



Card Code	Part No. 37----	Circuit Used as	Output Levels		musec Block Delay (Note 1)		Input Current Driven By		Output Can Drive Into	
			Min.	Max.	Turn On	Turn Off	Type B Block, In \emptyset Output	Type B Block, Out \emptyset Output	3	Type A Block
DH--	1138	DT	-5.6 -6.4	-4.6	Min.	15	10	3	3	Single Shot
			-7.4		Nom.	28	18	3	1	Exclusive OR
					Max.	40	26	1		Power Driver (Note 2)

Note 1. Delays are measured from input terminal D of the terminator to the output of the logic block driven by the terminator.
 Note 2. The terminator coupling network is not used when driving into a power driver, because the power driver has a special input network which requires a current input.

Diffused Junction N-to-P Line Terminator

This circuit provides an in-phase P-line output for an N-line input. It is designed to terminate the 93 ohm coaxial line when a single circuit termination is required. It can drive up to three logic blocks. This circuit requires that the driving source be restricted to driving this circuit only. When desired, the terminator may be used for local logic as an N-to-P line translator, in which case it may or may not be driven by coaxial line.

Circuit Description

The DT circuit uses a single transistor in a grounded base configuration which is driven class A. In the state shown, TX2 is forward-biased and 6.5ma flows through TX2, 82.5 ohms, and 655 ohms to +6v. This input current develops a 4.3v drop across the 665 ohm resistor which sets the bias of T4 at +1.7v. Such a bias causes a current flow of 2.2ma out of the coupling network, through T4 to +6v. Output B is at a -P level of -6.9v because of this current flow. Although the emitter bias potential is

set by input current, the emitter never rises above +0.2v because it clamps to its base potential of ground.

When the input signal to the converter rises, TX2 is cut off and the current fed to the terminator is reduced to zero. In this state the emitter level sees a 6v bias and the current flow through T4 is increased to 8.7ma which causes output B to rise to a +P level of -5.1v.

To insure a proper termination for the coaxial line, the input impedance of the line terminator should remain effectively constant. This input impedance is made up of the 82.5 ohm resistor in series with the forward emitter-to-base impedance.

Application

When this circuit drives a power driver the coupling network (2.7uH, 422 ohms, 1.74K, and 3.4K) shown is not used. In such cases output B drives directly into the special input coupling network of the power driver.