



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 Of	Turn Off	Type A Block, In \emptyset Output		Type A Block	
DL--	1141	DT	+0.4	+0.9			Type A Block, In \emptyset Output	3	Type A Block	
			-0.4	-1.6	Min.	15	Type B Block, In \emptyset Output	3	Type B Block	
					Nom.	28	Special Usage Only of Type B Block, Out \emptyset Output	3	Exclusive Or	
					Max.	40		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-N Line Terminator

This circuit is designed to terminate the 93 ohm coaxial line when only a single circuit termination is required. It provides an in-phase N line output for an N line input. The logic block output driving into this circuit cannot drive other circuits.

Circuit Description

The DT circuit utilizes a single transistor (T4) in a grounded base configuration which is driven class A. In the state shown, tx2 is forward-biased and 6.5ma flows from -36v through tx2 and into the terminator. At this time the bias of T4 is greatest because its emitter no longer sees only a 5.11K resistor tied to -6v but it also sees approximately 5K to -36v. Such a bias causes 7.1ma to flow through T4 (6.5ma fed by tx2 and .6ma through the 5.11K) into the coupling network and into the load. Output B is at a -N level of -1v because of this current flow. The emitter potential is -3v because the emitter clamps to the base potential of -2.8v.

When the input to the converter rises, tx2 is cut off and the current fed to the terminator is reduced to zero. In this state, the bias of T4 is reduced because its emitter now sees only the -6v level tied to the 5.11K resistor. The current flow through T4 is reduced to .6ma and output B rises to a +N level of 0.7v because of divider current through the coupling network.

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, 402 ohms and 1.96K) is not used. In such cases output B drives directly into the special input coupling network of the power driver.