Noise Generator Use 2.49k resistors to reduce trimmer wiper range $\frac{36}{4}$ $\frac{4}{12}$ (since we aim to keep within $\frac{4}{12}$ 12v the comparator's common mode region) R1 PTP11 1k R15 1k potentiometer R2 12v 1k GND U2 LT1215CS8#PBF C2 R4 • TP2 4.7nF 1k ↑LM4040-10V 100k +IN_A OUT_A GND R5 R6 R7 249 4 C5 GND 33nF 5 -IN_A 3v3 Q1 2N4401 1 R12 J3 C10 3.3nF 100nF 1 k GND GND 3 ☐ Ref out Noise out GND CONN_01×03 R13 1k R10 R11 249 GND 33nF 2.49k GND IC1 3v3 VCC MICROUSB MCP1700 0- 2× 0+ 3× 10 5× 5 C3 1 GND C7 1.5uF CONN_01x03 ₩GND **↓**GND GND Alternative power input PWR L1 4.7uH Power flag for KiCad 12v INH OUT U1 ST8R00 С8 180k 10uF Gregory Brooks gb510 R9 Cambridge University Engineering Department 20k Sheet: / File: zener-rng.sch Title: Zener-RNG Size: A4 Date: 2019-03-08 **Power** Rev: 1.0 KiCad E.D.A. kicad (5.0.0-rc3-dev) ld: 1/1