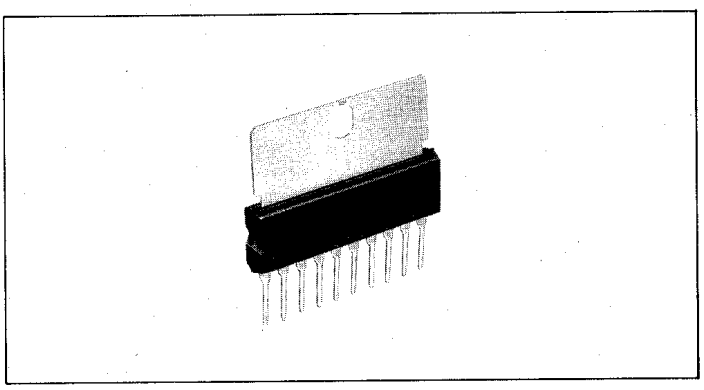
13.2V/5.8W Power Amplifier

BA532



The BA532 is a monolithic integrated circuit consisting of an OTL power amplifier designed for low-frequency power amplification in home radios, TV sets and other applications. Operating at 13.2V, it can deliver a high 5.8W output to a 4Ω load. It is designed with a high AC ripple rejection ratio (typically 40dB). The device is provided with output short-circuit protection, thermal shutdown and over-voltage protection circuits. The BA532 operates over a wide supply voltage range (9 ~ 16V).

Features

1. High output capability of 5.8W (THD + 10%)
2. High gain (55dB at 1kHz)
3. High ripple rejection ratio (typically 40dB)
4. Built-in protective circuitry against load shorts, over-voltage, and thermal runaway
5. Easy-to-assemble 10-pin SIP package
6. Pin-compatible with the BA511A and BA521
7. Free of pop noise generation

Applications

1. Car stereos
2. Car radios
3. Mobile communications equipment
4. Transceivers
5. Home radios
6. TV sets

Dimensions (mm)

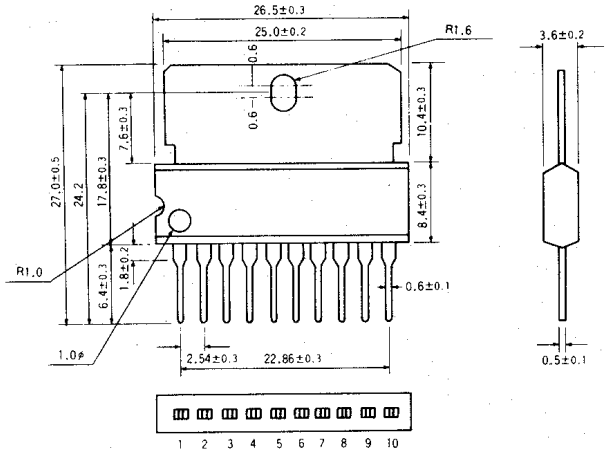


Fig. 1

Block Diagram

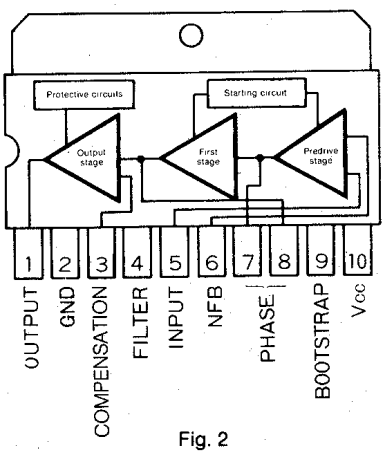


Fig. 2

Circuit Diagram

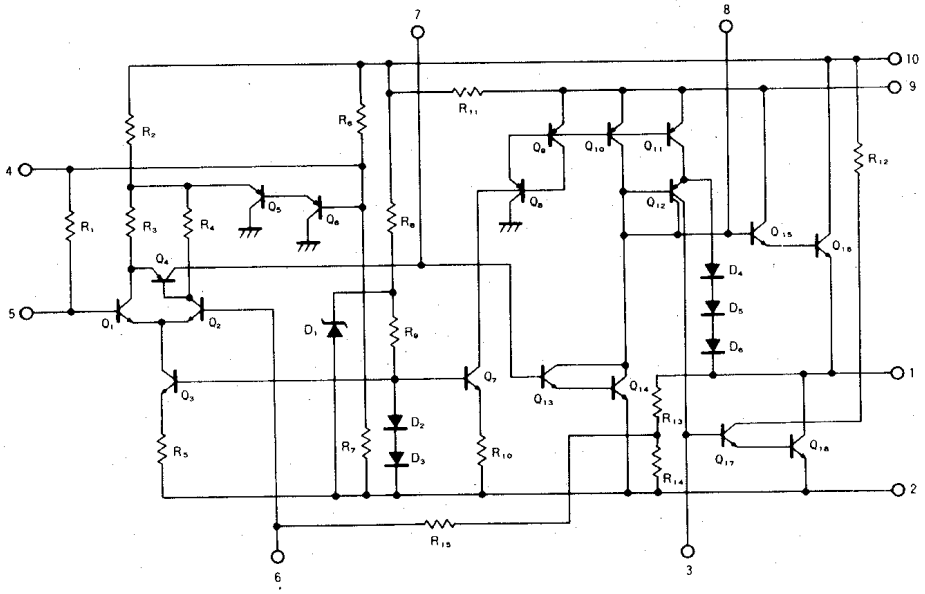


Fig. 3

Absolute Maximum Ratings (T_a = 25°C)

Parameter	Symbol	Limits	Unit
Supply voltage	V_{CC}	18	V
Power dissipation	P_d	6.5*	W
Operating temperature	T_{opr}	−20~+75	°C
Storage temperature	T_{stg}	−30~+125	°C
Junction temperature	T_j	+150	°C
Peak supply voltage	V_{CC} peak	40	V

*Tab temperature 75°C

Electrical Characteristics (T_a = 25°C, V_{CC} = 13.2V, R_L = 4Ω, f = 1kHz)

Parameter	Symbol	Min	Typ	Max	Unit	Conditions	Test circuit
Quiescent current	I_Q	—	35	80	mA	V_{IN} = 0	Fig. 17
Closed-loop voltage gain	G_{VC}	52	55	58	dB	R_{NF} = 68Ω	Fig. 17
Rated output power	P_{OUT}	5.0	5.8	—	W	THD = 10%	Fig. 17
Total harmonic distortion	THD	—	0.3	1.5	%	P_{OUT} = 0.5W	Fig. 17
Output noise voltage	V_{NO}	—	1.0	—	mVrms	R_g = 10kΩ	Fig. 17
Input resistance	R_{IN}	—	180	—	kΩ	f = 1kHz	Fig. 17
Ripple rejection ratio	RR	—	40	—	dB	f_{RR} = 100Hz, VRR = −10dBm	Fig. 17

Electrical Characteristic Curves

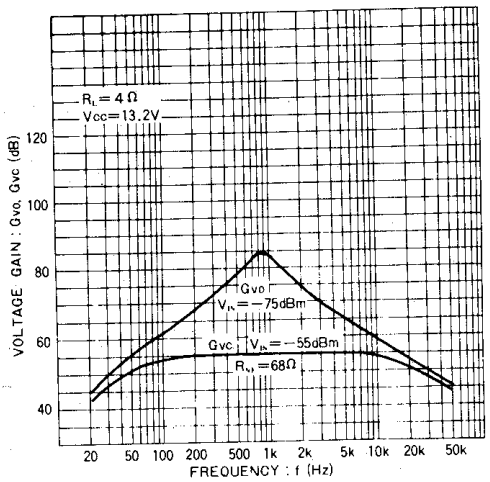


Fig. 4 Voltage gain vs. frequency

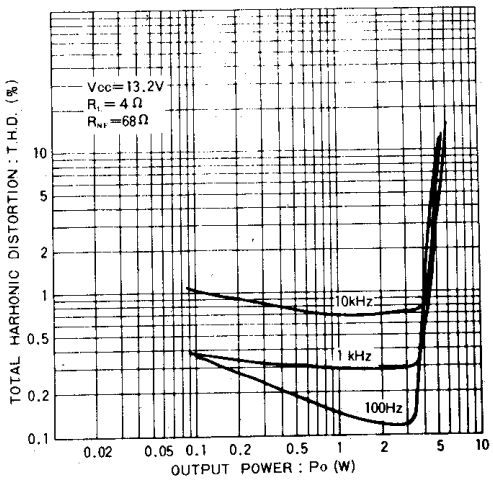


Fig. 5 Total harmonic distortion vs. output power

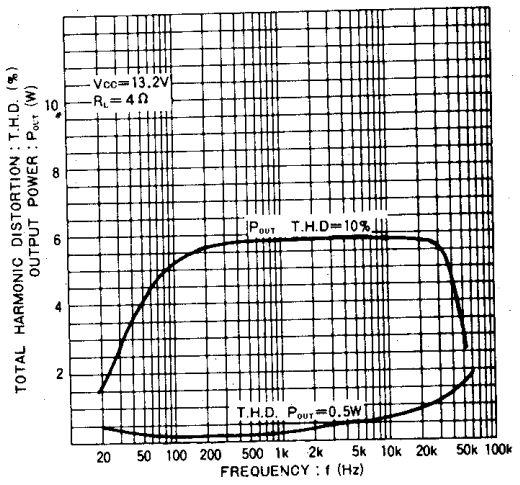


Fig. 6 Total harmonic distortion and output power vs. frequency

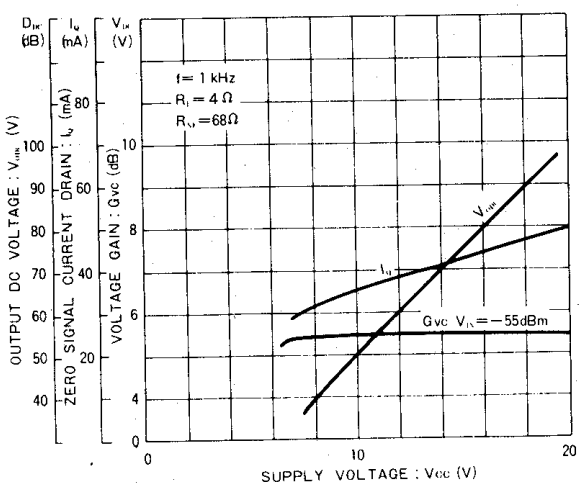


Fig. 7 Output DC voltage, quiescent current and voltage gain vs. supply voltage