

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	$I_B$	-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

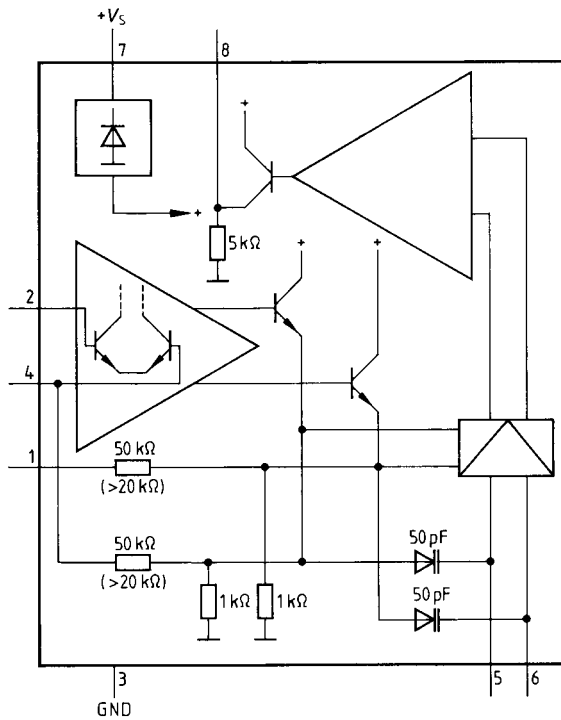
**Characteristics** $V_S = 12\text{ V}$ ;  $T_A = 25^\circ\text{C}$ 

	min	typ	max		
Current consumption					
IF voltage gain	$I_S$	9.5	13.5	17.5	mA
Input voltage for limiting start	$G_v$		68		dB
$\Delta f = \pm 50\text{ kHz}$ ; $f_m = 1\text{ kHz}$	$V_{i\text{lim}}$		30	60	$\mu\text{V}$
Output resistance	$R_{q8}$			100	$\Omega$
DC voltage part of the output signal	$V_8$	3.0		4.8	V
$V_{i\text{IF}} = 0\text{ V}$					
IF residual voltage without deemphasis	$V_8$		30		mV
Hum suppression	$V_8/V_7$		30		dB
Signal-to-noise ratio	$a_{S/N}$	80	85		dB
$V_{i\text{rms}} = 10\text{ mV}$					
Input impedance	$Z_{i5-6}$		5.4		k $\Omega$
AF output voltage	$V_{q8\text{ rms}}$	1	1.45		V
$\Delta f = \pm 50\text{ kHz}$					
$f_m = 1\text{ kHz}$ ; $THD = 4\%$					
Input impedance	$Z_i$	15/6	40/4.5		k $\Omega$ /pF
$f_{i\text{IF}} = 5.5\text{ MHz}$					
AM suppression	$a_{AM}$	50	60		dB
$V_{i\text{rms}} = 500\ \mu\text{V}$ ; $m = 30\%$					
Total harmonic distortion	$THD$		1.8	3.0	%
$\Delta f = \pm 30\text{ kHz}$ ;					
$f_m = 1\text{ kHz}$ ; $V_{i\text{rms}} = 10\text{ mV}$					

**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

