Description

This circuit utilizes a dual operational amplifier with high slew rate to act as voltage comparators with complementary outputs Q and Q\textsubscript{BAR}. Alternatively, a dual voltage comparator can also be used. The input reference can be any reference signal generated externally that is within input voltage limits. Both the outputs Q and Q\textsubscript{BAR} change state whenever the input signal V\textsubscript{IN} crosses V\textsubscript{REF} voltage levels. A high-precision voltage comparator function can be implemented by selecting a low offset voltage rail-to-rail dual operational amplifier. When a dual operational amplifier or dual voltage comparator is used, when both comparator functions are within the same IC package, the outputs Q and Q\textsubscript{BAR} have better timing and temperature tracking to each other. In other words, the transition whenever Q changes state would track Q\textsubscript{BAR} changing state in the opposite direction.

For full schematic diagram and notes, please register and login at aldinc.com