



TDA1190P TDA3190P

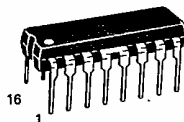
TV SOUND SYSTEM

The TDA3190P 4.2-watt sound system is designed for television and related applications. The TDA1190P is a low-power version. Functions performed by these devices include: IF Limiting, IF amplifier, low pass filter, FM detector, DC volume control, audio preamplifier, and audio power amplifier.

- 4.2 Watts Output Power — TDA3190P
($V_{CC} = 24\text{ V}$, $R_L = 16\ \Omega$)
- 1.3 Watts Output Power — TDA1190P
($V_{CC} = 18\text{ V}$, $R_L = 32\ \Omega$)
- Linear Volume Control
- High AM Rejection
- Low Harmonic Distortion
- High Sensitivity

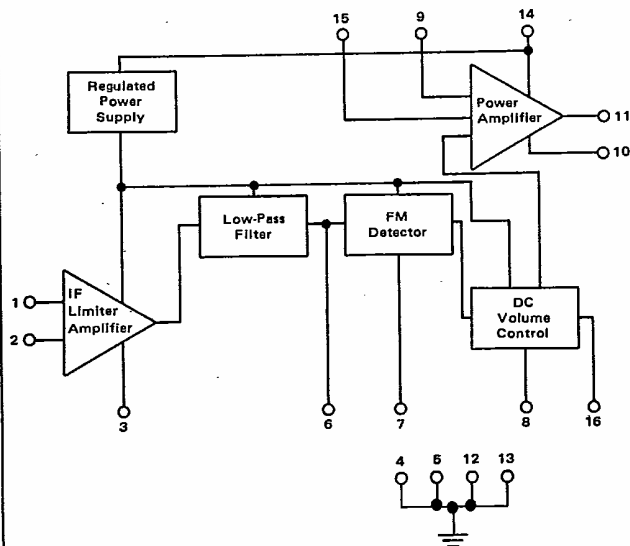
TV SOUND SYSTEM

SILICON MONOLITHIC
INTEGRATED CIRCUIT



P SUFFIX
PLASTIC PACKAGE
CASE 648C-02

BLOCK DIAGRAM



IF Input	1	16	Deemphasis
Decoupling	2	15	Ripple Rejection
Decoupling	3	14	Supply Voltage
Ground	4	13	Ground
Ground	5	12	Ground
Phase Shift	6	11	Output
Phase Shift	7	10	Compensation
DC Volume Control	8	9	Gain

ORDERING INFORMATION

Device	Temperature Range	Package
Both Devices	0 to +75°C	Plastic

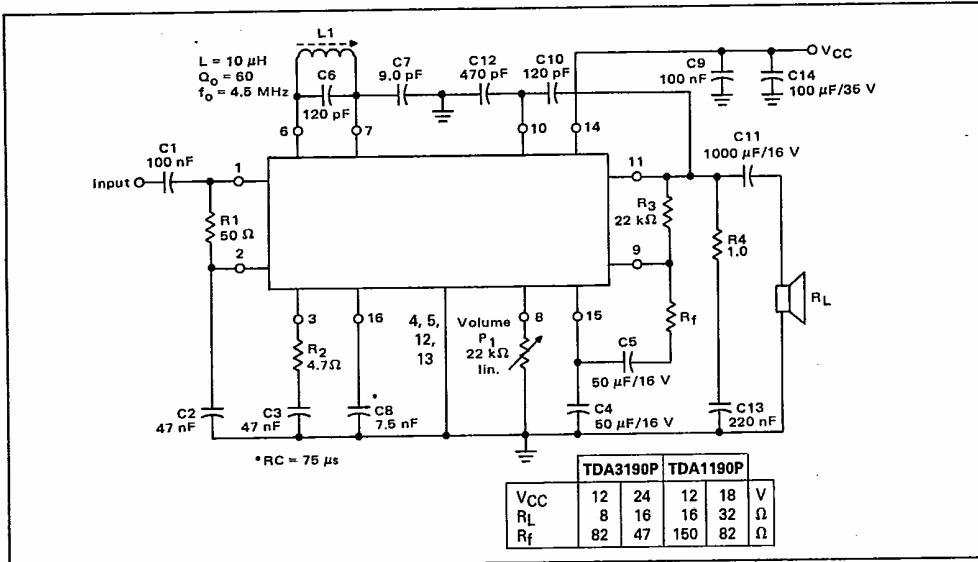
MAXIMUM RATINGS

Rating	Symbol	TDA3190P	TDA1190P	Unit
Supply Voltage Range	V_{CC}	9.0 to 28	9.0 to 22	V
Output Peak Current (Nonrepetitive) (Repetitive)	I_o	2.0 1.5	1.5 1.0	A
Input Signal Voltage	V_i	1.0		V
Operating Temperature Range	T_A	0 to +75		°C
Junction Temperature	T_J	150		°C

ELECTRICAL CHARACTERISTICS ($V_{CC} = 24$ V, $f_o = 4.5$ MHz, $\Delta f = \pm 25$ kHz, $T_A = 25^\circ\text{C}$ unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
Quiescent Output Voltage (Pin 11) $V_{CC} = 24$ V $V_{CC} = 18$ V $V_{CC} = 12$ V	V_O TDA3190P TDA1190P Both	11 8.0 5.1	12 9.0 6.0	13 10 6.9	V
Quiescent Drain Current ($P_1 = 22$ k Ω) $V_{CC} = 24$ V $V_{CC} = 18$ V $V_{CC} = 12$ V	I_D TDA3190P TDA1190P Both	11 11 —	22 22 19	35 35 —	mA
Output Power ($d = 10\%$, $f_m = 400$ Hz) $V_{CC} = 24$ V, $R_L = 16$ Ω $V_{CC} = 12$ V, $R_L = 8.0$ Ω $V_{CC} = 18$ V, $R_L = 32$ Ω $V_{CC} = 12$ V, $R_L = 16$ Ω ($d = 2\%$, $f_m = 400$ Hz) $V_{CC} = 24$ V, $R_L = 16$ Ω $V_{CC} = 12$ V, $R_L = 8.0$ Ω $V_{CC} = 18$ V, $R_L = 32$ Ω $V_{CC} = 12$ V, $R_L = 16$ Ω	P_O TDA3190P TDA3190P TDA1190P TDA1190P TDA3190P TDA3190P TDA1190P TDA1190P	— — 1.0 0.7 — — — — —	4.2 1.5 1.3 0.9 3.5 1.4 1.0 0.7	— — — — — — — —	W
Input Limiting Threshold Volts (-3.0 dB) at Pin 1 $\Delta f = \pm 7.5$ kHz, $f_m = 400$ Hz, Set P_1 for 2.0 Vrms on Pin 11	V_i TDA3190P TDA1190P	— —	40 60	100 100	μV
Distortion ($P_O = 50$ mW, $f_m = 400$ Hz, $\Delta f = \pm 7.5$ kHz) $V_{CC} = 24$ V, $R_L = 16$ Ω $V_{CC} = 18$ V, $R_L = 32$ Ω $V_{CC} = 12$ V, $R_L = 16$ Ω	TDA3190P TDA1190P Both	— — —	0.75 1.0 1.0	— — —	%
Frequency Response of Audio Amplifier (-3.0 dB) ($R_L = 16$ Ω , $C_{10} = 120$ pF, $C_{12} = 470$ pF, $P_1 = 22$ k Ω) $R_f = 82$ Ω $R_f = 47$ Ω	B	— —	70 to 12 k 70 to 7.0 k	— —	Hz
Recovered Audio Voltage (Pin 16) ($V_i \geq 1.0$ mV, $f_m = 400$ Hz, $\Delta f = \pm 7.5$ kHz, $P_1 = 0$)	V_o	—	120	—	mV
Amplitude Modulation Rejection ($V_i \geq 1.0$ mV, $f_m = 400$ Hz, $m = 30\%$)	AMR	—	55	—	dB
Signal and Noise to Noise Ratio ($V_i \geq 1.0$ mV, $V_o = 4.0$ V, $f_m = 400$ Hz)	$\frac{S + N}{N}$	50	65	—	dB
Input Resistance (Pin 1) ($V_i = 1.0$ mV)	r_i	—	30	—	k Ω
Input Capacitance (Pin 1) ($V_i = 1.0$ mV)	C_i	—	5.0	—	pF
DC Volume Control Attenuation ($P_1 = 12$ k Ω)	—	—	90	—	dB

TEST CIRCUIT



TYPICAL CIRCUIT CONFIGURATION

