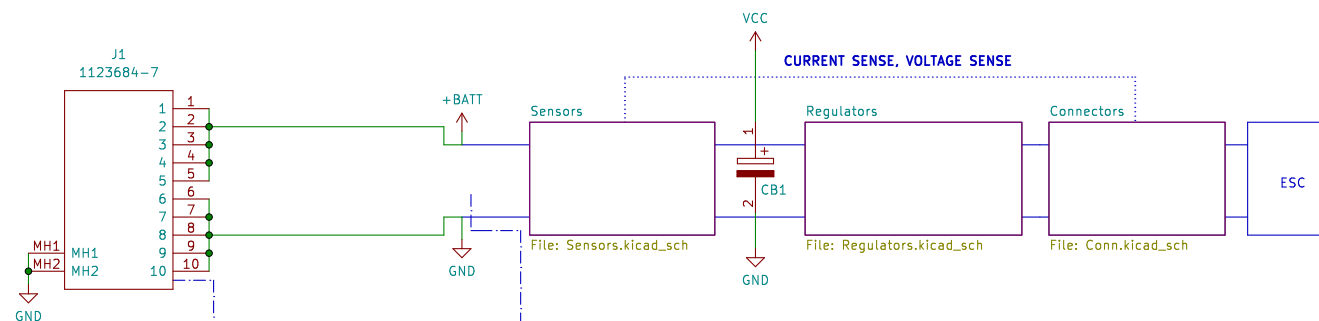


POWER DISTRIBUTION BOARD WITH BEC AND CURRENT + VOLTAGE SENSE



Number of Positions 10
Pitch 0.098" (2.50mm)
Voltage Rating 30 V
Current Rating 7 A

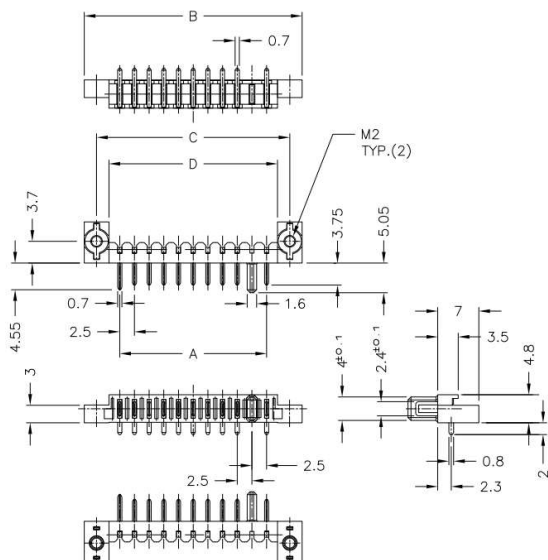
1123684-7

Capacitance: 220 μ F
Voltage Rating DC: 50 VDC
Tolerance: 20 %
Ripple Current: 1.43 A
ESR: 33 mOhms

EEU-FS1H221LB



USE CASE – UAVS
VBATT – 4S LIHV 17.4V MAX
CURRENT DRAW – 20A MAX

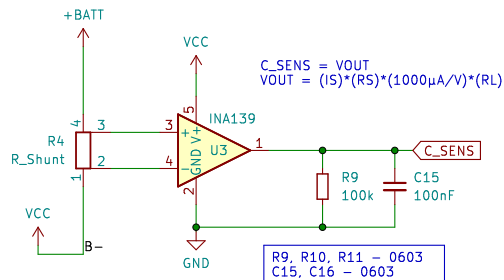


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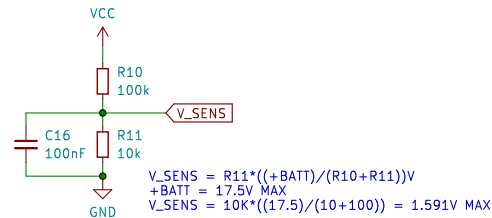
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Size: A4	Date:
KiCad E.D.A.	kiCad 7.0.5

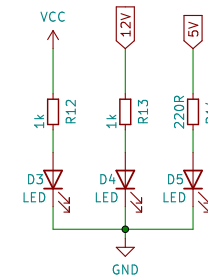
Rev:
Id: 1/4



CURRENT SENSOR



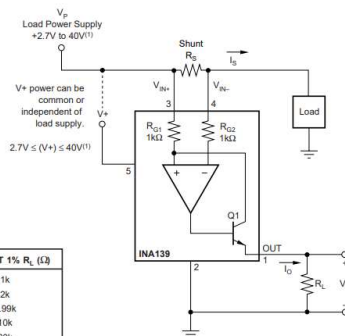
VOLTAGE SENSOR



0805 RED Vf = 2V

VOLTAGE INDICATOR

CURRENT SENSOR DESIGN



VOLTAGE GAIN	EXACT RL (Ω)	NEAREST 1% RL (Ω)
1	1k	1k
2	2k	2k
5	5k	4.99k
10	10k	10k
20	20k	20k
50	50k	49k
100	100k	100k

OUTPUT VOLTAGE RANGE

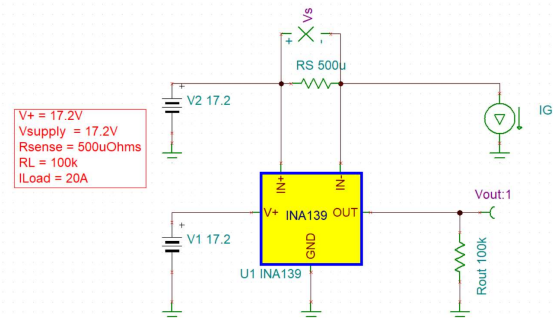
The output of the INA139 is a current that is converted to a voltage by the load resistor, RL. The output current remains accurate within the *compliance voltage range* of the output circuitry. The shunt voltage and the input common-mode and power-supply voltages limit the maximum possible output swing. The maximum output voltage compliance is limited by the lower of the two equations below:

$$V_{OUT_MAX} = (V+) - 0.7V - (V_{IN+} - V_{IN-}) \quad (4)$$

or

$$V_{OUT_MAX} = (V_{IN-}) - 0.5V \quad (5)$$

(whichever is lower)

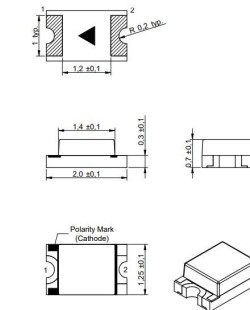


TI-TINA SIMULATION AT MAX OPERATING POINTS

Absolute Maximum Ratings (Ambient Temperature 25°C):

Properties	Test conditions	Value	Unit
Power Dissipation	P _{Diss}	72	mW
Peak Forward Current	I _{F Peak} duty/ 10 @ 1 kHz	100	mA
Continuous Forward Current	I _F	30	mA
ESD Threshold/ Human Body Model	V _{ESD HBM}	2000	V
Junction Temperature	T _J	95	°C

Dimensions: [mm]

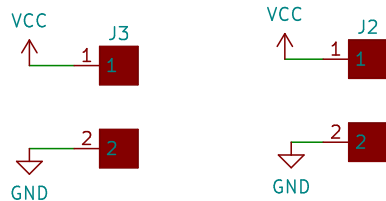


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File: Sensors.kicad_sch

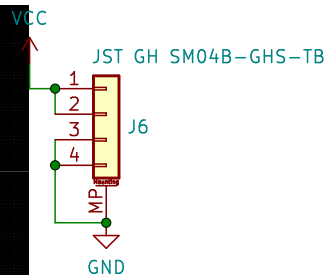
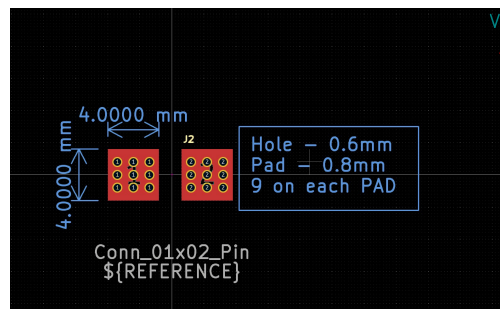
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Size: A4 Date:
KiCad E.D.A. kicad 7.0.5

Rev:
Id: 3/4

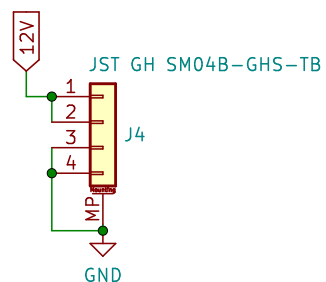


POWER PADS

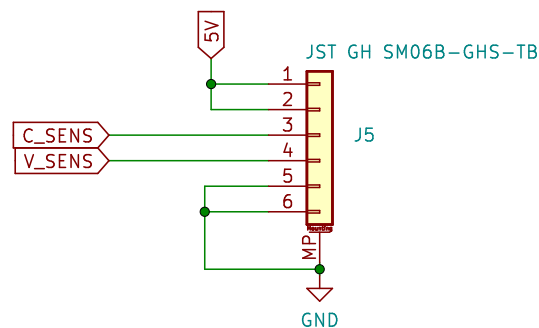


CURRENT - MAX AVG

POWER PADS - 15A 10A
12V CONNECTOR VTX - 1A 0.6A
5V CONNECTOR FC - 2A 0.5A



12V CONNECTOR VTX



5V CONNECTOR FC

Sheet: /Connectors/
File: Conn.kicad_sch

Title:

Size: A5 Date:
KiCad E.D.A. kicad 7.0.5

Rev:

Id: 4/4