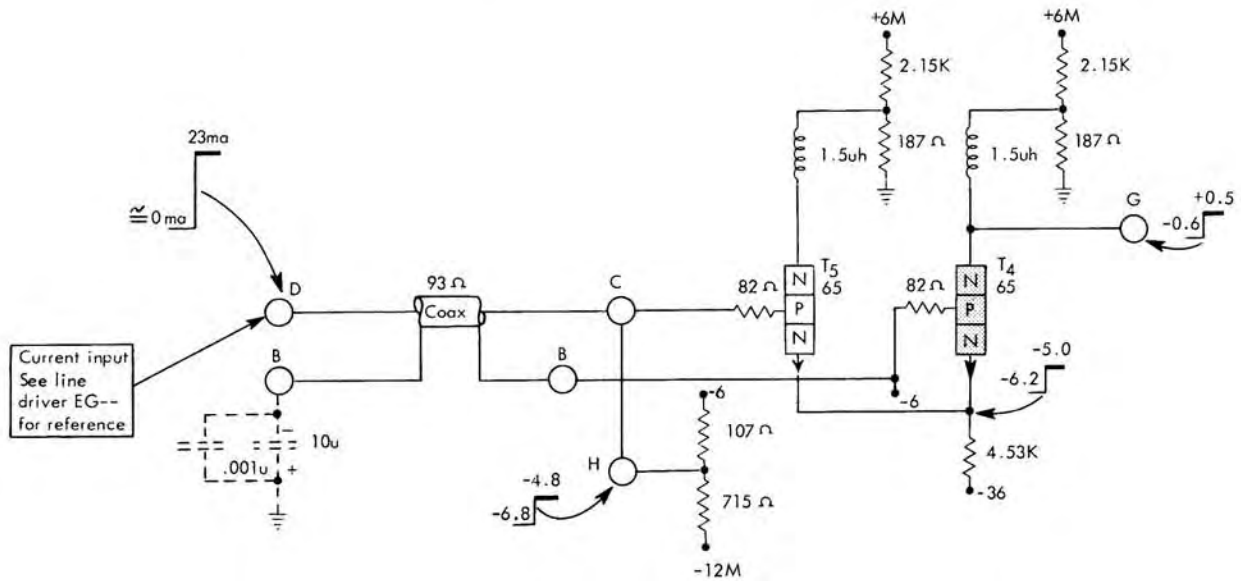


Typical Application of Converter



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	
DFYS	1347	Yes	Yes	CBT	-5.6	See driver for max. Output Levels	+0.4	+0.5	+0.4	+0.5	Min.	5.97	6.04	4	4
DFYR	1348	No	Yes		-6.4		-0.4	-0.8	-0.4	-0.9	Nom.	6.56	6.69	14	12
											Max.	7.14	7.34	24	20

Diffused Junction P-to-N Terminator-Buffer-Converter

This circuit is designed to terminate a coaxial line and to provide an in-phase N-line output for a P-line input. The input circuit has a coupling network whose equivalent resistance is 93 ohms. This network terminates the coaxial line in its characteristic impedance and converts input current to P-line signal levels.

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 -P 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, the emitter line follows it and T₄ is reverse-biased and cuts off. In this state, output G rises to a +4 level because of divider cur-

rent 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 reach 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 YR is used (see chart).