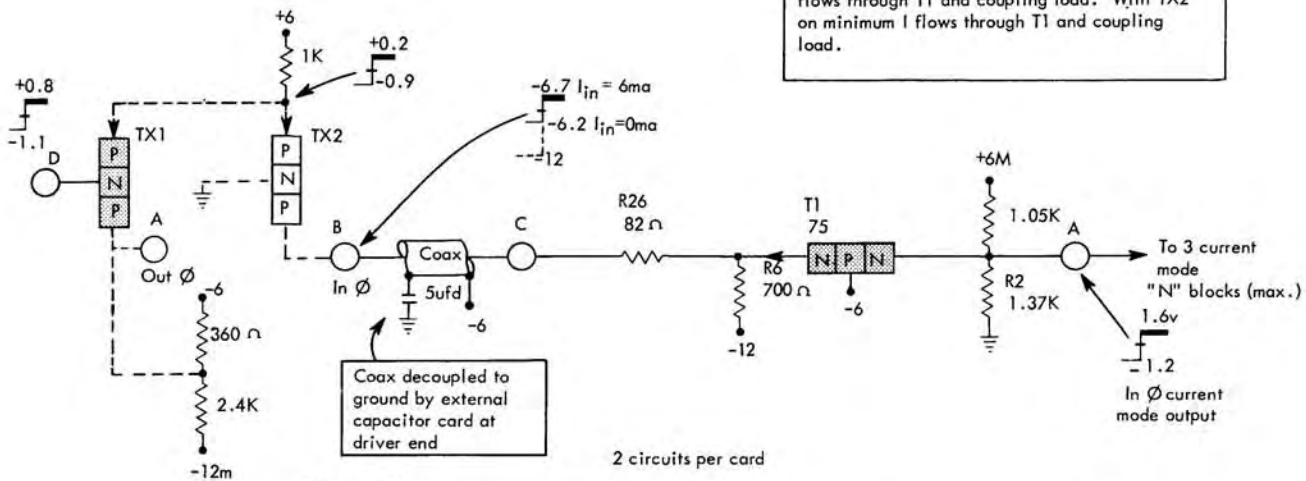


Logic Application

With the emitter of T1 returned to -12v, T1 is biased on at all times and clamps the emitter potential to -6.2v. With TX2 off maximum I flows through T1 and coupling load. With TX2 on minimum I flows through T1 and coupling load.



AL-- 371243

Logic Block Input		Terminator Output		Delays (usec)				
Min.	Max.	Min.	Max.	Per	Input and DT Block	Driven Base Loading	100uufd Load	Foot of Coax
+0.4	+1.1	0.4	3.2	Min.	0.17	0.03	0.04	1.25m
-0.4	-2.5	-0.4	-2.5	Nom.	0.22	0.05	0.04	1.25m
				Max.	0.30	0.07	0.04	1.25m

Current Mode P Type Transmission Line Terminator

This card has two NPN transmission line terminator circuits used to terminate a coaxial cable in its proper impedance match and reference voltages. The 93 ohm coaxial cable is driven by the in-phase output of a N type logic block or an equivalent driving circuit. This terminator is used only with the in-phase output of the logic block. Each circuit accepts a P input and translates the signal to an in-phase N output.

The shield of the coaxial cable is tied to the base potential (-6v) of the line terminator transistor and is decoupled to ground by a 5µfd capacitor at the driving end.

Circuit Description

A typical use of the NPN transmission line terminator is illustrated above. T1 is operated class A with at least 0.5ma of emitter current flowing at all times. The 82 ohm input resistor in series with the base-emitter impedance of the common base amplifier (T1) provides the optimum

impedance match for the 93 ohm coaxial cable and the line terminator circuit.

With a -N input to the driver circuit, tx2 is reverse-biased off and prevents the flow of drive current from the terminator and the cable. At this time, however, about 8.5ma flows from the -12 volt supply through R6 and T1 into the coupling network and load. This conduction provides a -N output at pin A of the line terminator.

When a +N input appears at pin D, tx2 is forward-biased on. Conduction from the -12 volt supply and R6 now supplies 6ma to the cable and tx2.

At least 0.5ma flows through T1 into the coupling load and provides a +N output at pin A of the line terminator.

Application

The output from each NPN transmission line terminator can drive into a maximum of three current mode N blocks.