

DESCRIPTION

The M155A is a 17 level digitizer (4-bits plus over-range), and is designed specifically for use in parallel-serial A/D converter systems. It consists of 16 comparator cells, digital encoding circuitry, and output drivers.

The comparators have a common input  $V_{in}$  and separate, monotonically increasing, reference voltages which may be derived from an external resistor string (155-0165-00/01, H508). A strobe command forces each comparator (simultaneously) to make a binary decision. Further changes in input are locked out so that the circuit functions as a digital sample-and-hold. This is done by steering a current source from the input differential pair to a cross-coupled latching pair.

Sixteen common base transistors encode the comparator output to a one-of-sixteen code which is translated to binary by 16 multiple-emitter common collector transistors. The digital data is then level shifted to the output drivers and is valid at the output within 5 nS of strobing.

The inclusion of the sixteenth comparator (over-range) makes it possible to directly combine two M155A integrated circuits for a 5-bit parallel A/D converter.

Input Range . . . . .	$\pm 1.5V$ OR $\emptyset$ to 3V
Power Dissipation . . . . .	850 mW
Output . . . . .	ECL (Binary)
Maximum Clock Rate . . . . .	80 MHz
Input Bandwidth . . . . .	5 MHz

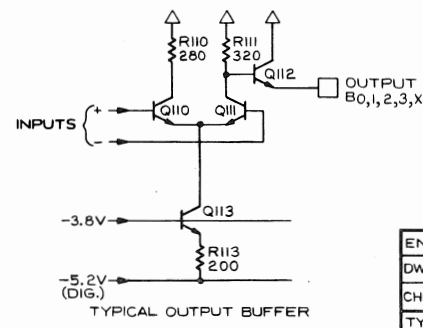
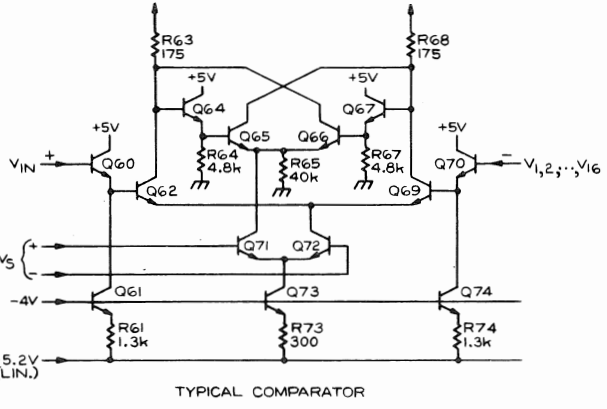
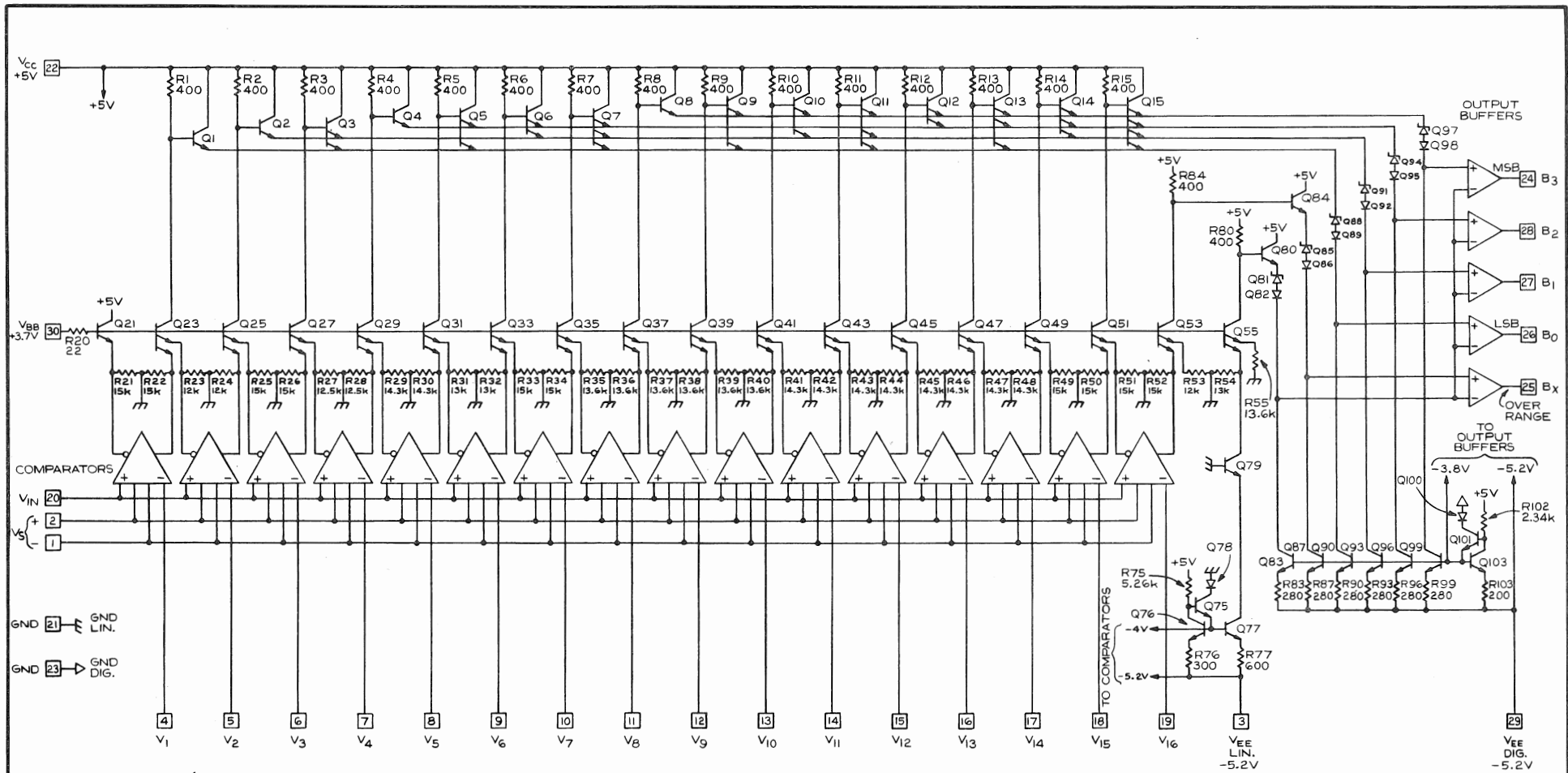
PROCESS . . . . . SHF II Double Layer Metal

POWER SUPPLY . . . . . +5.0V, -5.2V

PACKAGE. . . . . TEKFORM 35000 (Hybrid)  
Square Metal Can

DESIGNER . . . . . Bob Nordstrom

INSTRUMENT USAGE. . . . .



ENGR	<i>R. Miller</i>	12-9-76	PROCESS	SHF II
DWN BY	J. Langley	10-27-76	PACKAGE	HYBRID
CHK BY	<i>John Tomberg</i>	3-7-77	DIE SIZE	75mil X 132mil
TYPE	MONOLITHIC	4-BIT FLASH A/D CONVERTER		MI55A
INTEGRATED CIRCUIT ENG/MFG		PART NO. 203-0155-90		
TEKTRONIX, INC.				
BEAVERTON, OREGON, U.S.A.				