



Current Mode N-Type Transmission Line Terminator

This card has two PNP 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 P 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 N input and translates the signal to an in-phase P output.

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

Circuit Description

A typical use of the PNP transmission line terminator is shown. 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 im-

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

With a -P input to the driver circuit, tx2 is forward-biased on and supplies about 6ma to the cable, R26, and R6 to the +6 volt supply. Minimum current of at least 0.5ma flows from the load through T1 to R6 and the +6v supply. The output at pin H of the line terminator is a -P level.

When a +P input appears at pin D, tx2 is reverse-biased off and current ceases to flow from the driver into the cable. Conduction from the coupling load through T1 to R6 and the +6v supply increases to approximately 8.5ma. The output at pin H of the line terminator increases to a +P output level.

Application

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