

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

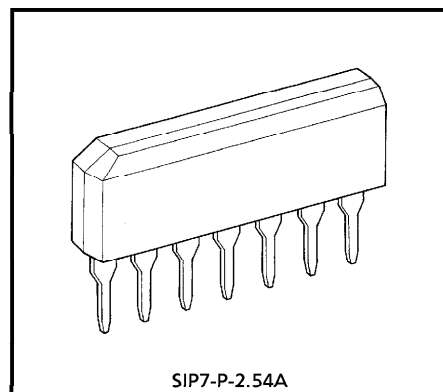
TA2011S

MIC AMP IC

TA2011S is suitable for audio mic amplifier of portable cassette tape recorder and karaoke.

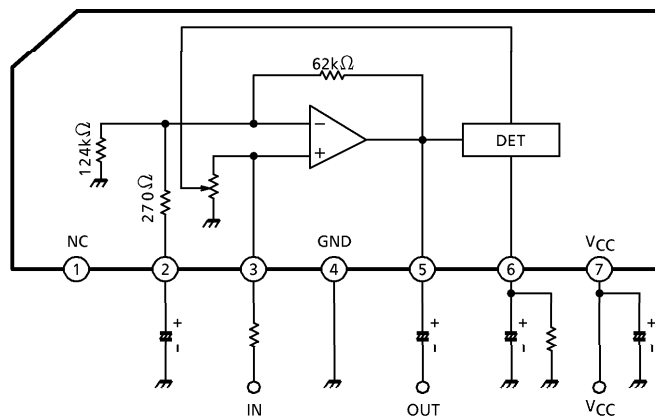
FEATURES

- Built in ALC DET Circuit.
- Built in NFB resistance. (Voltage gain is fixed)
 $G_V = 47\text{dB}$ (Typ.)
 : $f = 1\text{kHz}$, ALC OFF
- ALC Level
 : $V_{\text{out}}(\text{ALC}) = 0.6V_{\text{rms}}$ (Typ.)
- ALC Range
 : $R_{\text{ALC}} = 58\text{dB}$ (Typ.)
- Operating Supply Voltage Range
 : $V_{\text{CC}}(\text{opr}) = 4\sim 14\text{V}$ ($T_a = 25^\circ\text{C}$)



Weight : 0.7g (Typ.)

BLOCK DIAGRAM



980910EBA2

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MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
DC Supply Voltage	V _{CC}	14	V
Power Dissipation	P _D (Note)	900	mW
Operating Temperature	T _{opr}	- 25~75	°C
Storage Temperature	T _{stg}	- 55~150	°C

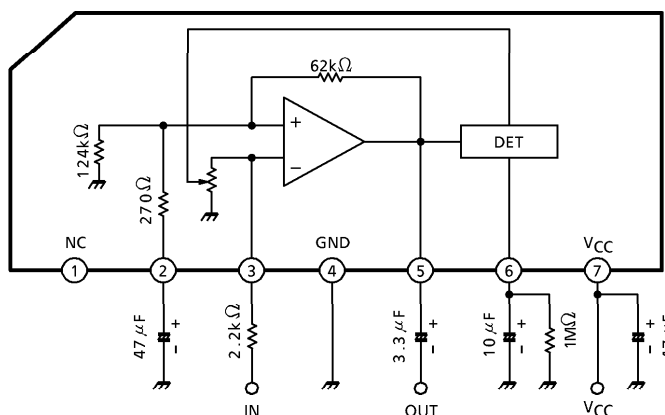
(Note) Derated above Ta = 25°C in the proportion of 7.2mW/°C.

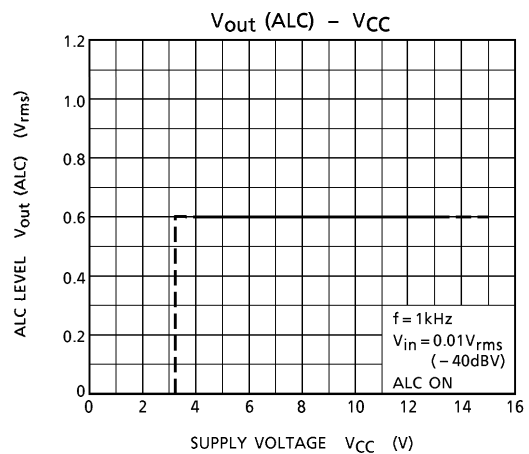
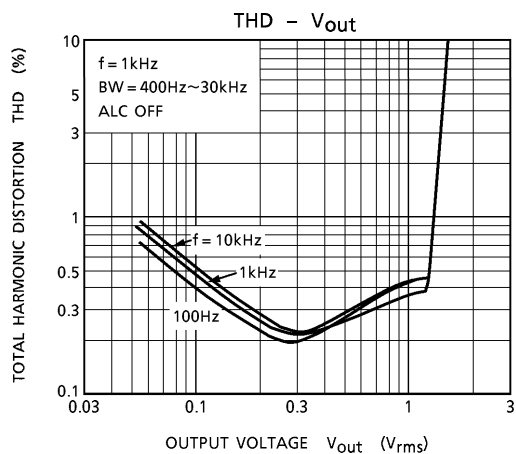
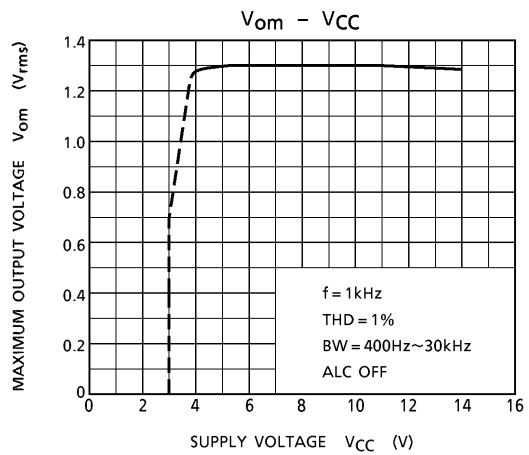
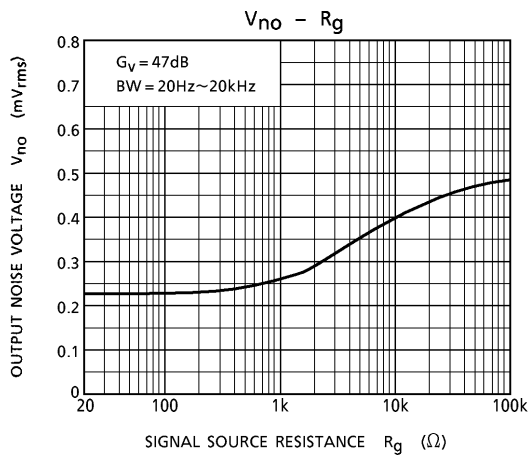
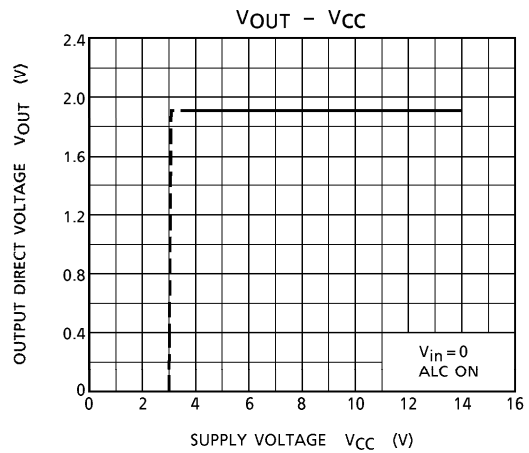
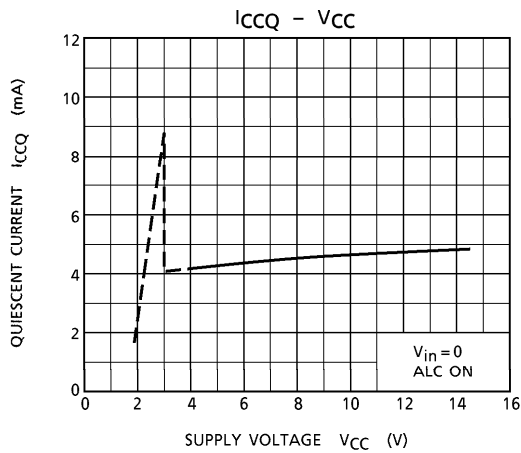
ELECTRICAL CHARACTERISTICS

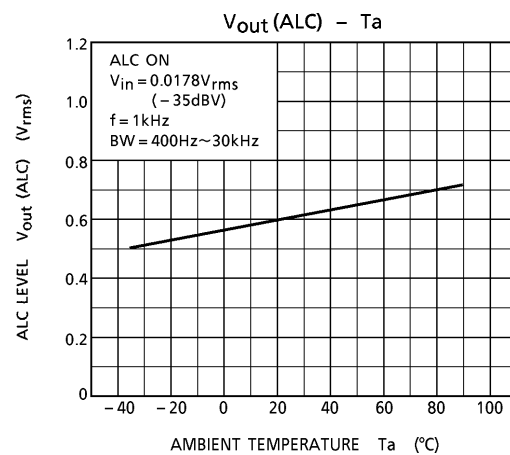
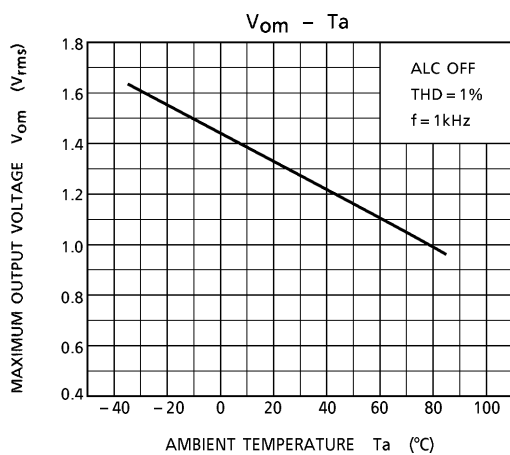
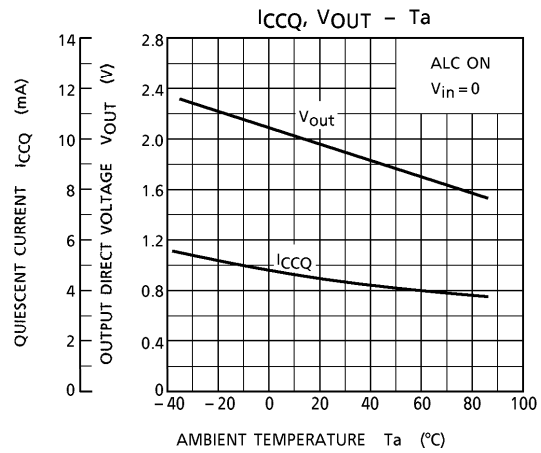
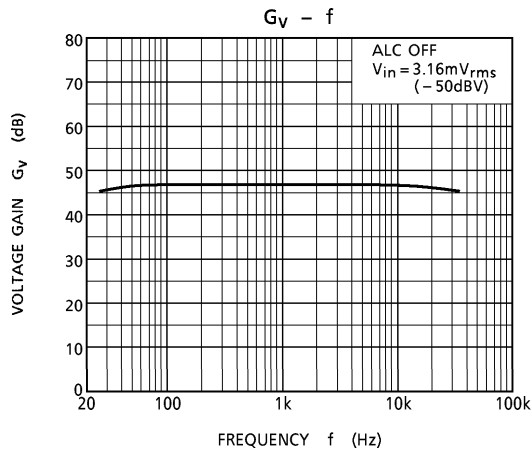
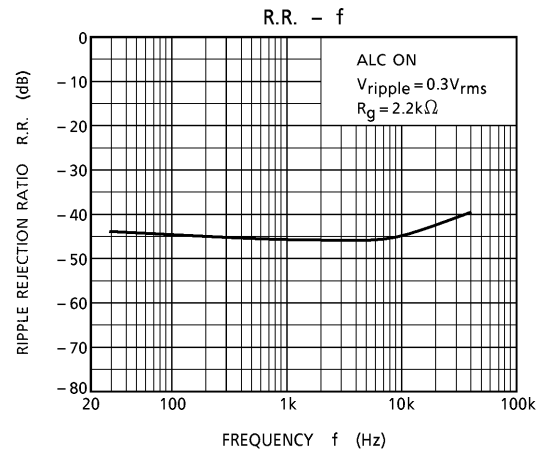
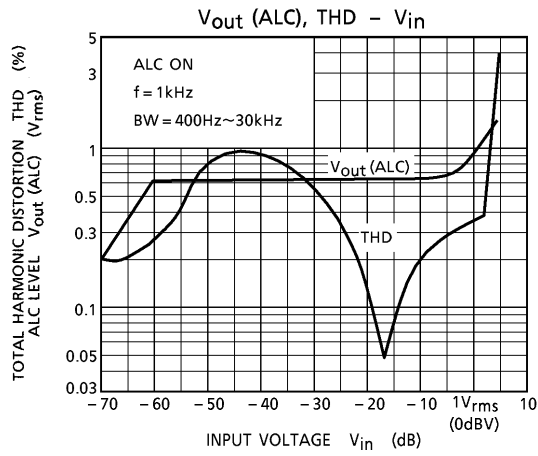
(Unless otherwise specified, V_{CC} = 7V, f = 1kHz, R_L = 10kΩ, ALC = OFF, Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Quiescent Current	I _{CCQ}	—	V _{in} = 0, ALC ON	—	4.4	8.0	mA
Voltage Gain	G _v	—	—	45.5	47	48.5	dB
Maximum Output Voltage	V _{om}	—	THD = 1%	1.0	1.3	—	V _{rms}
Total Harmonic Distortion	THD	—	V _{out} = 0.3V _{rms} BW = 400Hz~30kHz	—	0.2	0.5	%
ALC Level	V _{out} (ALC)	—	V _{in} = 0.0178V _{rms} (- 35dBV)	0.5	0.6	0.7	V _{rms}
ALC Range	R _{ALC}	—	3dB up	40	58	—	dB
Attack Time	T _{ATK}	—	V _{in} = 1.41mV _{rms} (- 57.0dBV) →0.014V _{rms} (- 37.0dBV)	—	0.05	—	s
Recovery Time	T _{RCV}	—	V _{in} = 0.014V _{rms} (- 37.0dBV) →0.447mV _{rms} (- 67.0dBV)	—	2	—	s
Ripple Rejection Ratio	R.R.	—	f = 100Hz, V _{ripple} = 0.1V _{rms}	- 30	- 46	—	dB
Input Resistance	R _{IN}	—	—	—	20	—	kΩ
Equivalent Input Noise Voltage	V _{ni}	—	BW = 20Hz~20kHz G _v = 47dB, R _g = 2.2kΩ	—	1.4	3.0	μV

TEST CIRCUIT

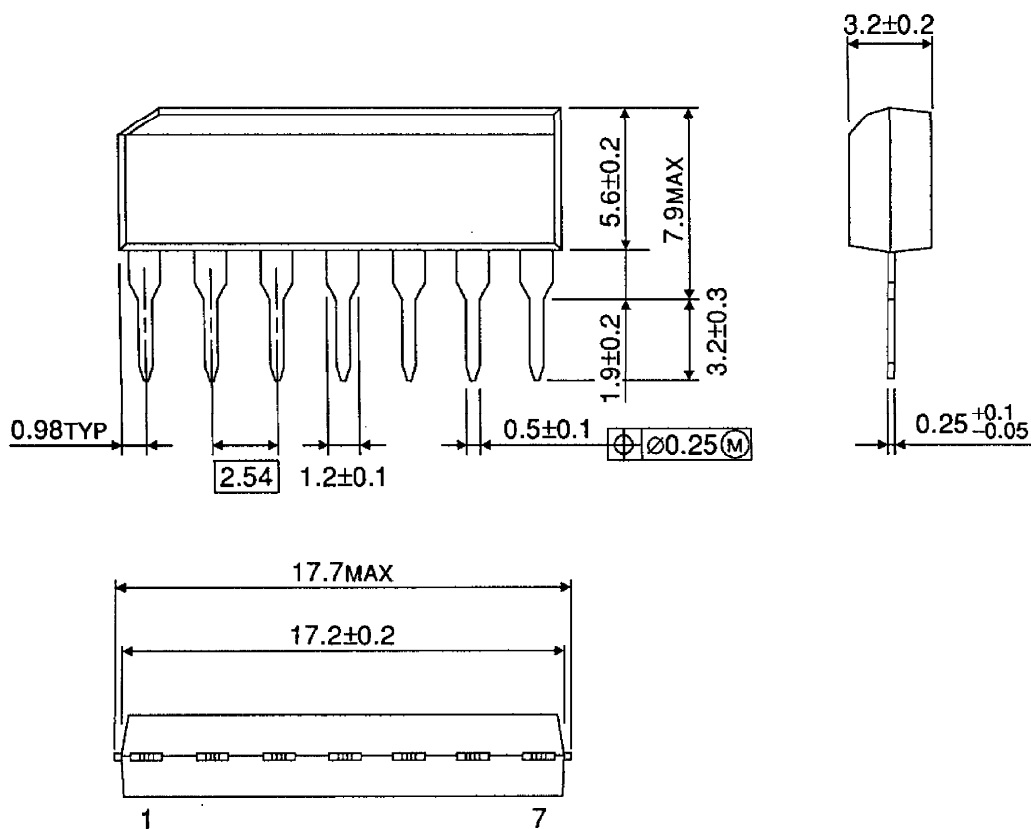






OUTLINE DRAWING
SIP7-P-2.54A

Unit : mm



Weight : 0.7g (Typ.)