Dual Limit Window Comparator

Description

This window comparator circuit has 2 limits, a lower limit and an upper limit, which can produce up to 2 separate outputs, each dedicated to either a warning or an alarm condition. These outputs can be tied together in a wired-OR configuration simply by shorting them together to produce a desired response, with output drivers built-in. For example, V_L1 and V_H1 can be connected together to produce a single output whenever the input signal voltage level goes below V_L1 or higher than V_H1 limits. This type of signal can be used as a warning signal or a control signal whenever V_L1 or V_H1 has been exceeded. Alternatively, each of the V_L1 and V_H1 outputs can be used as a separate, independent output signal. Note that this circuit works with either open-drain or push-pull types of comparator output, depending upon the load(s) to be driven. The load, in many cases, can act as a pull-up, so that a pull-up resistor is not required. Alternatively, push-pull outputs can actively pull-up the output to shutdown the load. In either case an output resistor is not needed and its associated power consumption is eliminated.

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