

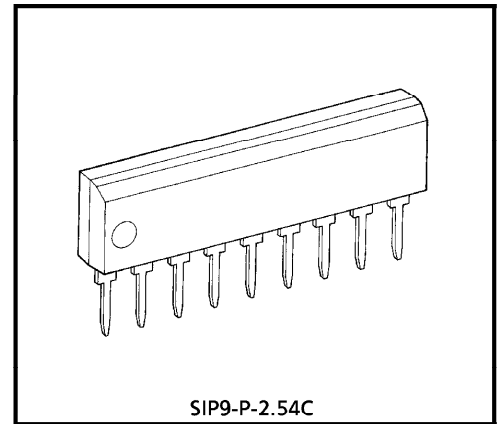
TA8193S

DUAL LINE OUTPUT AMPLIFIER

The TA8193S is dual Line Output Amplifier designed for audio use.

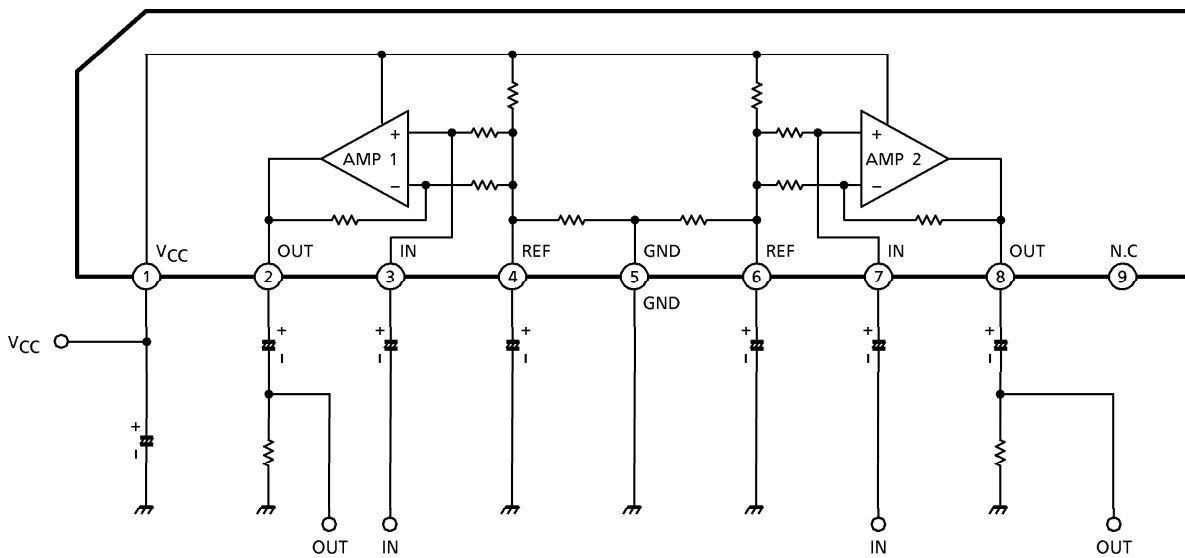
FEATURES

- Suitable for Line Output Amplifier
- Built-in Feedback Resistor
- Few External Parts
- Fixed Voltage Gain : $G_V = 20\text{dB}$ (Typ.)
- Low Noise : $V_{NO} = 30\mu\text{V}_{\text{rms}}$ (Typ.)
($R_g = 10\text{k}\Omega$, DIN AUDIO)
- Small Package : Slim SIP 9pin
- Operating Supply Voltage Range : $V_{CC}(\text{opr.}) = 5\sim 16\text{V}$ ($T_a = 25^\circ\text{C}$)



Weight : 0.65g (Typ.)

BLOCK DIAGRAM



MAXIMUM RATINGS (Ta = 25°C)

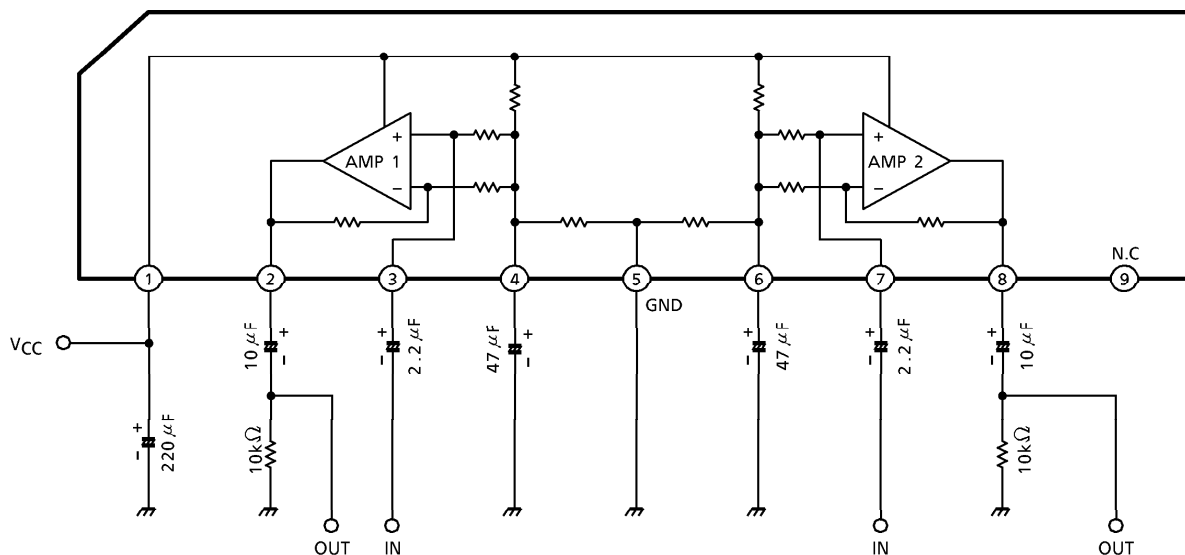
CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V _{CC}	18	V
Power Dissipation	P _D (Note)	500	mW
Operating Temperature	T _{opr}	-30~85	°C
Storage Temperature	T _{stg}	-55~150	°C

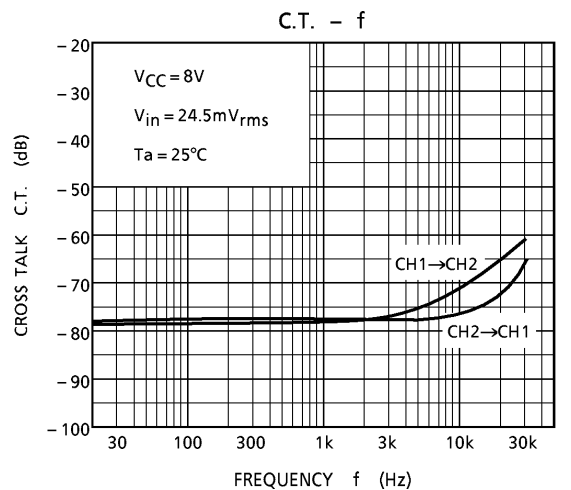
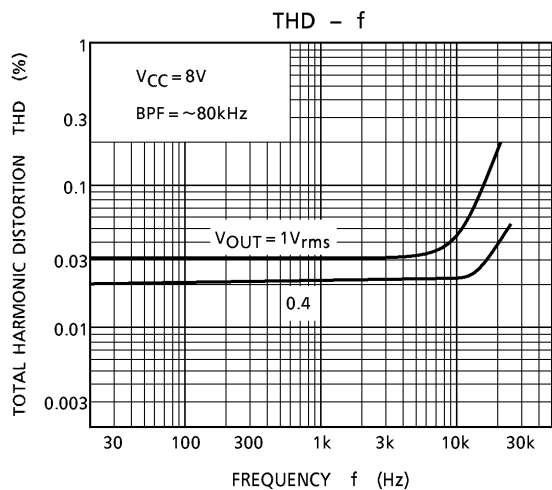
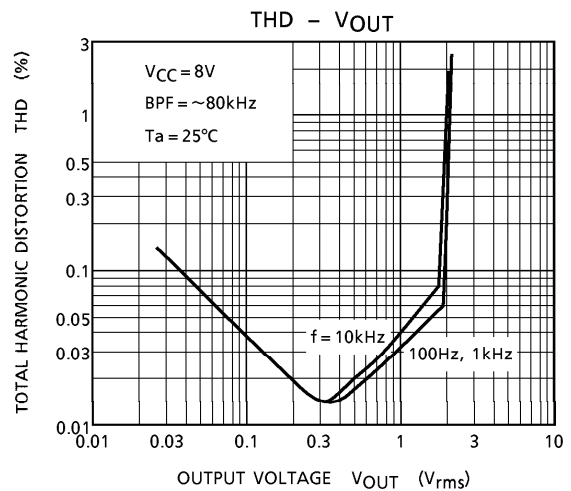
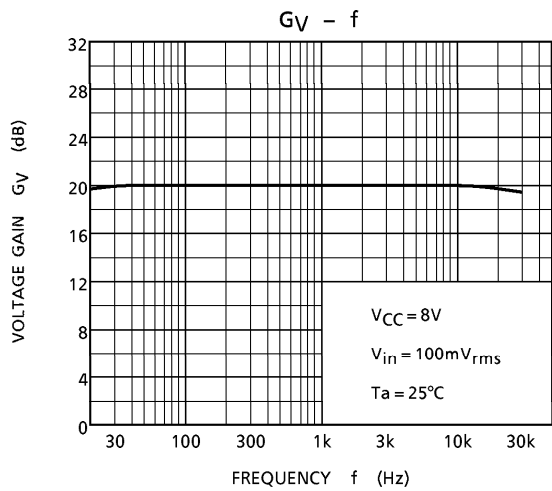
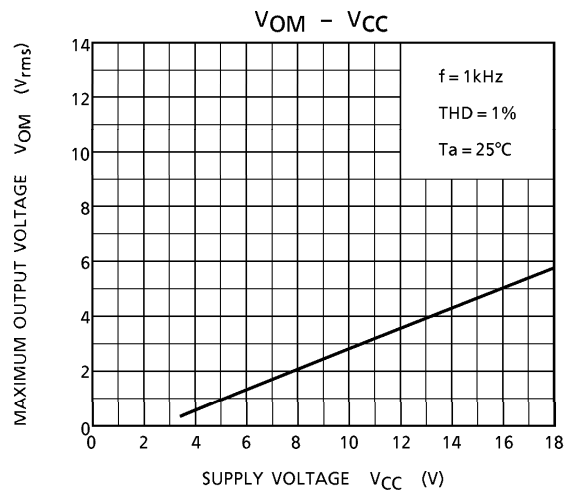
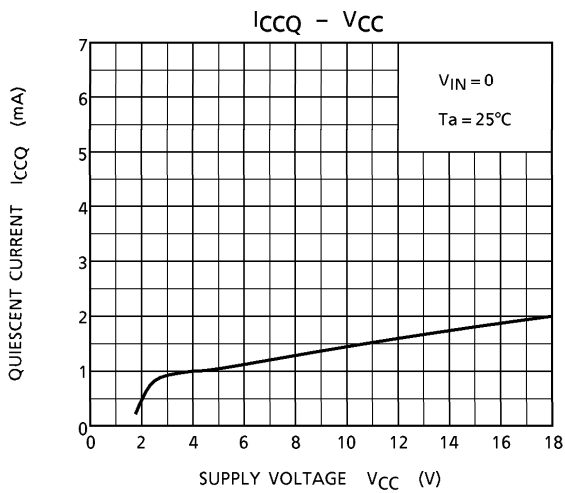
(Note) Derated above Ta = 25°C in the proportion of 4mW/°C.

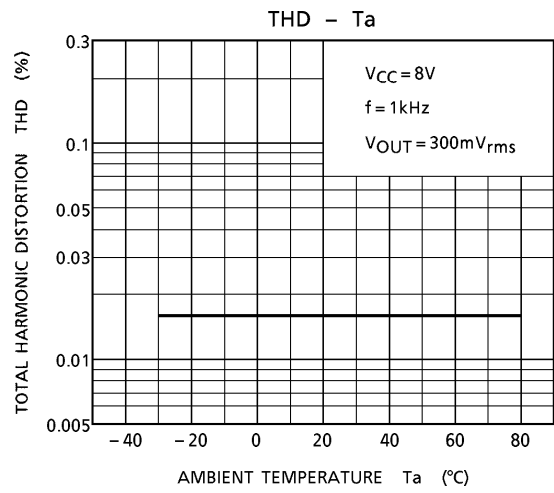
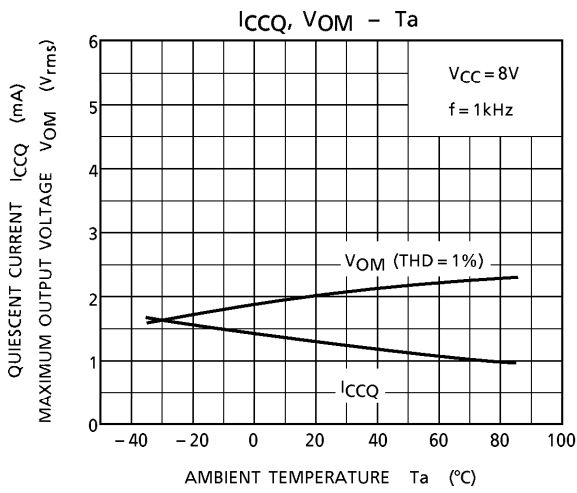
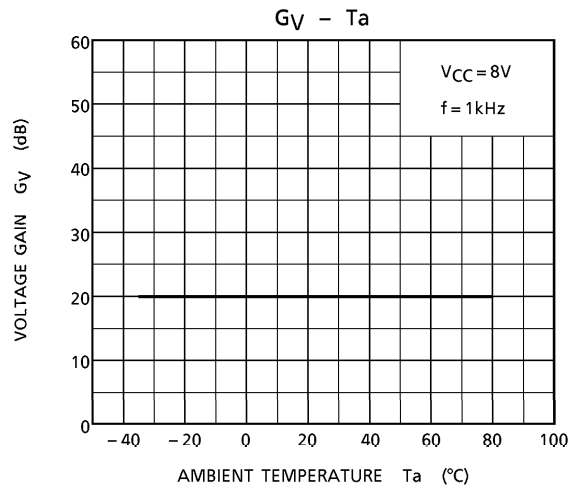
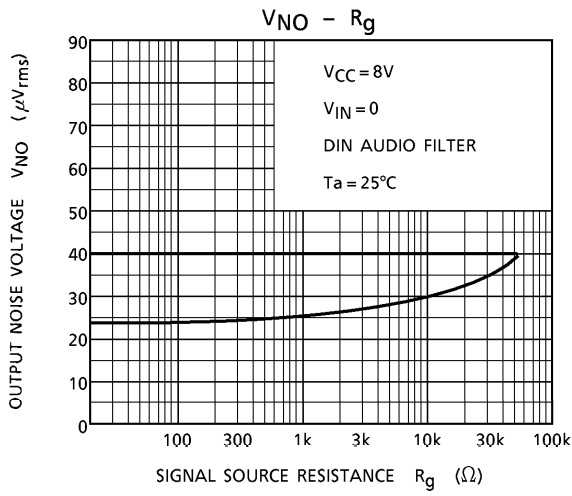
ELECTRICAL CHARACTERISTICS (Unless otherwise specified, V_{CC} = 8V, f = 1kHz, R_L = 10kΩ, Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Quiescent Current	I _{CCQ}	—	V _{IN} = 0	—	1.5	2.5	mA
Maximum Output Voltage	V _{OM}	—	THD = 1%	1.4	2.0	—	V _{rms}
Closed Loop Voltage Gain	G _V	—	—	18.5	20	21.5	dB
Total Harmonic Distortion	THD	—	V _{OUT} = 300mV _{rms}	—	0.02	0.3	%
Output Noise Voltage	V _{NO}	—	R _g = 10kΩ, BPF = 20~20kHz	—	30	60	μV _{rms}
Cross Talk	C.T	—	R _g = 10kΩ	—	-75	—	dB

TEST CIRCUIT

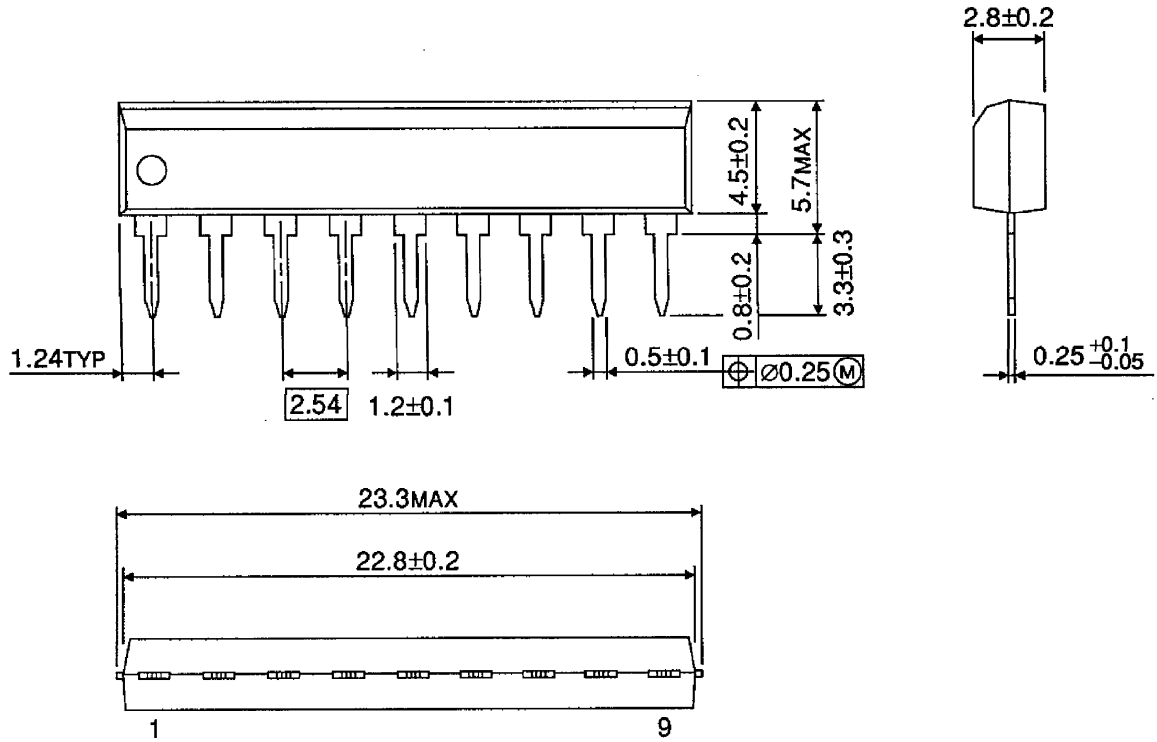






PACKAGE DIMENSIONS
SIP9-P-2.54C

Unit : mm



Weight : 0.65g (Typ.)

RESTRICTIONS ON PRODUCT USE

000707EBA

- TOSHIBA is continually working to improve the quality and reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to comply with the standards of safety in making a safe design for the entire system, and to avoid situations in which a malfunction or failure of such TOSHIBA products could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent TOSHIBA products specifications. Also, please keep in mind the precautions and conditions set forth in the "Handling Guide for Semiconductor Devices," or "TOSHIBA Semiconductor Reliability Handbook" etc..
- The TOSHIBA products listed in this document are intended for usage in general electronics applications (computer, personal equipment, office equipment, measuring equipment, industrial robotics, domestic appliances, etc.). These TOSHIBA products are neither intended nor warranted for usage in equipment that requires extraordinarily high quality and/or reliability or a malfunction or failure of which may cause loss of human life or bodily injury ("Unintended Usage"). Unintended Usage include atomic energy control instruments, airplane or spaceship instruments, transportation instruments, traffic signal instruments, combustion control instruments, medical instruments, all types of safety devices, etc.. Unintended Usage of TOSHIBA products listed in this document shall be made at the customer's own risk.
- The products described in this document are subject to the foreign exchange and foreign trade laws.
- The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA CORPORATION for any infringements of intellectual property or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any intellectual property or other rights of TOSHIBA CORPORATION or others.
- The information contained herein is subject to change without notice.