

DESCRIPTION

The ZLNB2013 dual polarization and tone switch controller is one of a wide range of satellite receiver LNB support circuits available from Zetex. It features two completely independent channels, each providing logic outputs to control LNB polarization selection, local oscillator selection and down feed disable. It is intended for use in Twin, Quad and multiple feed Universal LNBs, replacing many discrete components to save both manufacturing cost and PCB size, whilst improving reliability.

The two polarization control inputs of the ZLNB2013 have a threshold voltage of 14.75V to meet the switching requirement of 14.0V to 15.5V. To minimize drift both thresholds are temperature compensated. Each features a low and stable input current that enables threshold trimming and transient protection to be achieved with the addition of only a single resistor per channel.

Multi feed LNBs can be called to operate with one or more of their controlling receivers powered down/disconnected, with attendant cable mismatch problems. To ease design for this situation, each polarization input of the ZLNB2013 has a second threshold set at 9V. An input voltage below this threshold indicates "receiver not present" and switches the relevant control channels high. This logic output can be used to disable the associated down feed driver, eliminating any problems due to cable mismatch.

Universal LNB local oscillator selection is achieved by detection of a low level AC voltage superimposed on the polarization control voltage. To facilitate this function, the ZLNB2013 includes a separate tone detector for each channel. Control of detector bandwidth and sensitivity is provided using an external resistor and capacitor for each channel. The tone detector has been designed to give excellent rejection of low frequency control signals and DiSEqC™ tone bursts.

The ZLNB2013 has been specifically designed to minimize the solution cost whilst being flexible. The ZLNB2013 only requires two external components per channel to give full user control and functionality. The ZLNB2013 also includes complimentary outputs so that it can directly drive many multiplexer ICs without the need of an inverter. Any unused outputs can be left open circuit without any effect to the remaining circuits. Polarization switch and tone detector outputs can directly drive TTL and CMOS logic, pin diodes, IF-amp supply switching and multiplexer ICs.

The ZLNB2013 operates from a single supply which can be anything from 5-8V. Its quiescent current is typically only 9mA and this does not change significantly with load or logic state. It is available in the space saving QSOP16 surface mount package.



FEATURES

- Dual polarization and tone switch
- Temperature compensated polarization switches
- Reduced cost solution, only 2 external components per channel
- Multiplexer IC direct drive
- Tone and pol. outputs are TTL, CMOS, pin diode and IF amp capable
- Transient resistant inputs
- Includes receiver-off detector
- User adjustable filter centre frequency and bandwidth
- Low frequency and DiSEqC™ control signals rejection
- Eliminates many close tolerance discrete components
- Wide supply operating range
- Low quiescent current

APPLICATIONS

- Twin Universal LNB's
- Quad Universal LNB's
- Multi Feed Universal LNB's
- LNB switch boxes



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