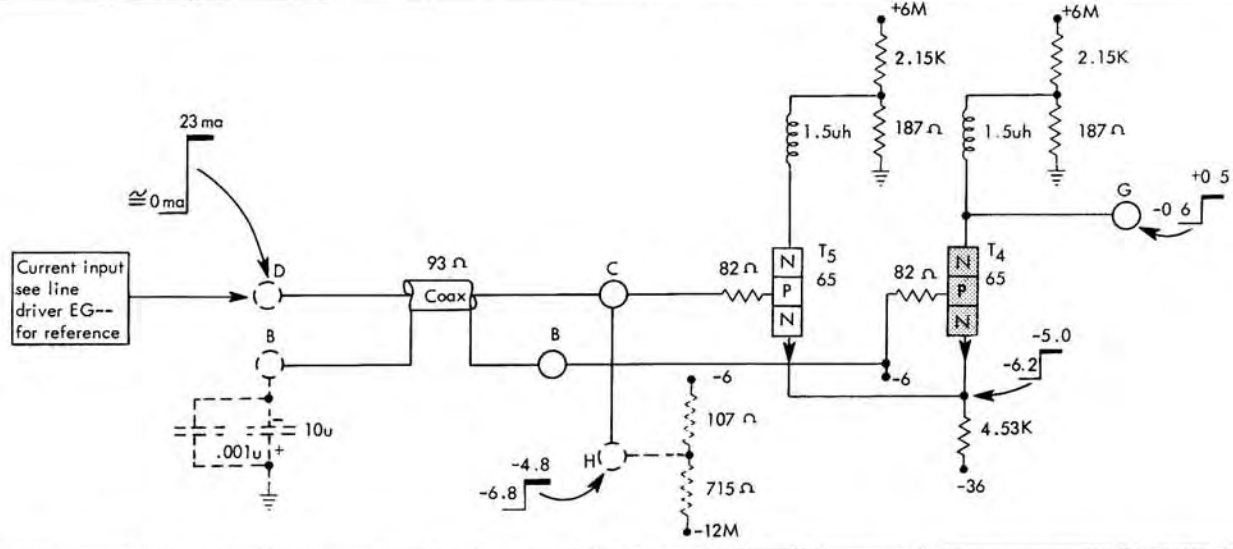


Typical Application of Buffer Converter



Card Code	Part No. 37----	Cplg Network		Circuit Used as	Input Levels		In \emptyset Output		T ₅ Collector		Ma. Output		musec Block Delay		
		In \emptyset	Out \emptyset		Min.	Max.	Min.	Max.	Min.	Max.	In \emptyset	T ₅	Turn On	Turn Off	
DFYU	1345	Yes	Yes	CB	-5.6	See driver for max. Output Levels	+0.4	+0.5	+0.4	+0.5					
DFYT	1346	No	Yes		-6.4		-0.4	-0.8	-0.4	-0.9	Min.	5.97	6.04	4	4
											Nom.	6.56	6.69	14	12
											Max.	7.14	7.34	24	20

Diffused Junction P-to-N Buffer Converter

This circuit is designed to act as a buffer stage between a line driver and local logic blocks. It accepts a P-line input and provides an in-phase N-line output. A CB circuit does not provide a termination for the line driver because several of these circuits are usually driven by the same driver. Therefore, a CBT block or an R block must be tied to the output of the line driver to terminate it.

Circuit Description

This circuit configuration is that of a one-way OR circuit; i.e., the input transistor T5 has its base-to-emitter PN diode returned to a negative supply (-36v). Its emitter drives into a grounded base amplifier T4 which is referenced to -6v. With the input at the -6 level as shown, the emitter line attempts to fall to the -P level. When the emitter of T4 falls below -6v it becomes forward-biased and clamps to the base potential of -6v. Output G is at a -N level of -0.6v because of current flow (6.6ma) through T4 into its coupling network.

When the input to T5 rises above -6v, T4 is reverse-biased and cuts off. Output G rises to a +N level because of divider current through its coupling network.

The input levels shown are developed in the 107 ohm, 715 ohm coupling network. In the state shown, input current is zero and the -N level is established by the network divider current. When the line driver circuit is switched on, 23ma flows from the network to the driver and the input signal rises to a +N level of -4.8v.

The peaking coil compensates for output capacitance, so that optimum square-wave response is realized. The 82 ohm base resistor is an oscillation suppressor which is necessary because of the inductive coupling network used.

This circuit is essentially a differential amplifier so that, if unwanted power line signals are induced in the coaxial line, these signals do not get through the amplifier. The amplifier blocks such signals because magnetically induced signals appear at input B and C in-phase, and cancellation results.

Application

For some applications, the circuit driven by this logic block requires a special input coupling network. In such cases, cap code YT is used (see chart).