



KE-- 371547

Input Levels		Output Levels				Delays (usec)		
Min.	Max.	CM "N" Line		CM "P" Line		Turn On	Per	Circuit
		Min.	Max.	Min.	Max.		Min.	
-5.0	-1.7	0.9	2.2	-5.4	-3.1	.095	Min.	.160
-7.0	-7.7	-0.6	0	-6.8	-9.8		Max.	
						.085	Min.	.155
							Max.	

Current Mode P and N Driver

This special power driver was designed for operation as a current amplifier and dual line converter. The driver input is normally a 500kc current mode P line from a sync line terminator. Both P and N line out-of-phase outputs are available for driving into current mode blocks. These outputs are normally used to drive bi-polar timing rings. Each output is capable of driving eight current mode blocks.

Circuit Description

With a -P input at pin H, sufficient current flows through T3 to set the base voltage of T2 to -7.6v. The emitter of T2 is held at -6v by the current flow through R11 and D10. T2 is reverse-biased off and its collector voltage is limited to +2.1v by the divider action of R26 and R21 to +6v. This divider network prevents excessive drive to the base of T1. The emitter follower output T1 sets the base of T4 to +1.2v. Current flow through T4 provides a +N output at pin A. With the emitter of T1

at 1.8v, current flow through R2, R6, and T1 sets the base of T5 to -3.9v. Emitter follower action of T5 provides a +P output at pin B.

When a +P level is applied to pin H, the current flow increases through T3 and raises the base level of T2 to -5.0v. The input clamping network (D7 to R8 and R9) limits the +P input swing to -4.7v and prevents excessive drive into T2. Inverter T2 becomes forward-biased on and its collector voltage drops toward -6v but is clamped at -1.8v by D29, R27, and R28. The clamping action prevents T2 from operating in saturation and results in faster turn-off time of T2. The clamping action also limits the drive to T1. Current flow through T1 decreases and its emitter voltage drops to -2.2v. Divider R5 and R25 to ground set the base level of T4 to -1.8v. This increases the current flow through the transistor (T4) and provides a -N level output at pin A. Divider R2 and R6 set the base of T5 to -7.3v. Emitter follower action of T5 gives a -P level output at pin B.