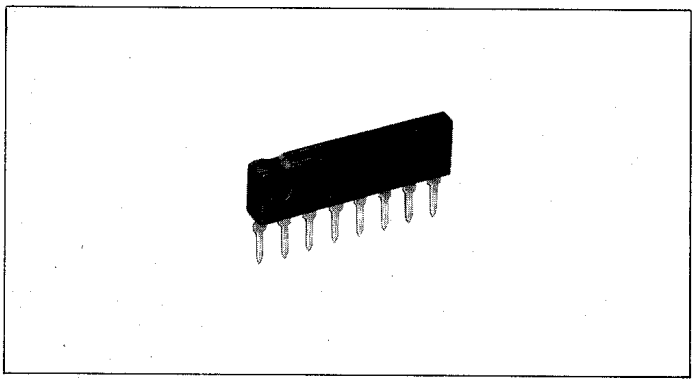
Dual Preamplifier

BA3302

LA 3160
M5152L

ROHM



Dimensions (mm)

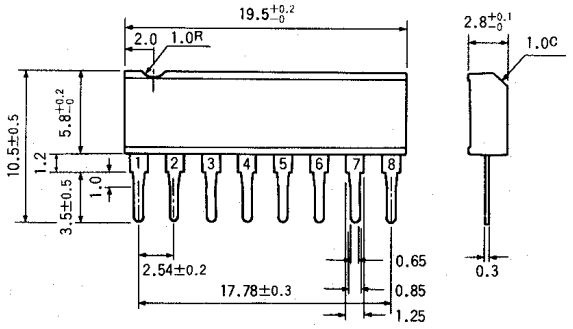


Fig. 1

The BA3302 is a monolithic integrated circuit consisting of a dual channel preamplifier ideal for use in car stereos. It uses a built-in bias circuit to lower the number of externally connected components, thus contributing to compact equipment designs. In addition, it has a high open-loop gain of 90dB (at 1kHz), and uses an emitter-follower output circuit capable of high level drive, thus simplifying circuit design.

Features

1. Low noise (V_{NIN}=1.0μVrms)
2. High open-loop gain (G_{VO}=90dB)
3. Built-in bias circuit eliminates external components.
4. High drive capability emitter follower output circuit
5. Two channels in a single compact package
6. Pin arrangement designed for easy PC board mounting
7. Pin-compatible with BA328

Applications

1. Car stereos
2. Radio cassette combinations
3. Home stereos

Circuit Diagram

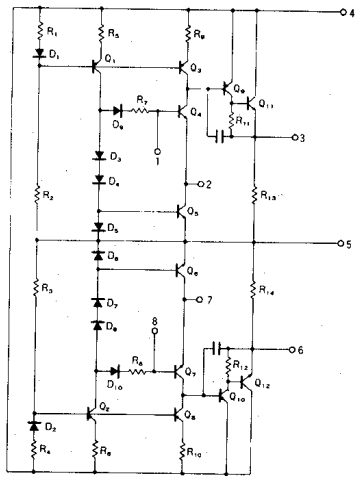


Fig. 2

Absolute Maximum Ratings (T_a = 25°C)

Parameter	Symbol	Limits	Unit
Supply voltage	V_{CC}	18*	V
Power dissipation	P_d	400**	mW
Operating temperature	T_{opr}	−25~+75	°C
Storage temperature	T_{stg}	−55~+125	°C

*Recommended operating voltage 6~16V.
**Derating is done at 4mW/°C for operation above T_a = 25°C.

Electrical Characteristics (T_a = 25°C, V_{CC} = 8V, f = 1kHz, R_L = 10kΩ)

Parameter	Symbol	Min	Typ	Max	Unit	Conditions	Test circuit
Supply current	I_{CC}	—	2.8	5.2	mA	V_{in} = 0V	Fig. 9
Open-loop voltage gain	G_{VO}	75	90	—	dB	V_{out} = 0.3V	Fig. 9
Maximum output voltage	V_{om}	1.0	1.5	—	V	THD = 1%	Fig. 9
Input resistance	R_{IN}	50	300	—	kΩ		Fig. 9
Total harmonic distortion	THD	—	0.04	0.3	%	V_{out} = 0.3V	Fig. 9
Input-referred noise voltage	V_{NIN}	—	1.0	2.0	μVrms	R_g = 2.2kΩ BPF (30Hz~20kHz)	Fig. 9
Crosstalk level	CT	—	−65	−50	dB	Other channel, V_{out} = 0.3V, R_g = 2.2kΩ	Fig. 9
Channel balance	CB	—	0	1.5	dB	V_{out} = 0.3V	Fig. 9