



$V_{IN}=8-20V$   
 $V_{SENSE}=0-500mV$   
 $V_{OUT}=0-2.5V$   
 -----  
 $V_{SENSE}=R_{SENSE}*I_{LOAD}$   
 $V_{SENSE}=0.02R*5A$   
 $V_{SENSE}=100mV$   
 -----  
 $I_{OUT}=V_{SENSE}*G_T$   
 $I_{OUT}=100mV*0.01$   
 $I_{OUT}=1mA$   
 -----  
 $R_{SET}=V_{OUT}/I_{OUT}$   
 $R_{SET}=2.5V/1mA=2.5k$   
 $R_{SET}=2k \pm 4.99k(1\%)$   
 -----  
 $R_{BASE}=\frac{(V_{IN\_MAX}-V_Z)*h_{FE\_min}}{I_{OUT}}$   
 $R_{BASE}=\frac{(30V-15V)*100}{1mA}$   
 $R_{BASE}=1.5Meg(1\%)$

AE01001008

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Sheet: /

File: ZXCT1008\_over.kicad\_sch

**Title: Current output current monitor. Over-range voltage.**

Size: A4

Date: 2024-10-15

Rev: 2

KiCad E.D.A. 8.0.6

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