



$Q1 = \text{BUK9511-55A127} \rightarrow 3.6\{\text{Aref}\}/(11*10^{-3}\{\text{rds}\}*6\{\text{current}\})=54.54/10\{\text{U2B}\}=5.45-1$   
 $R1 = 10k\{R15\}/4.45 = 2.24k\{2.2k\}$   
 $Q1 \text{ rds} \leq 55\text{milli Ohm. If bigger, R2/R3 and R4/R13 must change.}$

$Q1 = \text{IRLZ44NPBF} \rightarrow 3.6\{\text{Aref}\}/(35*10^{-3}\{\text{rds}\}*6\{\text{current}\})=17.14/10\{\text{U2B}\}=1.74-1$   
 $R15 = 2.2k\{R1\} * 0.74 = 2.97k \text{ or } R1 = 10k\{R15\}/0.74 = 13.51k\{12k\}$   
 $40\text{milli Ohm, } R15 = 2.2k\{R1\} * (1.5-1) = 1.1\{\text{best, } 1k\} \text{ or } R1 = 10k\{R15\} / (1.5-1) = 20k\{22k\}$

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 File: ATtiny85-mppt.sch

**Title: Simple MPPT with ATtiny85**

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