ITT SEMICONDUCTORS

A DIVISION OF INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION
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TENTATIVE DATA

TBA 470

MAC 6251-18-1E, Edition July 1971

Gate for Electronic Organs

Monolithic integrated circuit in bipolar technique, designed primarily for use in electronic organs. The device incorporates ten transistors, each replacing a mechanical key-contact. Thus it is possible to reduce the numerous mechanical key-contacts on conventional organs (up to ten per key) to one single contact per key.

Each of the ten emitters may be driven by a tone-signal. The sum of all signals will be derived from the common collector (terminal 14) or if the signals are supplied into the base terminals, via an integrated diode from terminal 1. Any undesired peaks caused by blocked transistors are suppressed by this diode and an external capacitor.

Normally, the TBA 470 is delivered in the dual in-line plastic package TO-116 (Fig. 1a, add suffix "A" to type No.). Upon special request it is also available in the quad in-line plastic package (Fig. 1b, add suffix "B" to type No.).

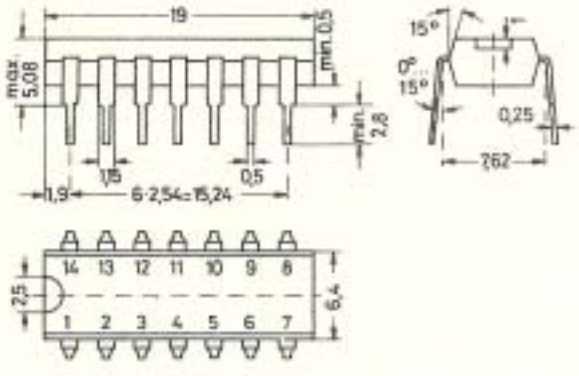

Fig. 1a: TBA 470 "A" in dual in-line (Dil) plastic TO-116 package
Weight approx. 1 g, dimensions in mm

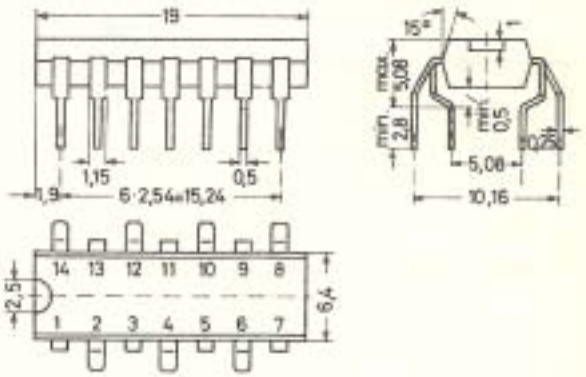

Fig. 1b: TBA 470 "B" in quad in-line (Quil) plastic package
Weight approx. 1 g, dimensions in mm

Maximum Ratings

Collector current (terminal 14 or 1)	I_C	25	mA
Emitter current (each emitter)	I_E	-5	mA
Base current (terminal 7 or 8)	I_B	25	mA
Collector emitter voltage	V_{CE0}	22	V
Total power dissipation at T_{amb} = 60 °C	P_{tot}	250	mW
Ambient temperature range	T_{amb}	-10...+60	°C

Characteristics at T_{amb} = 25 °C (each transistor)

DC current gain at V_{CE} = 2 V, I_C = 1 mA	B	>40	
Collector saturation voltage at I_C = 1 mA, I_B = 0.1 mA	$V_{CE\,sat}$	<0.4	V
Collector emitter cutoff current at V_{CE} = 15 V	I_{CE0}	<100	nA

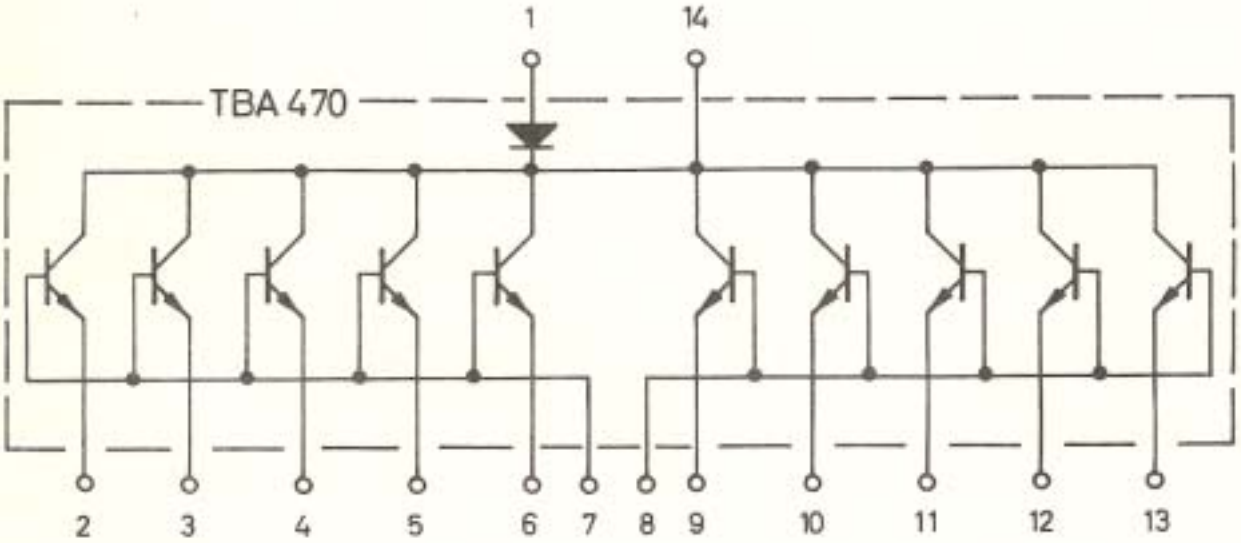

Fig. 2: Circuit diagram of the TBA 470