TDA 4482 D

QUASI PARALLEL–SOUND PROCESSOR FOR TV–SETS

Technology: Bipolar

Features

- High signal sensitivity
- Simple filter configuration and few external components
- Processing of two carrier stereo signals
- ESD protected
- Low intercarrier distortions
- Alignment free intercarrier mixer
- Optimum tuning characteristics
- Improved linearity for NICAM applications
- AF output level matched to SIMAVELEC condition

Case: 18–pin dual inline plastic

Absolute Maximum Ratings

Reference point Pin 9, 18, unless otherwise specified

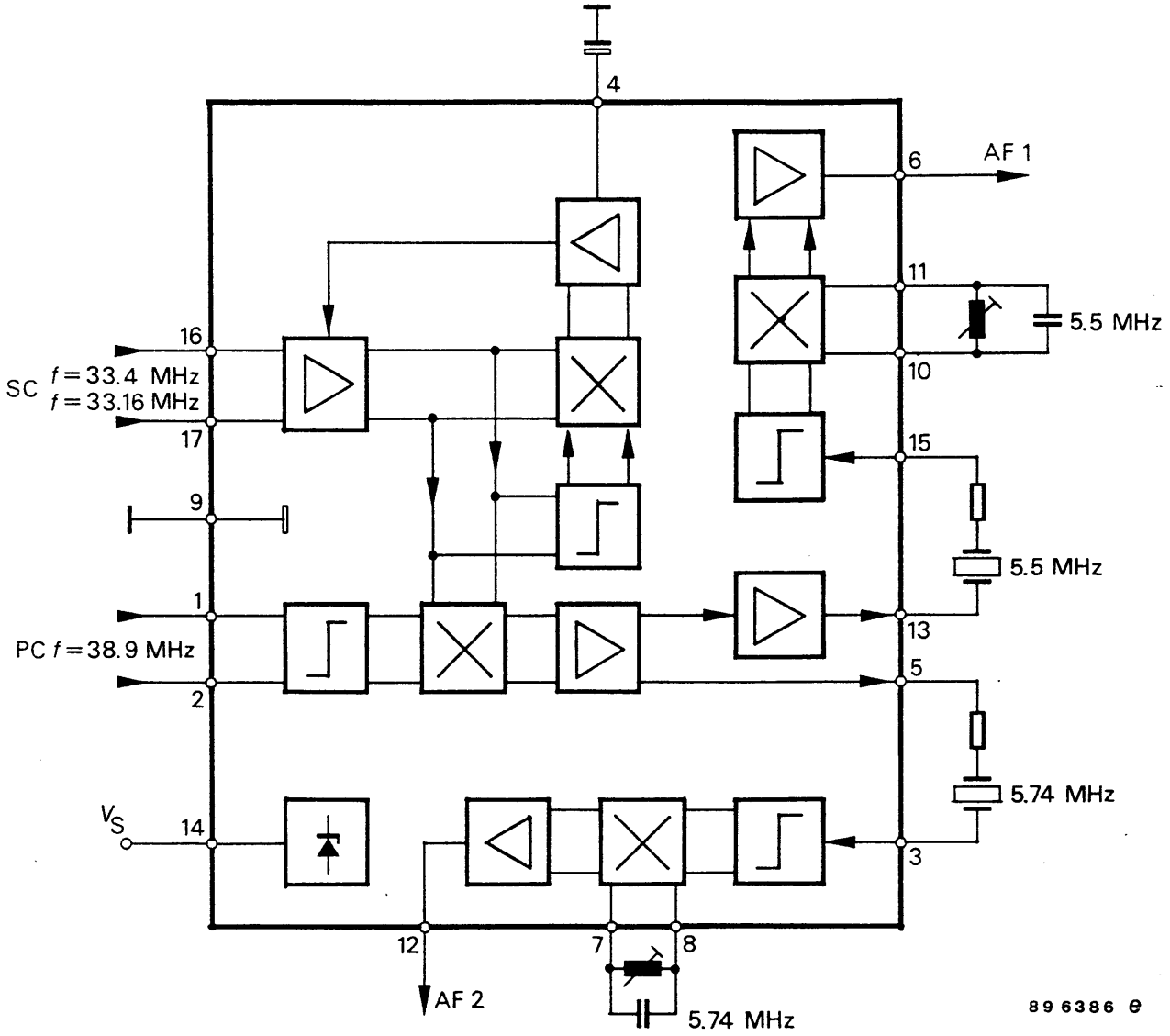
Parameters	Symbol	Value	Unit
Supply voltage Pin 14	V_S	10 ... 13.5	V
Supply current Pin 14	I_S	80	mA
External voltages Pin 1,2,3,4,5,7,8,10,11,12,13,15,16,17,	V_{ext}	6	V
Power dissipation (in soldered position)	P_{tot}	1	W
Junction temperature	T_j	125	°C
Ambient temperature range	T_{amb}	–25 ... +70	°C
Storage temperature range	T_Stg	–25 ... +125	°C

Thermal Resistance

Parameters	Symbol	Maximum	Unit
Junction ambient	R_{thJA}	60	K/W

Preliminary Information

TDA 4482–D



Pin Configuration

Pin	Function
1–2	Vision–IF–carrier input
3	Intercarrier input 5.74 MHz
4	AGC storage capacitor
5	Intercarrier output 5.74 MHz
6	AF output 1
7–8	FM demod circuit 5.74 MHz
9	Ground

Pin	Function
10–11	FM–demod circuit 5.5 MHz
12	AF output 2
13	Intercarrier output 5.5 MHz
14	Supply voltage
15	Intercarrier input 5.5 MHz
16–17	Sound–IF–carrier input
18	n.c.

Circuit Description

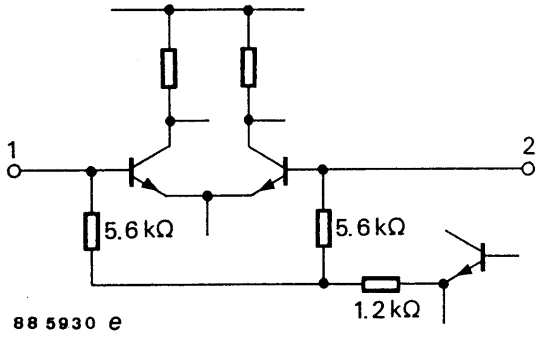
This circuit configuration permits high–quality processing of audio carriers for FM–sound standards, providing separate inputs for the video and audio carrier. The audio carrier signal is passed to two multiplying mixer arrangements via a 3–stage variable wide–band amplifier with level led output signals. One mixer generates the gain control signal. The second mixer operates as an intercarrier demodulator and supplies the intermediate AF carrier. The video carrier signal required to from the intercarrier is decoupled in a prelimited and selected form from the demodulator tank of the intermediate video frequency circuit (TDA 4453 or TDA 4439) and led to the intercarrier mixer via a limiting amplifier. Depending on the system, the Nyquist range of the IF input filter in the video channel affects the attainable AF signal–to–noise ratio. The audio PM IF carrier reaches the quadrature demodulators via an inter– connected IF–filter and subsequent limiting amplifier. The resulting AF signals are led via a low–pass amplifier with increased level to the buffered output stages. Switching function can take place with TTL equivalent levels.

Electrical Characteristics

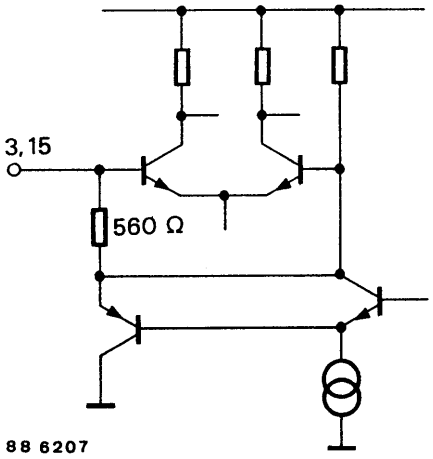
VS = 12 V, T_{amb} = 25 °C, reference point Pin 9,f_{PC} = 38.9 MHz, f_{SC1} = 33.43 MHz, f_{SC2} = 33.1578 MHz, SC1/SC2 = 7 dB, unless otherwise specified

Parameters	Test Conditions / Pin	Symbol	Min	Typ	Max	Unit
Supple voltage range	Pin 14	V_S	10		13.5	V
Supply current	Pin 14	I_S	55	62	80	mA
Output DC voltage	Pin 6,12	V_0		3.6		V
Picture carrier input voltage	Pin 1–2	v	10	20	30	mV
Min. sound carrier input voltage SC1 (5.5 MHZ–output signal –3 dB)	Pin 16–17	v		50		µV
AGC range			60	65		dB
Audio output voltage FM–deviation = 27 kHz,	Pin 6,12	v		500		mV
Audio voltage difference between both outputs	Pin 6,12	v			1	dB
Harmonic distortion [1] f_{mod} = 1 kHz,FM–deviation = 30 kHz	Pin 6,12	THD		0.5		%
Limiting threshold (V_{AF}–3 dB)				250		µV
AM rejection f_{mod}= 1 kHz, m = 30 % [3] $V_{3(15)}$=10 mV, f= 5.5 (5.74) MHz				55		dB
FM amplifier input resistance	$R_{3,15}$			560		Ω
Min. output load	Pin 6,12	R	3			kΩ
Signal to noise ratio (Standard B/G) according to CCIR 468–2 specifications $v_{16\sim17}$: SC1= 10 mV, SC2= 4.5 V PC:$v_{1–2}$=2O mV, prelimited demodulator picture carrier signal from TDA 4453						
Black burst channel/2. channel [2,3]	Pin 6,12	(S+N)/N		62/60		dB
Grid test signal1.channel/2. channel [2,3]	Pin 6,12	(S+N)/N		50/48		dB

1) FM tank circuits: Operation quality factor = 22
2) Standard B/G IF–modulated FBAS–signal
3) reference signal: f_{mod} = 1 kHz FM deviation = 30 kHz

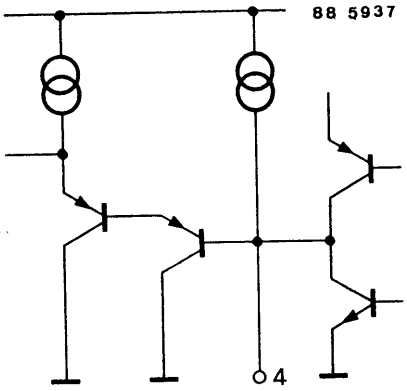


Pin 1,2
IF-input
vision carrier

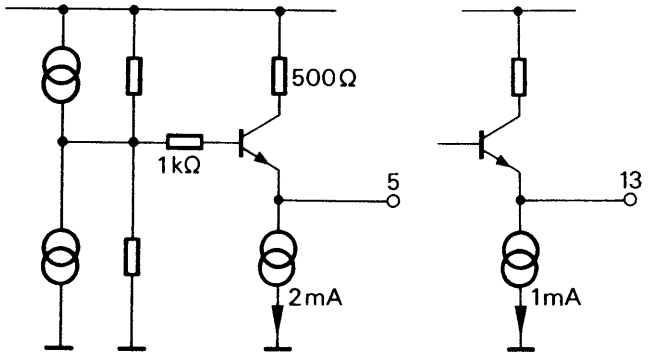


Pin 3 (15)
Intercarrier input

Pin 3: 5.74 MHz
Pin 15: 5.5 MHz

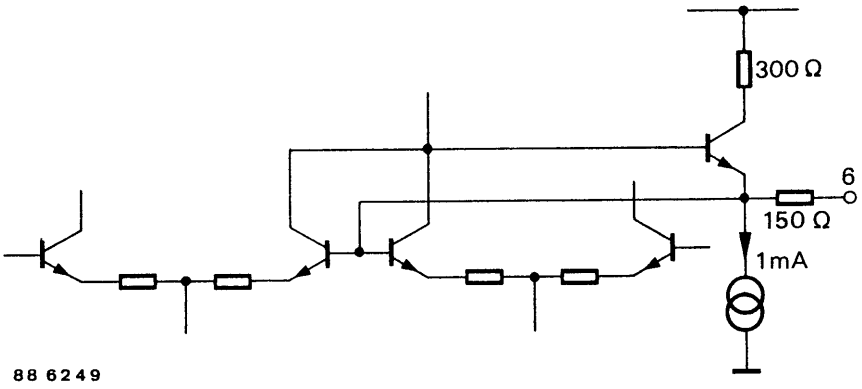


Pin 4
AGC storage capacitor

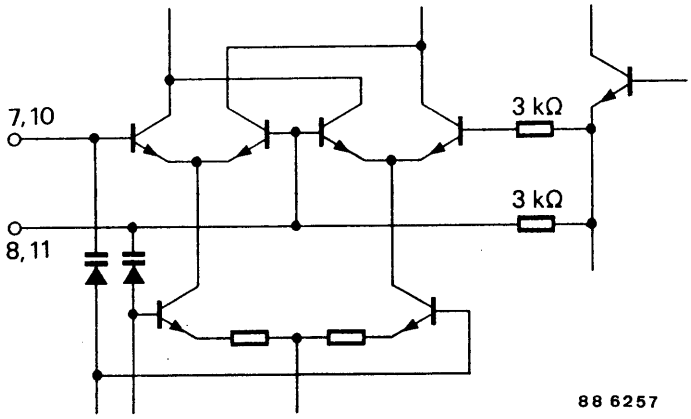


Pin 5 (13)
Intercarier output

Pin 5: 5.74 MHz
Pin 13: 5.5 MHz

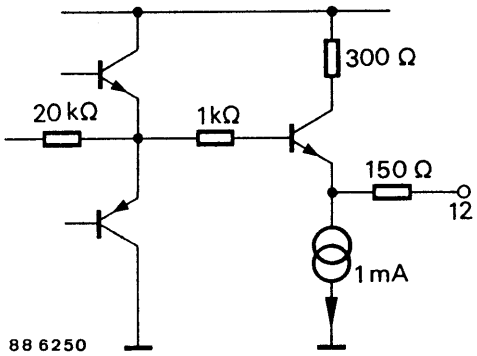


Pin 6
AF output 1

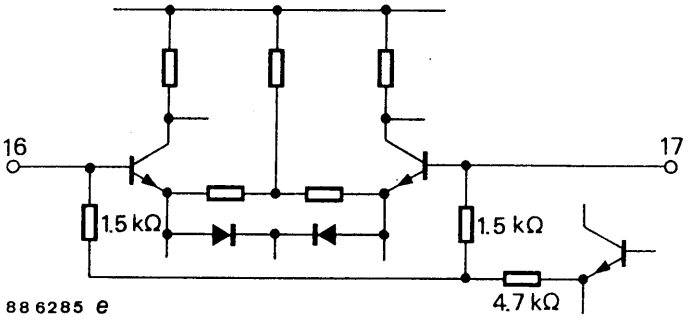


Pin 7,8 (10,11)
FM demodulator circuit

Pin 7,8 : 5.74 MHz
Pin 10,11: 5.5 MHz

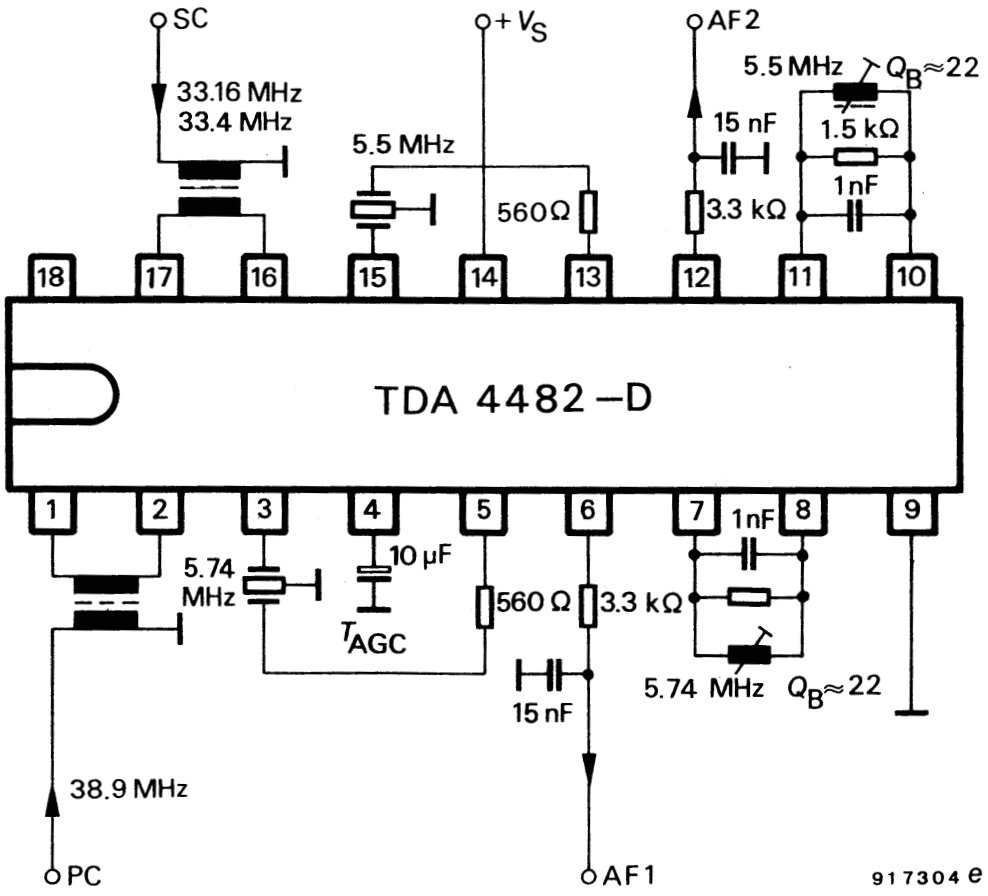


Pin 12
AF output 2

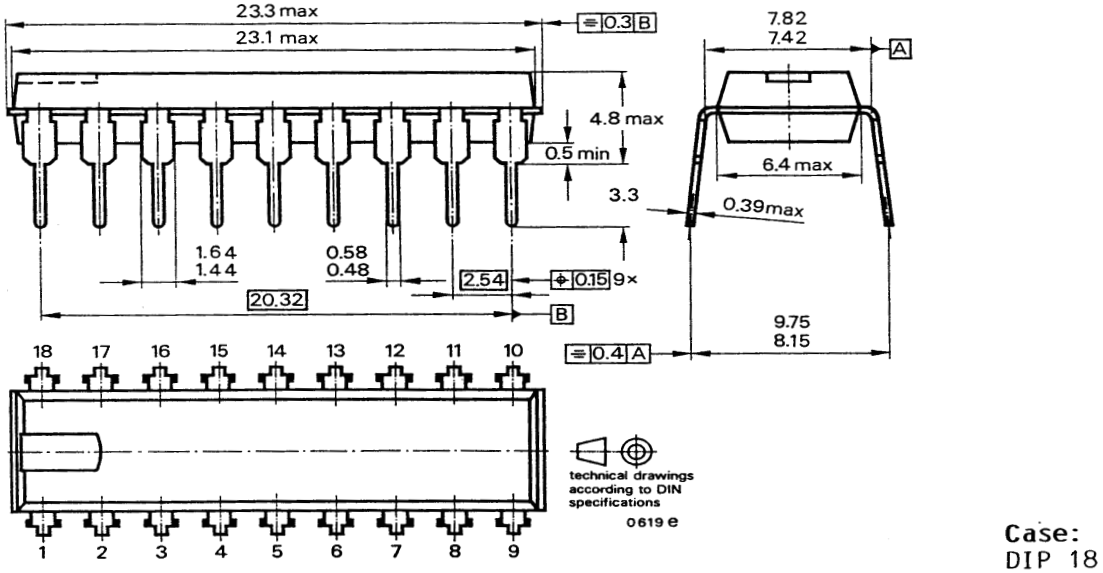


Pin 16,17
IF input sound carrier

Test circuit



Dimensions in mm



Case:
DIP 18

OZONE DEPLETING SUBSTANCES POLICY STATEMENT

It is the policy of **TEMIC TELEFUNKEN microelectronic GmbH** to

1. Meet all present and future national and international statutory requirements and

2. Regularly and continuously improve the performance of our products, processes, distribution and operating systems with respect to their impact on the health and safety of our employees and the public, as well as their impact on the environment.

Of particular concern is the control or elimination of releases into the atmosphere of those substances which are known as ozone depleting substances (ODSs).

The Montreal Protocol (1987) and its London Amendments (1990) will soon severely restrict the use of ODSs and forbid their use within the next ten years. Various national and international initiatives are pressing for an earlier ban on these substances.

TEMIC TELEFUNKEN microelectronic GmbH semiconductor division has been able to use its policy of continuous improvements to eliminate the use of any ODSs listed in the following documents.

1. Annex A, B and list of transitional substances of the Montreal Protocol and the London Amendments respectively

2. Class I and II ozone depleting substances in the Clean Air Act Amendments of 1990 by the Environmental Protection Agency (EPA) in the USA and

3. Council Decision 88/540/EEC and 91/690/EEC Annex A, B and C (transitional substances) respectively.

TEMIC can certify that our semiconductors are not manufactured with and do not contain ozone depleting substances.

TEMIC TELEFUNKEN microelectronic GmbH, P.O.B. 3535, D-74025 Heilbronn, Germany
Telephone: 49 (0)7131 67 2831, Fax Number: 49 (0)7131 67 2423