



Card Code	Part No.	Cplg Network		Circuit Used as		Input Levels		In \emptyset Output		Out \emptyset Output		Ma. Output		musec Block Delay		
		In \emptyset	Out \emptyset			Min.	Max.	Min.	Max.	Min.	Max.	In \emptyset	Out \emptyset	Turn On	Turn Off	
DBZZ	1292	Yes	Yes	C	CO											
DBZY	1293	Yes	No			+0.4	See driver for max. Output Levels	-5.6	-5.2	-5.6	-5.1	Min.	5.97	6.04	3	4
DBZX	1294	No	Yes			-0.4		-6.4	-6.5	-6.4	-6.5	Nom.	6.56	6.69	14	12
DB--	1295	No	No									Max.	7.14	7.34	23	24

Diffused Junction N-to-P Converter, Type B

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 a -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 forward 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 -5.4v because

of current flow (6.7ma) out of its coupling network through T6 to +30v.

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 (6.6ma) out of its coupling network through T4 to +30v, and output A falls to a -P level because of divider current through its coupling network. The peaking coils compensate 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 provides a better input current source (4.53K to +30v) than the type A (909 ohms to +6v) so that transistor parameters are less critical.

Application

For some applications, the circuit driven by this logic block requires a coupling network other than the 187 ohm and 2.15K resistors shown. In such cases cap codes zx, zy and -- are used as required (see chart). This circuit is also used in DOR functions as a co.