

Type	Ordering code	Package
TDA 1048 G	Q 67000-A1090	DIP 16

The integrated circuit TDA 1048 G contains a gain-controlled push-pull amplifier, a demodulator, and a DC volume control. The AF outputs are referred to ground and stabilized against the hum of the supply voltage.

The IC TDA 1048 G is particularly suited for use in the sound section of TV sets in accordance with French Standard (amplitude modulation).

Features

- High input sensitivity
- Low-distortion control
- Low-distortion demodulation
- Volume control by means of DC voltage
- Internally stabilized supply voltage

Maximum ratings

Supply voltage	V_S	16.5	V
Output current	I_{11}	5	mA
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	−40 to 125	°C
Thermal resistance (system-air)	$R_{th SA}$	90	K/W

Operating range

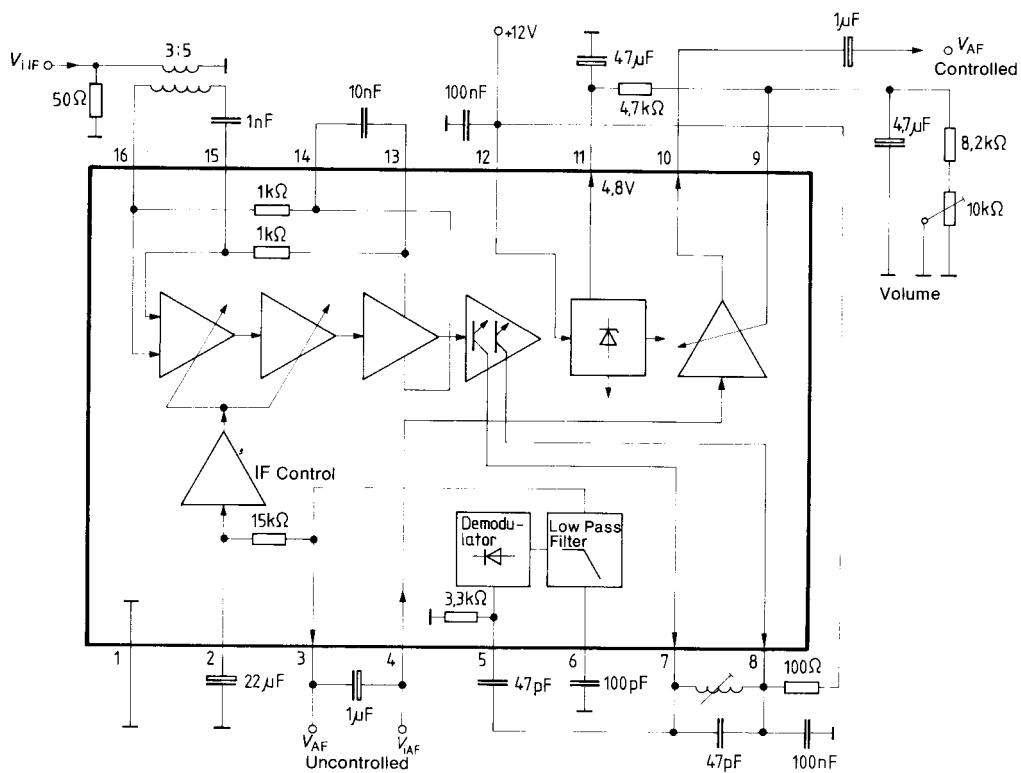
Supply voltage	V_S	10 to 15	V
Ambient temperature	T_A	0 to 60	°C

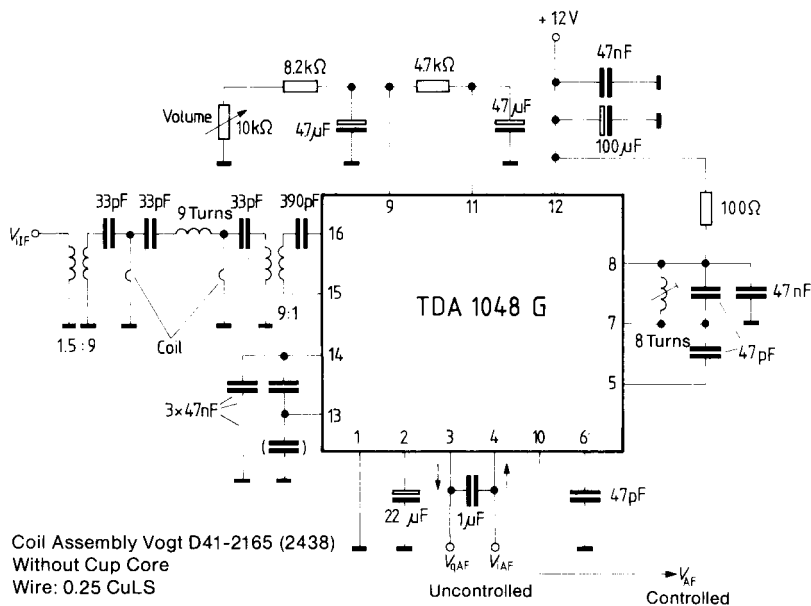
Characteristics

$V_S = 12\text{ V}$; $f_i = 40\text{ MHz}$; $f_{\text{mod}} = 1\text{ kHz}$; $T_A = 25\text{ }^\circ\text{C}$

	min	typ	max	
Total current consumption	$I_{12} + I_7 + I_8$	29	37	45
Output DC currents of amplifier (difference $\leq 100\text{ mV}$ at $100\text{ }\Omega$)	$I_7 = I_8$		4	mA mA
Input voltage for AGC threshold	V_i	100		μV
AGC range	ΔG	50	60	dB
AF output voltage ($m = 80\%$)	$V_{q10\text{rms}}$	0.9	1.2	1.5
AF output dc voltage	V_{10}	3.7	4.4	5.1
				V V
Total harmonic distortion ($m = 80\%$)	THD		1.3	2.0
				%
Output resistance	R_{q3}		200	300
	R_{q10}		50	100
				Ω Ω
Load resistance	R_{L3}	3.3		k Ω
	R_{L10}	3.3		k Ω
				k Ω
Stabilized voltage	V_{11}	4.4		5.8
				V
Range of volume control	ΔG_{10-4}	70	80	dB
Gain of the AF section	ΔG_{10-4}	6	7	dB
$R_{\text{pot}} \geq 10\text{ k}\Omega$				
Input resistance	R_{i4}	6.5		k Ω
Potentiometer resistance for -30 dB attenuation	R_{pot}	4.5	5	5.3
				k Ω

Test circuit and block diagram



Application circuit for $f_{IF} = 39.2 \text{ MHz}$ 

AF output voltage versus potentiometer resistance

 $V_S = 12 \text{ V}$ 