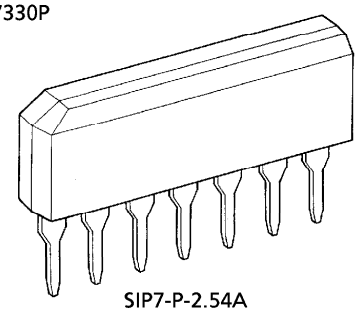
TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA7330P, TA7330F

PREAMPLIFIER WITH ALC CIRCUIT FOR MINI / MICRO CASSETTE TAPE RECORDER

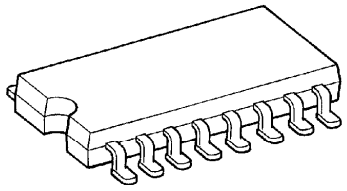
The TA7330P and TA7330F are preamplifier for 3V or 4.5V battery use.
It consists of low noise preamplifier and ALC (Automatic Level Control) circuit, and is suitable for mini / micro cassette tape recorder applications.

TA7330P



SIP7-P-2.54A

TA7330F (SO)



SSOP16-P-225-1.00

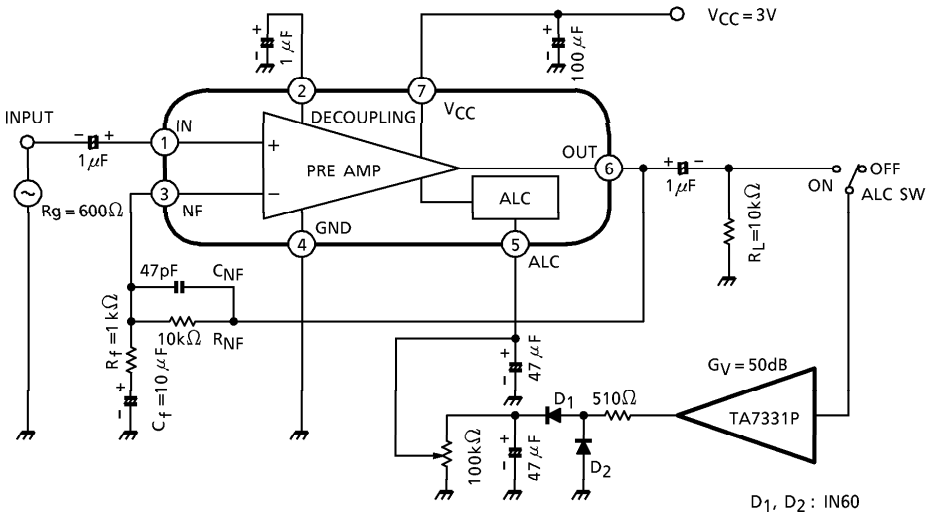
Weight
SIP7-P-2.54A : 0.72g (Typ.)
SSOP16-P-225-1.00 : 0.14g (Typ.)

FEATURES

- Low supply voltage use : $V_{CC\,(opr)} = 2 \sim 5V$ (Ta = 25°C)
- Low noise : $V_{ni} = 1\mu V_{rms}$ (Typ.)
- Wide ALC range : $W_{ALC} = 40dB$ (Typ.
- Low quiescent current : $I_{CCQ} = 0.75mA$ (Typ.) ($V_{CC} = 3V$, Ta = 25°C)
- TA7330F (SO) is standard model of flat package.

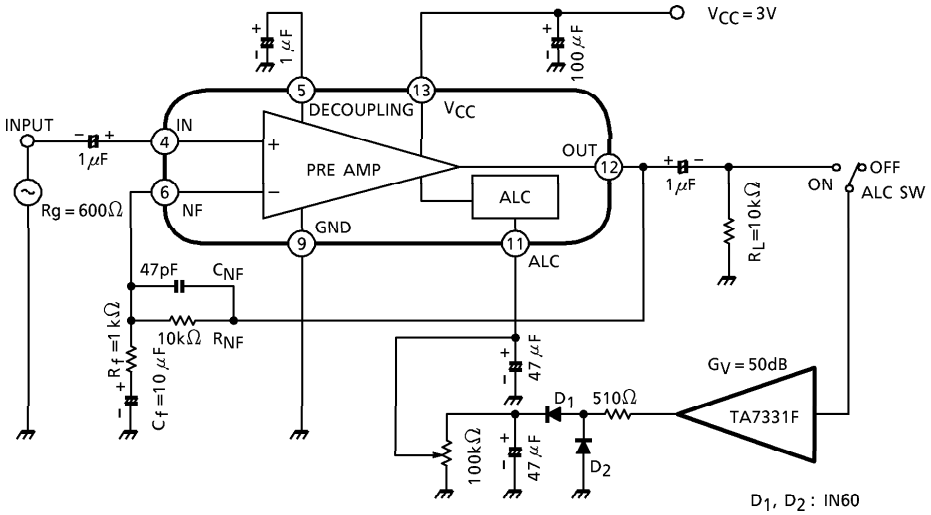
TEST CIRCUIT / BLOCK DIAGRAM

TA7330P



961001EBA2

TA7330F



MAXIMUM RATINGS (Ta = 25°C)

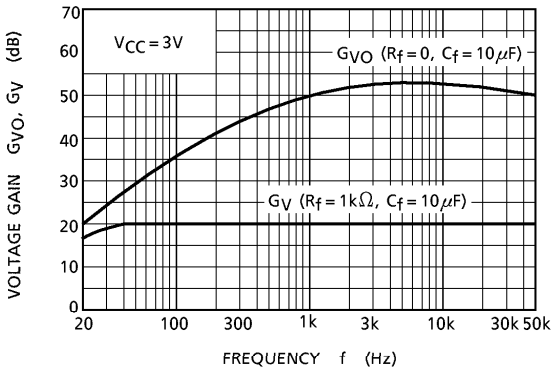
CHARACTERISTIC		SYMBOL	RATING	UNIT
Supply Voltage		V_{CC}	8	V
Operating Supply Voltage		V_{CC}	5	V
Power Dissipation	TA7330P	P_D (Note)	400	mW
	TA7330F		350	
Operating Temperature	TA7330P	T_{opr}	−25~75	°C
	TA7330F		−25~60	
Storage Temperature		T_{stg}	−55~150	°C

(Note) Derated above Ta = 25°C in the proportion of 3.2mW / °C for the TA7330P and 2.8mW / °C for the TA7330F.

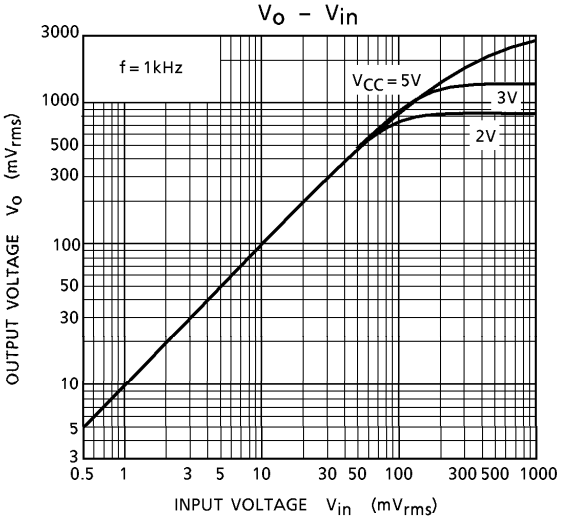
ELECTRICAL CHARACTERISTICS (Unless otherwise specified, V_{CC} = 3V, Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Quiescent Current	I_{CCQ} (1)	—		—	0.75	1	mA
	I_{CCQ} (2)	—	V_{CC} = 4.5V	—	1.38	1.8	
Open Loop Voltage Gain	G_{VO}	—	f = 1kHz	40	50	—	dB
Closed Loop Voltage Gain	G_V	—	f = 1kHz, R_{NF} = 10kΩ R_f = 1kΩ, R_L = 10kΩ	—	20	—	dB
Maximum Output Voltage	V_{om}	—	f = 1kHz, THD = 1%, R_L = 10kΩ	0.5	0.9	—	V_{rms}
Input Resistance	R_{IN}	—	f = 1kHz, R_{NF} = 10kΩ, R_f = 1kΩ	—	30	—	kΩ
Equivalent Input Noise Voltage	V_{ni}	—	R_g = 2.2kΩ, BPF = 50Hz~20kHz	—	1.0	2.5	μV_{rms}
ALC Range	W_{ALC}	—	f = 1kHz, ALC ON	—	40	—	dB

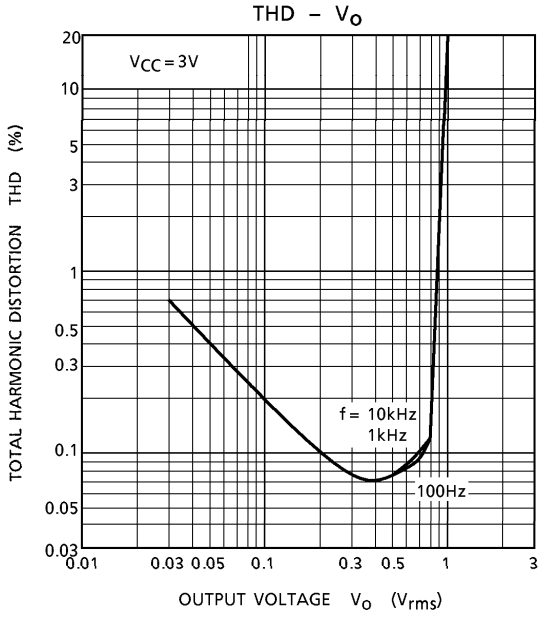
G_{VO}, G_V – f



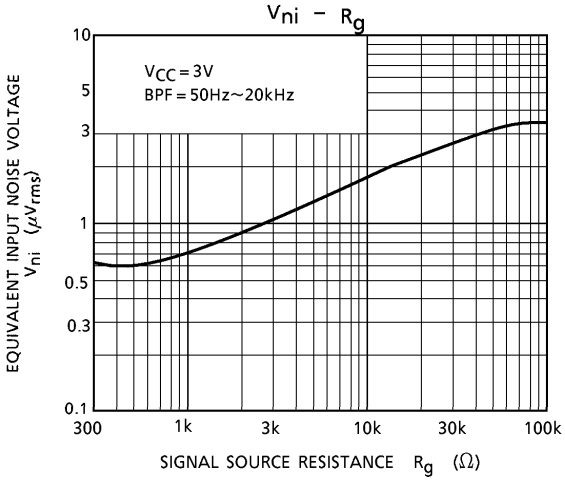
V_o – V_{in}



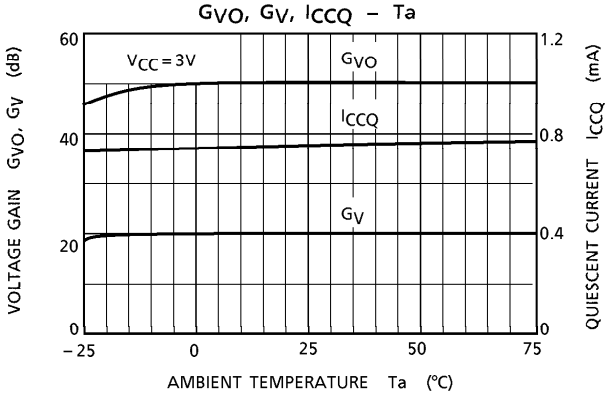
THD – V_o



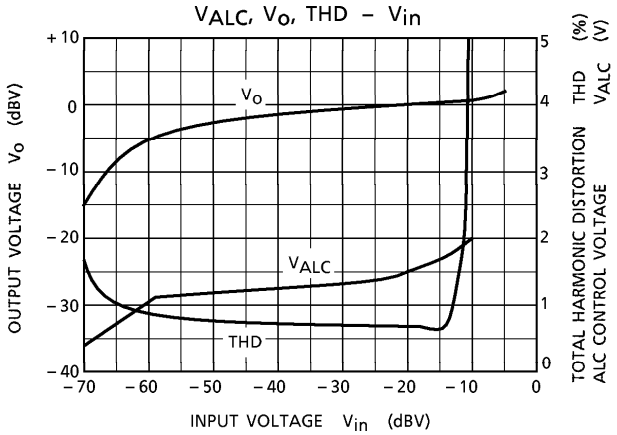
V_{ni} – R_g

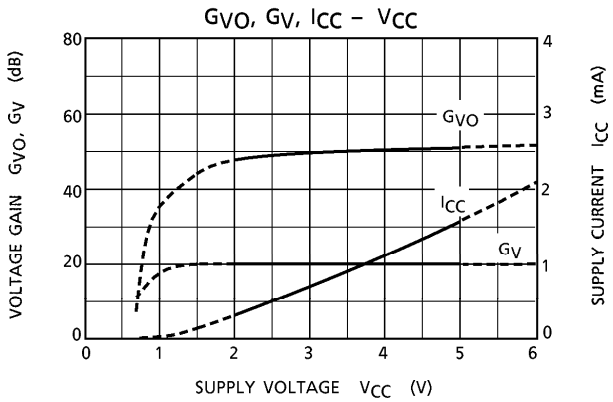


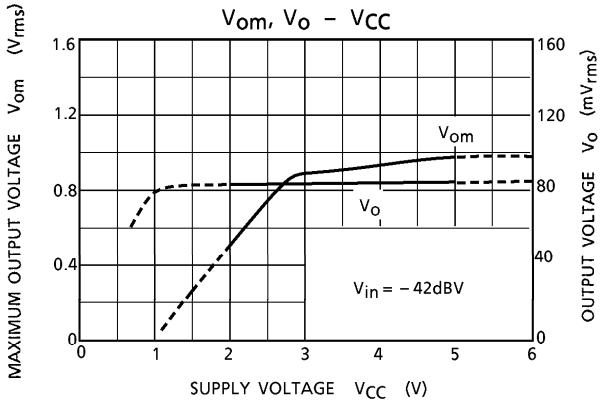
G_{VO}, G_V, I_{CCQ} – Ta



V_{ALC}, V_o, THD – V_{in}

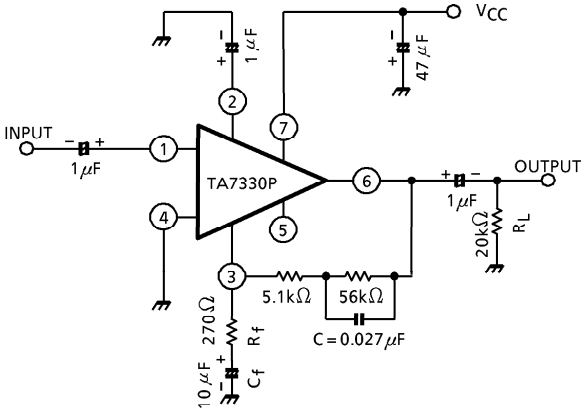




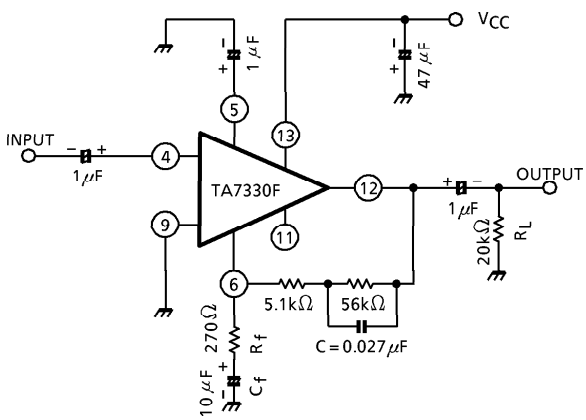


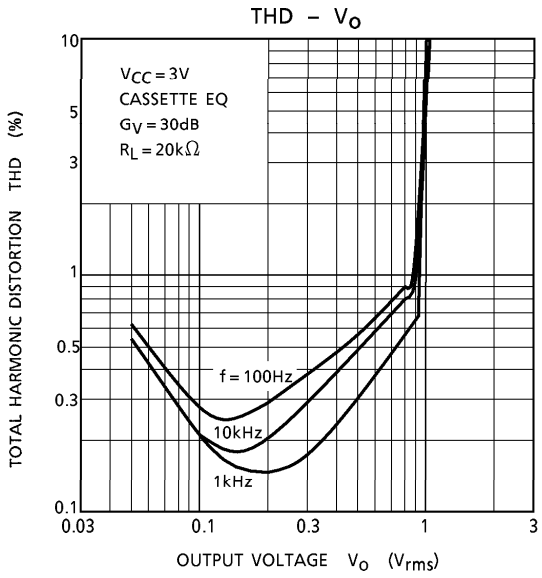
APPLICATION CIRCUIT CASSETTE EQUALIZER

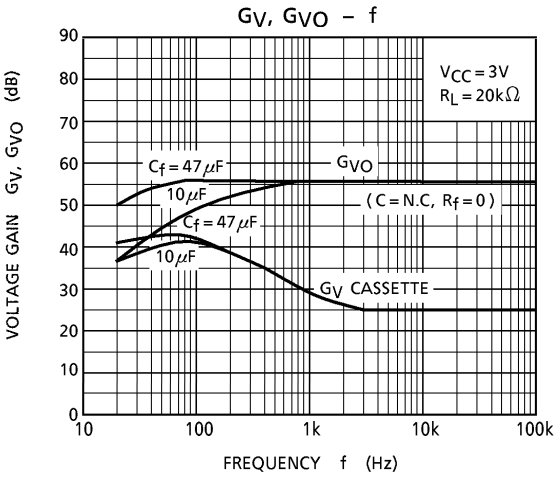
TA7330P



TA7330F



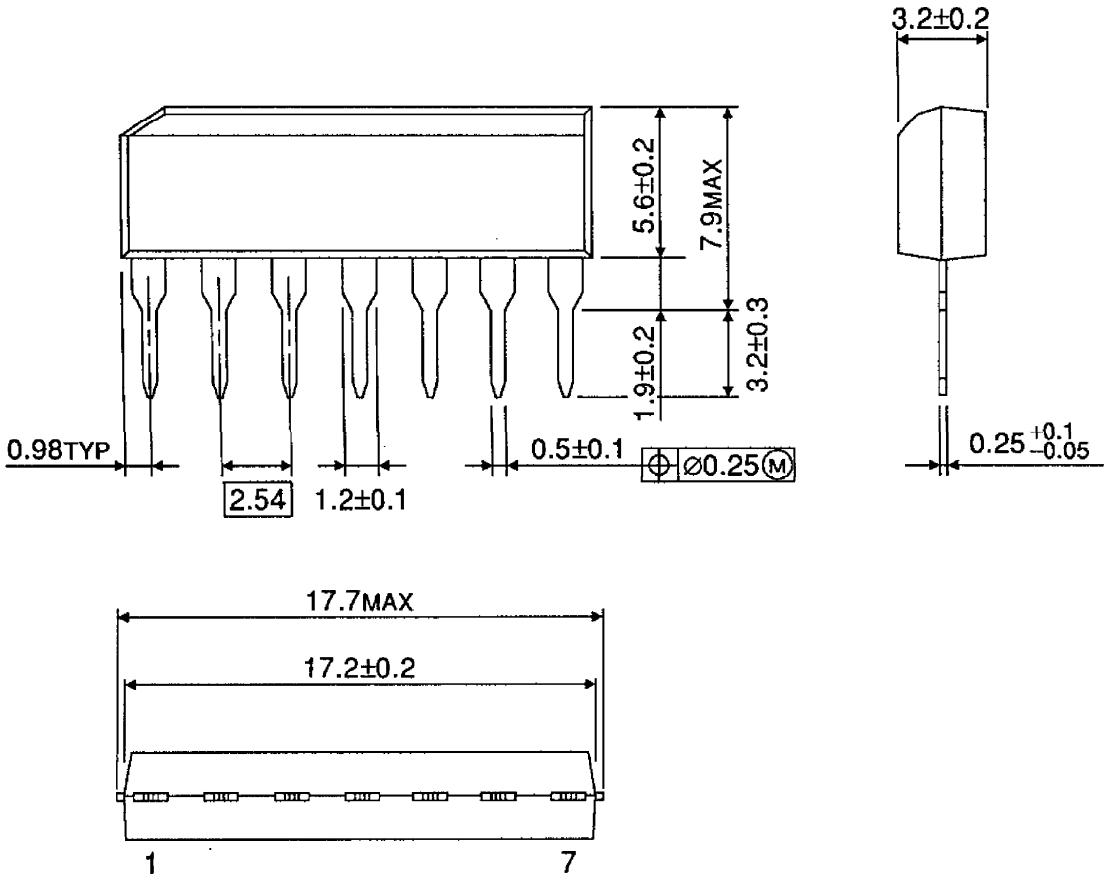




OUTLINE DRAWING

SIP7-P-2.54A

Unit : mm

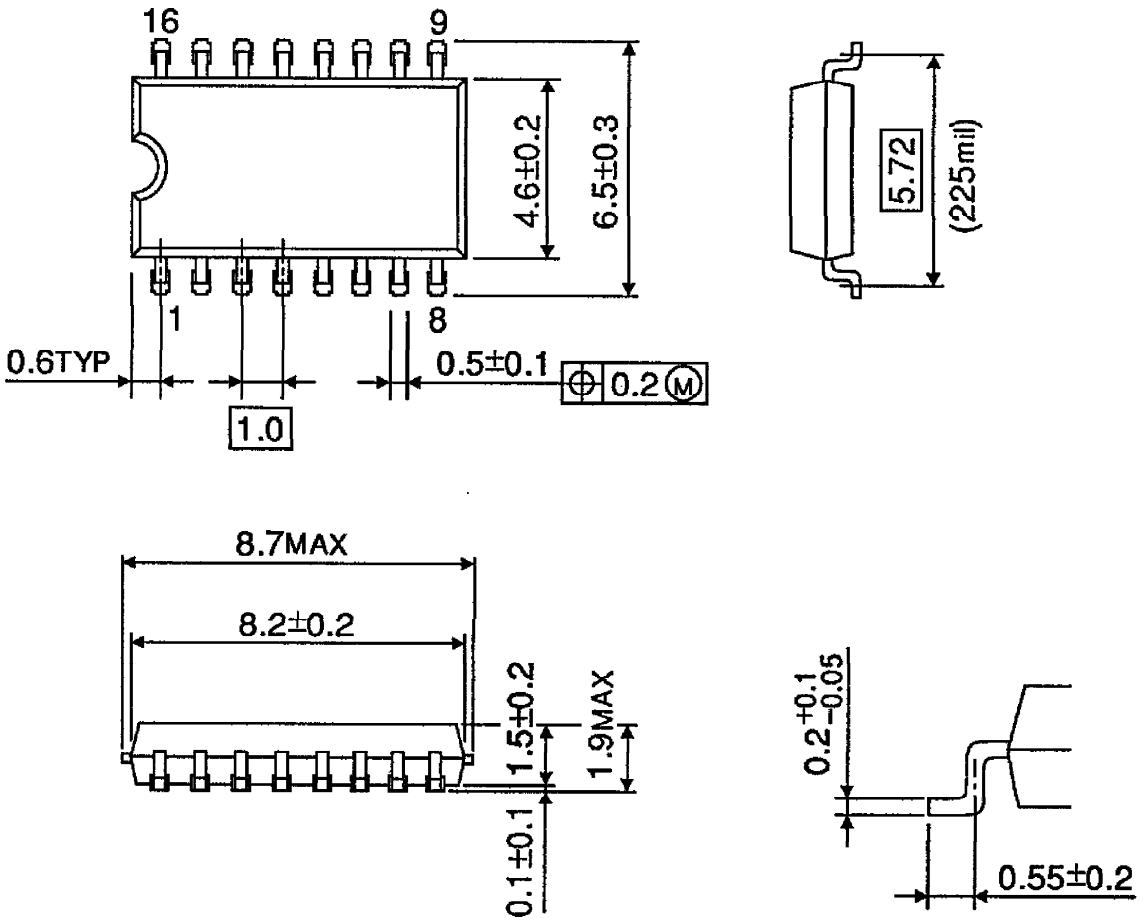


Weight : 0.72g (Typ.)

OUTLINE DRAWING

SSOP16-P-225-1.00

Unit : mm



Weight : 0.14g (Typ.)