Bipolar IC

Type	Ordering code	Package
TBA 129	Q67000-A2330	DIP 8

This integrated circuit TBA 129 includes an 8-stage amplifier with a symmetrical demodulator to amplify, limit and demodulate frequency modulated IF signals. In addition, the IC is particularly suited for applications in stereo TV sets and video recorders.

Features

- Excellent limiting qualities
- Few external components
- AF output voltage is independent of supply voltage
- Hum-resistant
- Negligible residual IF

Maximum ratings

Supply voltage	V_S	18	V
	$V_{1,2,4}$	3	V
	$V_{5,6}$	3.2	V
Supply current	I_8	−1 to 1	mA
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	−40 to 125	°C
Thermal resistance (system-air)	$R_{th\,SA}$	100 to 120	K/W

Operating voltage

Supply voltage	V_S	10 to 18	V
Frequency	f	0 to 12	MHz
Ambient temperature	T_A	0 to 70	°C

Characteristics

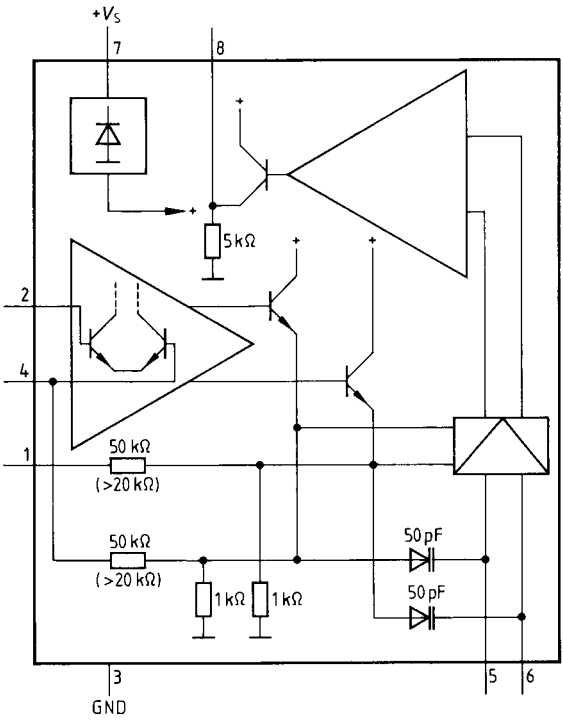
$V_S = 12$ V; $T_A = 25$ °C

		min	typ	max	
Current consumption	I_S	9.5	13.5	17.5	mA
IF voltage gain	G_v		68		dB
Input voltage for limiting start $\Delta f = \pm 50$ kHz; $f_m = 1$ kHz	$V_{i\,lim}$		30	60	µV
Output resistance	$R_{q\,8}$			100	Ω
DC voltage part of the output signal $V_{i\,IF} = 0$ V	V_8	3.0		4.8	V
IF residual voltage without deemphasis	V_8		30		mV
Hum suppression	V_8/V_7		30		dB
Signal-to-noise ratio $V_{i\,rms} = 10$ mV	$a_{S/N}$	80	85		dB
Input impedance	$Z_{i\,5\text{-}6}$		5.4		kΩ
AF output voltage $\Delta f = \pm 50$ kHz $f_m = 1$ kHz; $THD = 4\%$	$V_{q\,8\,rms}$	1	1.45		V
Input impedance $f_{i\,IF} = 5.5$ MHz	Z_i	15/6	40/4.5		kΩ/pF
AM suppression $V_{i\,rms} = 500$ µV; $m = 30\%$	a_{AM}	50	60		dB
Total harmonic distortion $\Delta f = \pm 30$ kHz; $f_m = 1$ kHz; $V_{i\,rms} = 10$ mV)	THD		1.8	3.0	%

Pin description

Pin	Function
1	Operating point feedback
2	IF input
3	GND
4	Operating point feedback
5	Tank circuit
6	Tank circuit
7	Supply voltage, plus
8	AF output

Block diagram



Test and measurement circuit