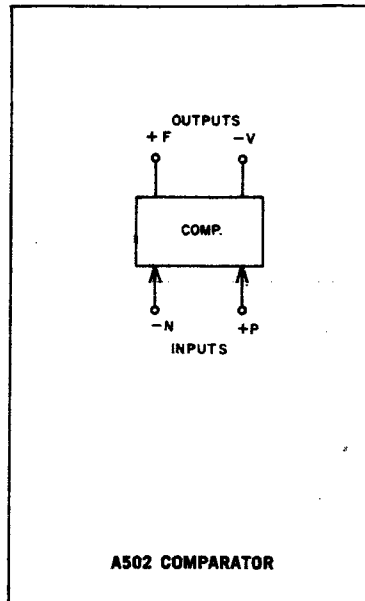


COMPARATOR TYPE A502

A SERIES



The A502 Comparator is a high speed difference amplifier which compares two input voltages and indicates which of the two is the more negative. The comparator has a resolution of 1 mv, and an input range of 0 to $-10v$. The maximum combined error due to a change in the common input voltage from 0 to $-10v$ and a $20^{\circ}C$ temperature change is 5 mv equivalent input offset. Two potentiometers allow adjustment of the zero set and common balance.

As seen in the module diagram, when the input polarity of pins N and P are $-$ and $+$, respectively, then the output polarity of pins F and V are $+$ and $-$, respectively.

The comparator switching time is less than 250 nsec for a ± 10 mv square wave. The switching time is also less than 250 nsec when one input is at $-5.00v$ and the other is switched from ground to $-5.02v$. For finer resolution, the switching time is increased. When the comparator is driven from a high impedance, fast switching source, such as a digital-to-analog converter, time should also be allowed for

transients to settle. The analog-digital conversion application notes show illustrations of various combinations of divider networks and comparators in typical converter applications.

INPUT: 0 to $-10v$. The input draws up to $1 \mu a$, depending on the relative polarity of the two voltage inputs. The maximum current difference between positive and negative input voltages is $1 \mu a$. The difference input capacitance is 75 pf.

OUTPUT: The outputs produce standard levels of ground and $-3v$. Each output will supply 5 ma (2 ma at maximum speed) at ground, and 14 ma (2 ma at maximum speed) at $-3v$.

POWER: $+10 v(A)/21$ ma; $-15 v(B)/55$ ma.

NOTE: See "WIRING" section of reference supplies data sheet.