



Card Code	Part No 37----	Cplg Network		Circuit Used as		Input Levels		In Ø Output		Out Ø Output		Ma. Output		musec Block Delay		
		In Ø	Out Ø			Min.	Max.	Min.	Max.	Min.	Max.	In Ø	Out Ø	Turn On	Turn Off	
DAZZ	1282	Yes	Yes	C	CO	+0.4	See driver for max. Output Levels	-5.6	-4.9	-5.6	-4.6	Min.	5.62	5.98	3	4
DAZZ	1283	No	Yes			-0.4		-6.4	-6.6	-6.4	-6.6	Nom.	6.25	7.22	14	12
												Max.	6.87	8.46	23	24

Diffused Junction N-to-P Converter, Type A

The N-to-P converter is a single input logic block. It is fed by an N line and produces both an in-phase and out-of-phase output. Thus, for a -N line input, a -P in-phase output and a +P out-of-phase output result. It is used as follows:

1. To translate from an N to a P line.
2. To obtain a P line inversion of the input sign, i.e., a +N to -P or a -N to a +P.
3. As a current amplifier to drive other logic blocks.

Circuit Description

This circuit configuration is that of a one-way AND circuit, i.e., the input transistor T6 has its base-to-emitter NP diode returned to a positive supply. Its emitter output drives into a grounded base amplifier T4 which is referenced to ground. Thus, T4 is forward-biased only when its emitter is above ground. Because the transistors used have a formed emitter-to-base drop of 0.2v, a -N input will pull the emitter line below ground and reverse bias T4, as shown. In this state, output B is at a -P level of -6.5v because of divider current through its coupling network, and output A is at a +P level of -5.1v owing

to current flow (7.2ma) out of its coupling network through T6 to +6v.

When the input to T6 rises to a +N level the emitter of T4 attempts to rise above ground, but in so doing it becomes forward-biased and clamps to its base potential. In this state, output B rises to a +P level because of current flow (6.3ma) out of its coupling network through T4 to +6v, and output A falls to a -P level because of divider current through its coupling network. 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 networks used. The type B block is the preferred circuit for many applications because it provides a better input current source (4.53K to +30v) than the type A (909 ohms to +6v).

Application

For some applications, the circuit driven by this logic block requires a coupling network other than 243 ohm and 2.43K resistors shown. In such cases cap code zx is used (see chart). This circuit is also used in DOT functions as a co.