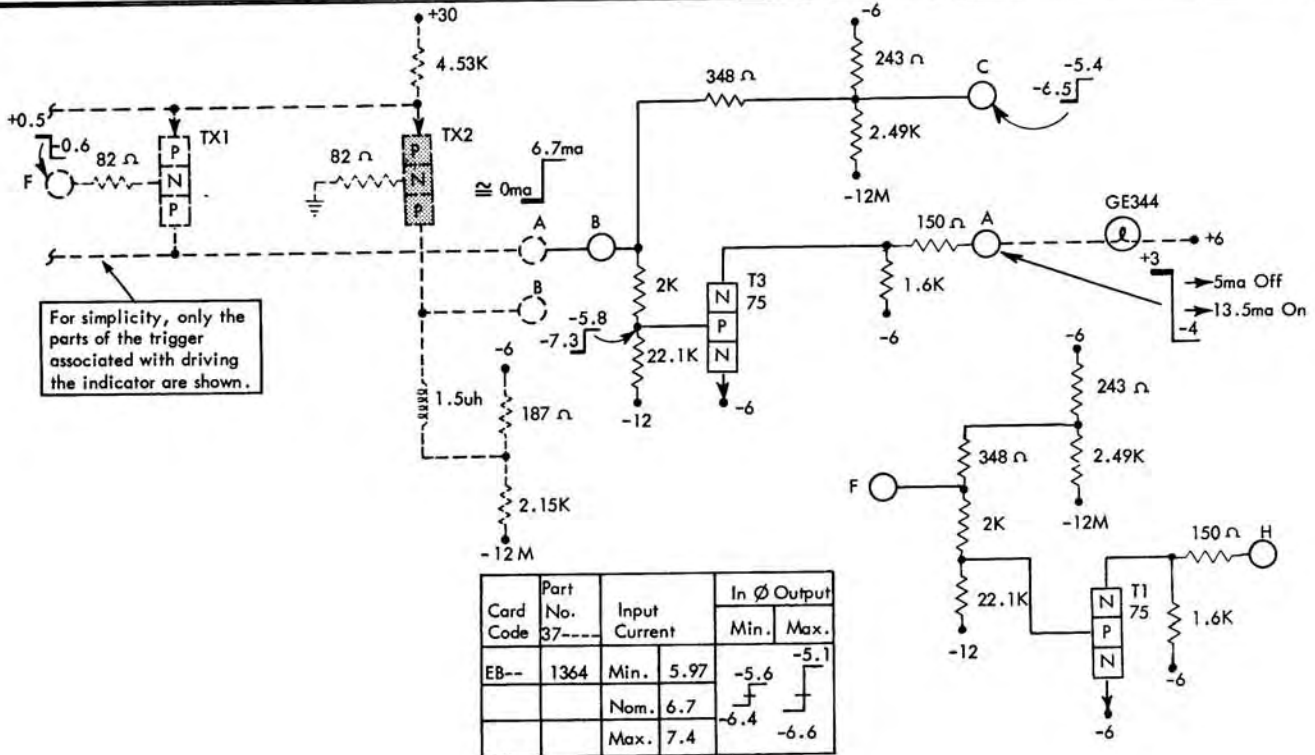


Typical Application of Indicators



Card Code	Part No. 37----	Input Current		In \emptyset Output	
		Min.	Max.	Min.	Max.
EB--	1364	Min.	5.97	-5.6	-5.1
		Nom.	6.7	-6.4	-6.6
		Max.	7.4		

Diffused Junction, +P Line Indicator

The EB -- card consists of three indicator circuits. Each circuit requires a +P line input to turn on the indicator lamp connected to the out-of-phase output. Two of these circuits also provide an in-phase P line output capable of driving two P type logic blocks. Note that the indicator above with no in-phase output, has no P line output designation within the logic block. The P line notation is missing because the indicator signal levels (+3v to -4v) are not P levels but are special purpose levels.

Circuit Description

As shown, tx1 is reverse-biased and input current to the indicator is zero. Divider current through the 243 ohm, 2.49K coupling network establishes output C at a -P level of -6.5v. Current flow, from -12v through the 22.1K and 2K into the coupling network, sets the base level of T3 at -7.3v and T3 is reverse-biased. The 5ma current flow from -6v through the 1.6K and the lamp to

+6 is not enough to light the lamp. The current flow establishes output A at a +3v level.

When the input to tx1 falls, tx1 is forward-biased and 6.7ma flows out of the driver through tx1 to +30v. This 6.7ma has two components of current. One component flows out of the coupling network to input B which establishes output C at a +P level of -5.4v; the other flows from -12v through the 22.1K and 2K to input B which drives the base of T3 above -6v. T3 is forward-biased and the 13.5ma which flows from -6v through T3 and the lamp to +6v is enough to light the lamp. The voltage drop across T3 and the 150 ohm resistor is 2v so output A is at a -4v level.

The third indicator is identical to the one described except that an N line output is not provided. This output is missing only because all eight locations on the card for input and output line connections (terminals A-H) have already been assigned.