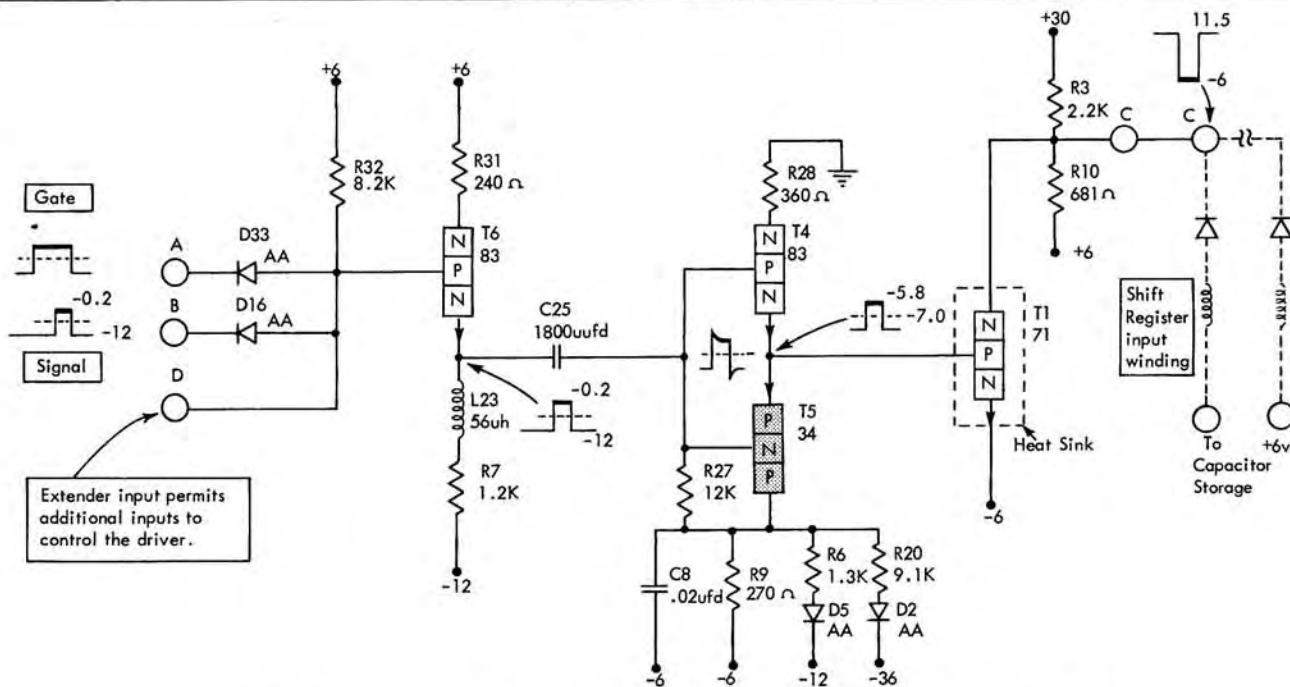


Logic Application



HG-- 371517

Input Levels		Output Levels		Delays (usec)		Output on Current
Min.	Max.	Min.	Max.	Per	Circuit	
-1.0	0.2	10.8	11.9	Turn On	Min.	72ma to 438ma
-8.0	-12.5	-5.7	-5.9		Max.	
				Turn Off	Min.	
					Max.	

Digit Read-In Driver

The digit read-in driver is used to set the magnetic cores of a single digit register. Both the signal and gate U line inputs must be up to give a special core mode output capable of supplying 430ma. This current can set up to 5 magnetic cores of a single digit register.

The signal input is normally fed from a timing ring and has a pulse duration of 1 microsecond. The gate input is on for a full digit time. Extender pin D provides for additional inputs to control the circuit.

Circuit Description

If either the U line gate or signal input are down, the base voltage of T6 is near -12v. Conduction is at a minimum through T6 and a -12v swing is coupled by C25 to the base of T4 and T5. This negative shift forward-biases T5 on and reverse-biases T4 off. The output from the complementary emitter followers reverse-biases T1

off. The collector voltage of T1 is set by the divider network of R10 and R3 and the output seen at pin C is +11.5v. The diodes in the shift register input windings are reverse-biased and prevent current flow through the core input windings, even if the capacitors are charged.

When both the gate and signal are up, T6 becomes more forward-biased. Conduction through T6 increases and the positive voltage shift at the emitter is coupled through C25 to forward bias T4 on and T5 off. The output of the complementary emitter follower attempts to go to 0v but is clamped near -5.8v when T1 is forward-biased on. The collector voltage of T1 decreases to -6v and, if the capacitor storage networks are charged to +6v, conduction through the forward-biased diodes and core input windings quickly discharges the capacitors and sets the core positions on.

The complementary emitter followers provide sharp control of the turn on and turn off of T1.