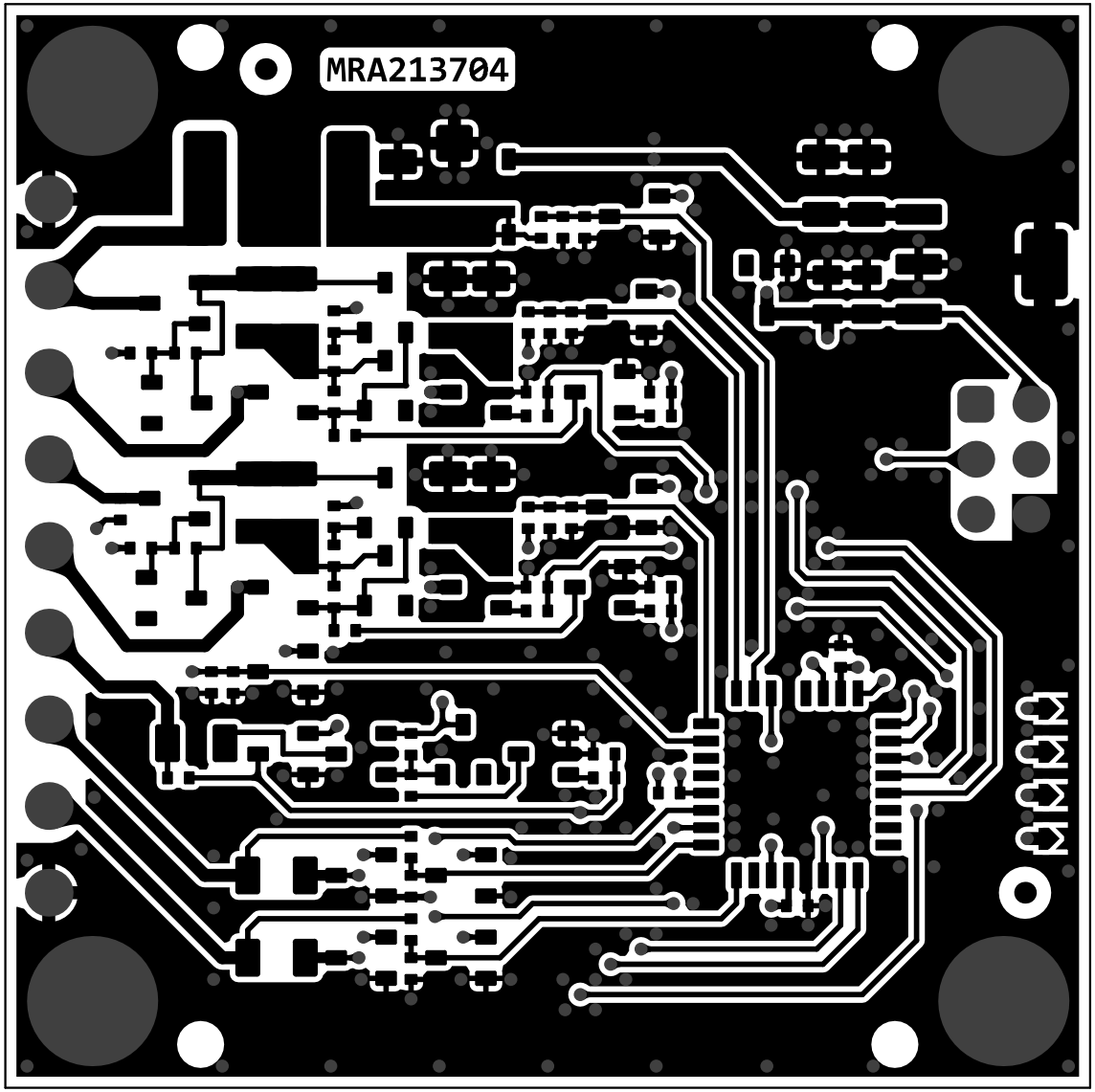
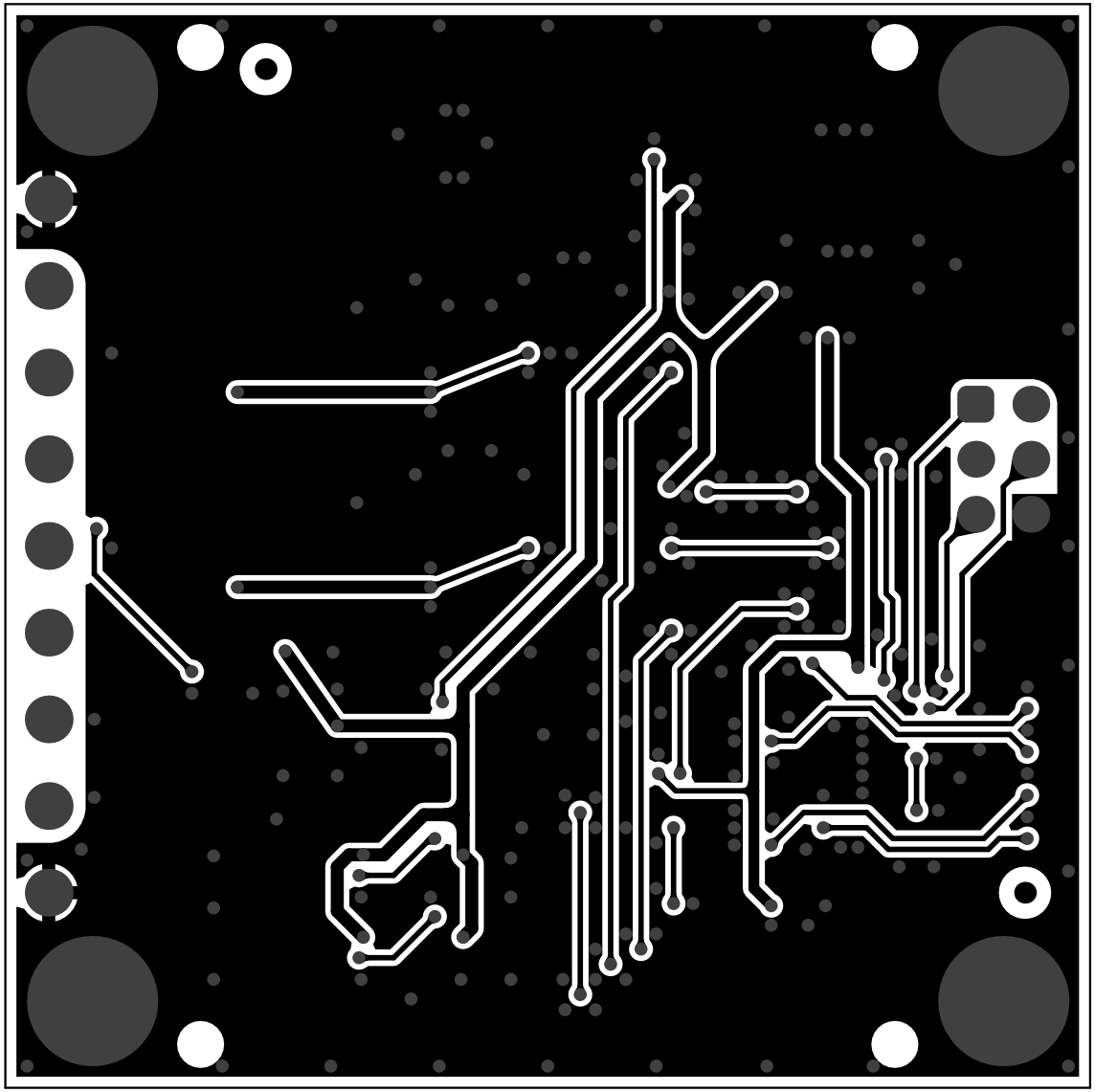
F1
C1
D1
D2
R4
R7
C7
D4
U2
C2
C3
C5
C4
D3
GND
BAT
ISO
ALT
IGN
LED
MSW
KTL
GND
Q11
R23
Q3
R41
R45
C11
D12
Q5
Q9
R47
R33
R31
R27
R43
Q7
R20
R19
R39
R40
Q12
R24
Q4
R42
R46
C12
D13
AVR ISP
1
2
5
6
TP1
Q6
R48
R34
R32
R28
Q10
R44
Q8
R16
C9
C13
R9
D8
Q1
D6
Q2
R12
R49
D7
SET0
SET1
SET2
SET3
R3
D16
U1
C14
R13
D17
D5
D9
MicroRally
Isolator controller

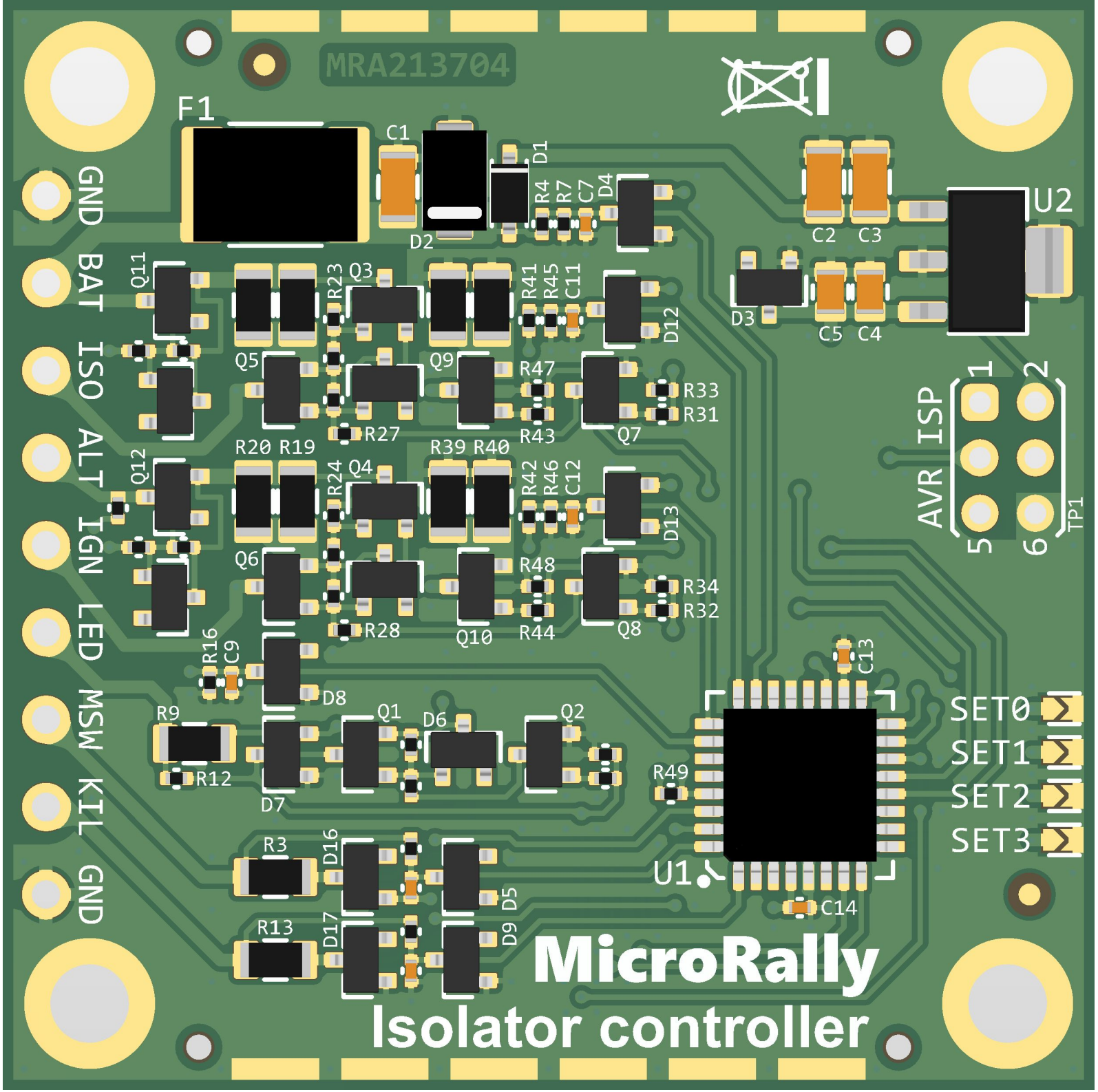

GROUND
BATTERY
ISOLATOR CTRL
ISOLATOR OUTPUT
IGNITION CTRL
LED
MASTER SWITCH
KILL SWITCH
GROUND


J1 GND
J2 BAT
J3 ISO
J4 ALT
J5 IGN
J6 LED
J7 MSW
J8 KIL
J9 GND
F1
C1
D2
D1
D4
C2
C3
U2
D3
C5
C4
AVR ISP
TP1
Q11
R17
R18
Q3
R38
R37
D12
Q5
D10
Q9
Q7
D14
R20
R19
Q4
R39
R40
D13
Q12
Q6
D11
Q10
Q8
D15
D8
R9
D7
Q1
D6
Q2
U1
SET0 SJ1
SET1 SJ2
SET2 SJ3
SET3 SJ4
R3
D16
D5
R13
D17
D9
MicroRally
Isolator controller


GROUND
BATTERY
ISOLATOR CTRL
ISOLATOR OUTPUT
IGNITION CTRL
LED
MASTER SWITCH
KILL SWITCH
GROUND


MRA213704

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R47
R33
R31
R27
R43
Q7
R20 R19
R39 R40
Q12
R24
Q4
R42
R46
C12
D13
Q6
R48
R34
R32
R28
Q10
R44
Q8
AVR ISP
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6
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C9
D8
C13
R9
Q1
D6
Q2
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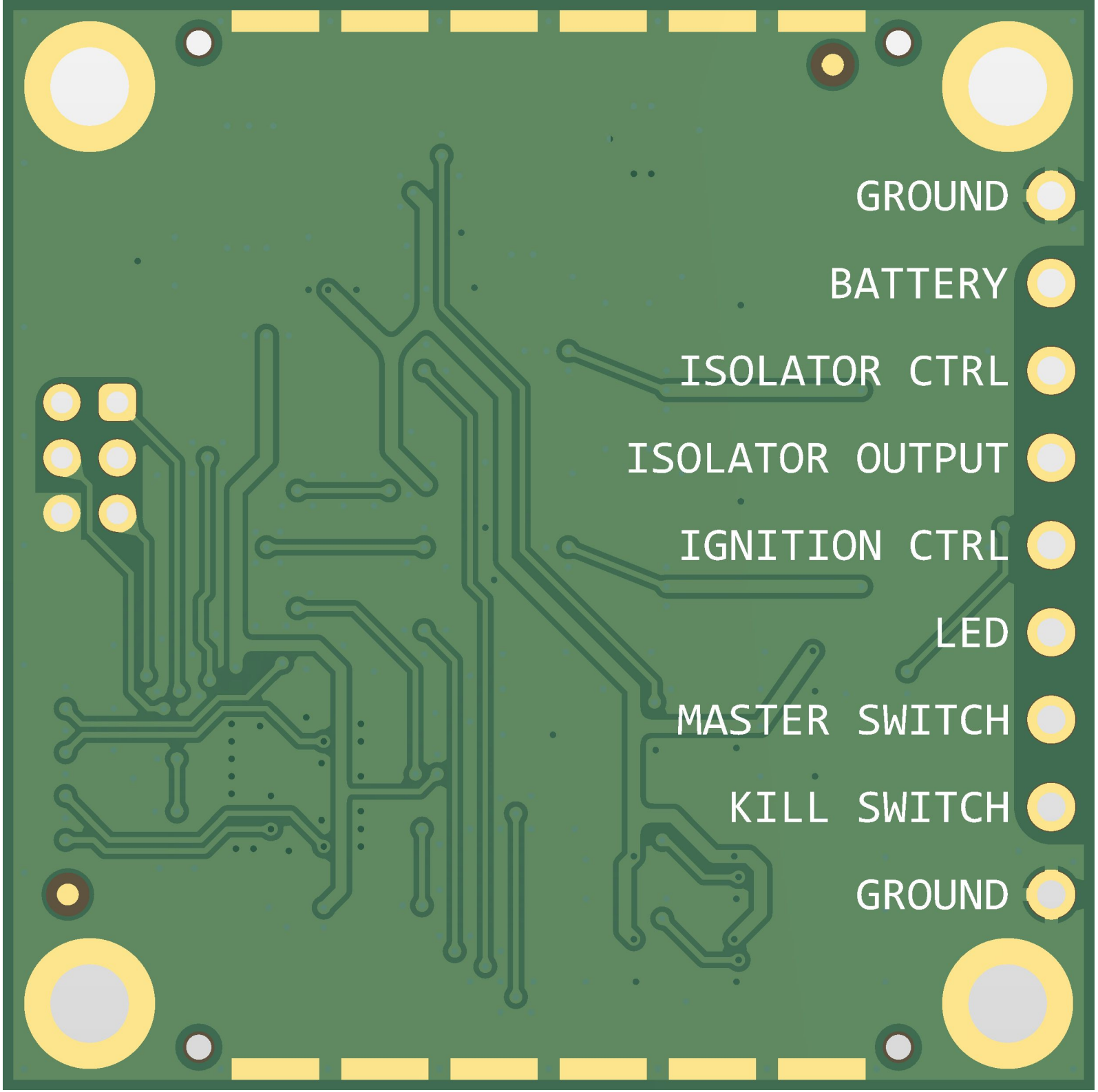
MicroRally
Isolator controller


GROUND
BATTERY
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LED
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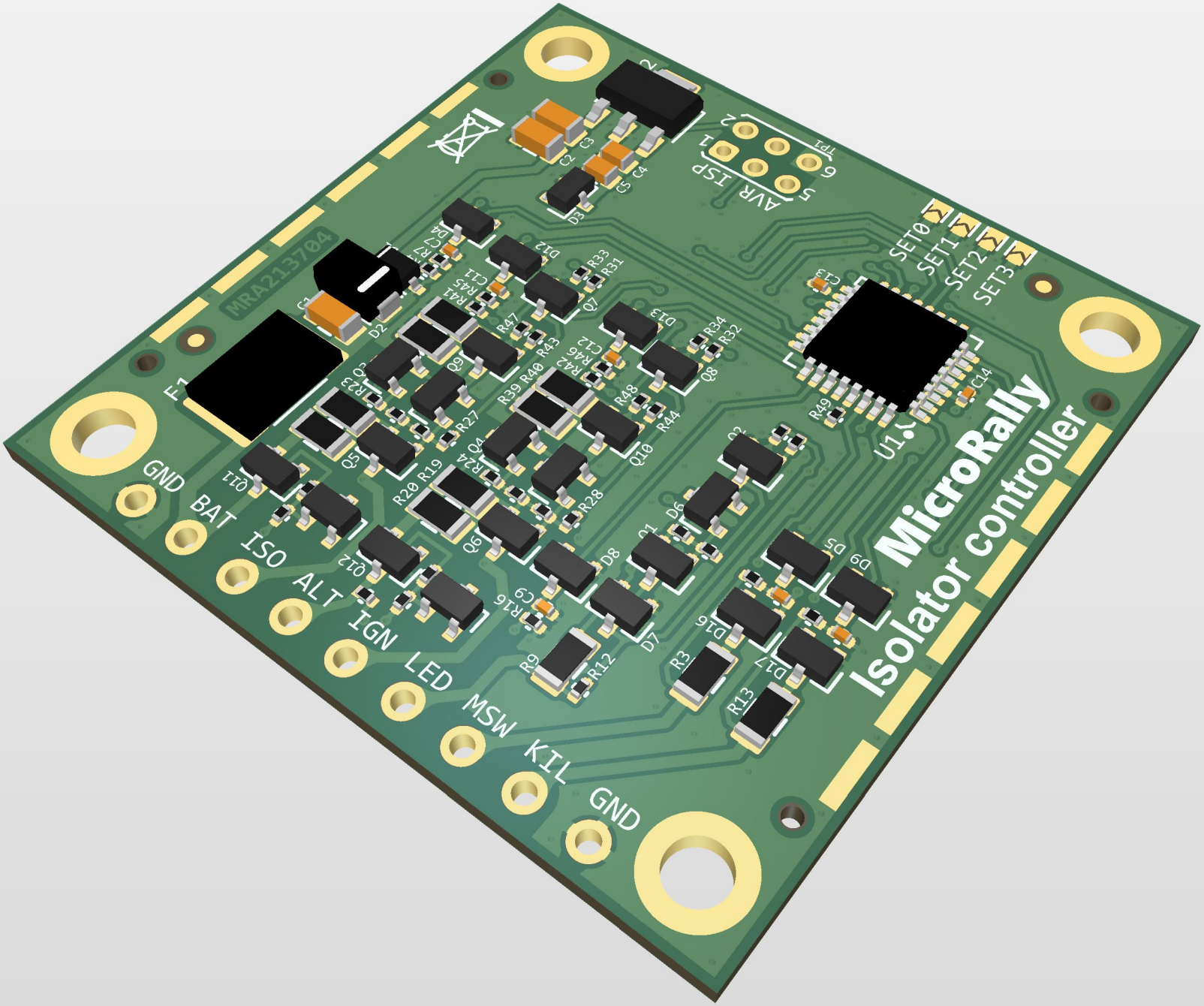
MRA213704
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Isolator controller
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