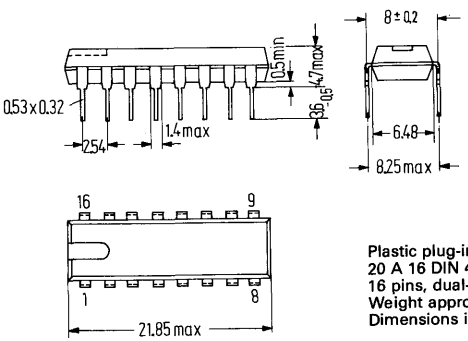
The TBA 530 is an integrated circuit for colour TV receivers incorporating a matrix preamplifier for RGB cathode or grid drive of the picture tube without clamping circuits. The chip lay-out has been designed to ensure tight thermal coupling between all the transistors in each channel to minimize and equalize thermal drifts between channels. Also, each channel follows an identical lay-out to ensure equal frequenc behaviour of the three channels.

This integrated circuit has been designed to be driven from the TBA 520 synchronous demodulator integrated circuit.

Type	Ordering code
TBA 530	Q67000-A360F1

Package outlines



Plastic plug-in package
20 A 16 DIN 41866
16 pins, dual-in-line
Weight approx. 1.2 g
Dimensions in mm

Absolute maximum ratings

Supply voltage	V_8	13.2	V
Currents	$I_1 = I_{11} = I_{14}$	10	mA
	$I_{10} = I_{13} = I_{16}$	50	mA[1])
Total power dissipation	P_{tot}	400	mW[1])
Ambient temperature in operation	T_{amb}	–20 to + 60	°C
Storage temperature	T_s	–20 to +125	°C

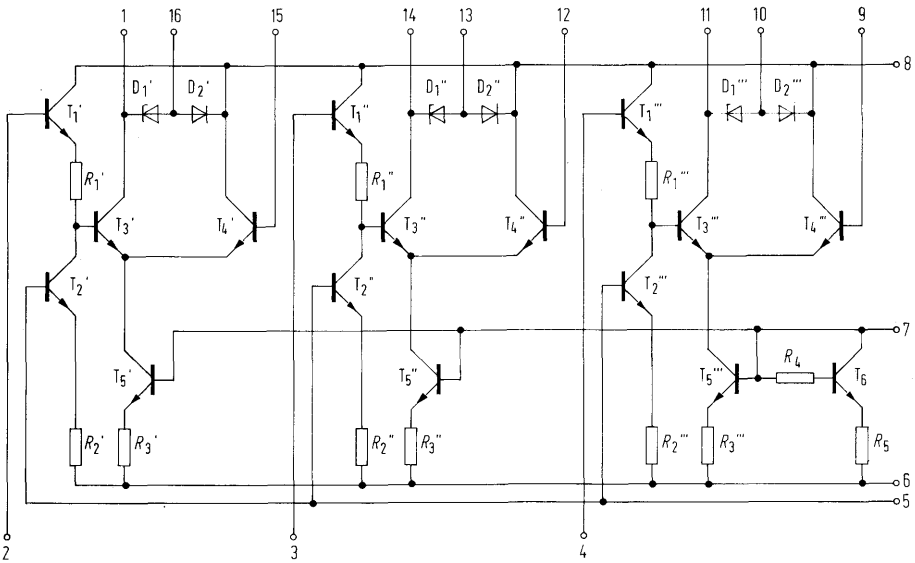
[1]) At increased voltages due to external failures (e.g. collectorbasis breakdown in the output transistors) a maximum current of 50 mA is permittet between pins 16 and 8, 13 and 8, 10 and 8. The maximum allowable dissipation in this case is 500 mW.

Electrical characteristics ($V_8 = 12$ V, $T_{amb} = 25°C$, black level: $V_{R-Y} = V_{G-Y} = V_{B-Y} = 7.5$ V, $V_Y = 1.5$ V)

Input DC voltage	$V_{R-Y} = V_2$	7.5	V
	$V_{G-Y} = V_3$	7.5	V
	$V_{B-Y} = V_4$	7.5	V
	$V_Y = V_5$	1.5	V
Input signal voltage	$V_{R-Y} = V_2$	1.4	V_{pp}
	$V_{G-Y} = V_3$	.82	V_{pp}
	$V_{B-Y} = V_4$	1.78	V_{pp}
	$V_Y = V_5$	1	V_{pp}
Gain of color channels[1]) ($f = .5$ MHz)	G_2	100	
	G_3	100	
	G_4	100	
Ratio of gain of luminance amplifier to colour amplifier	V_{RGB-Y}/V_Y	1	
DC output voltage	V_R	165	V
	V_G	165	V
	V_B	165	V
Input impedance of colour difference amplifiers at $f = 1$ MHz	Z_{iRGB-Y}	60/3	kΩ/pF
Input impedance of luminance amplifier at $f = 1$ MHz	Z_{iY}	20/10	kΩ/pF
Bandwidth of all channels (3 dB)	B	6	MHz
Total current consumption	I_{cc}	30	mA

[1]) G is defined as the voltage ratio between the input signals at the pins 2, 3, 4 and the output signals at the collectors of the output transistors.

Circuit diagram



Application circuit