

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

# TA7330P, TA7330F

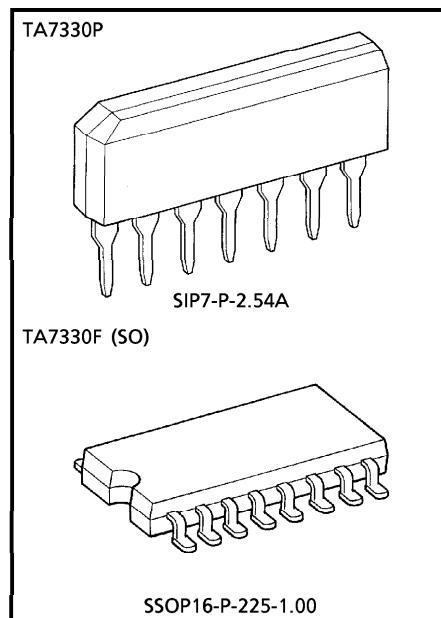
## PREAMPLIFIER WITH ALC CIRCUIT FOR MINI / MICRO CASSETTE TAPE RECORDER

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.

### FEATURES

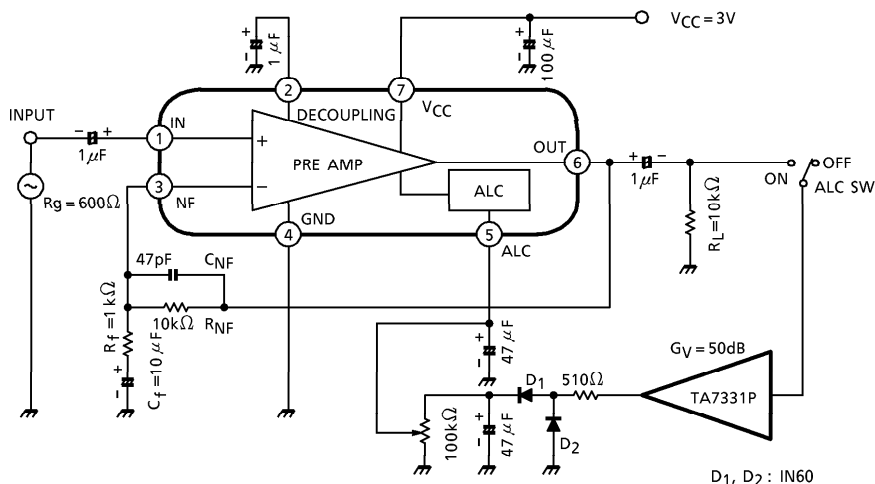
- Low supply voltage use :  $V_{CC(opr)} = 2 \sim 5V$  ( $T_a = 25^\circ C$ )
- Low noise :  $V_{ni} = 1 \mu V_{rms}$  (Typ.)
- Wide ALC range :  $W_{ALC} = 40dB$  (Typ.)
- Low quiescent current :  $I_{CCQ} = 0.75mA$  (Typ.) ( $V_{CC} = 3V, T_a = 25^\circ C$ )
- TA7330F (SO) is standard model of flat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



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

### TEST CIRCUIT / BLOCK DIAGRAM

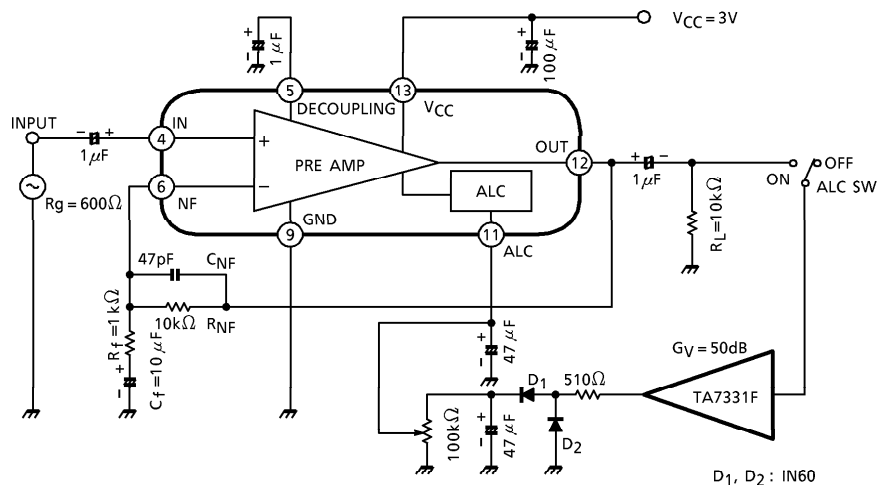
TA7330P



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TA7330F



MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Supply Voltage		V <sub>CC</sub>	8	V
Operating Supply Voltage		V <sub>CC</sub>	5	V
Power Dissipation	TA7330P	P <sub>D</sub> (Note)	400	mW
	TA7330F		350	
Operating Temperature	TA7330P	T <sub>opr</sub>	-25~75	°C
	TA7330F		-25~60	
Storage Temperature		T <sub>stg</sub>	-55~150	°C

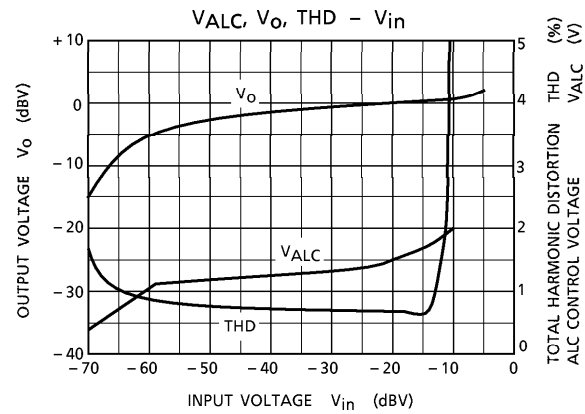
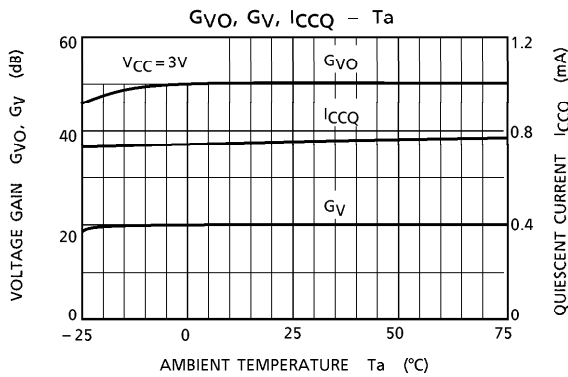
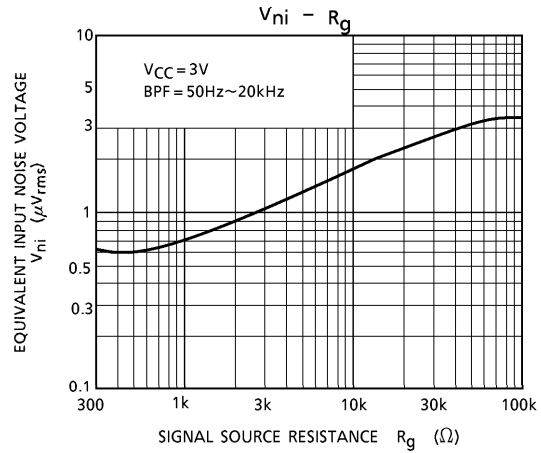
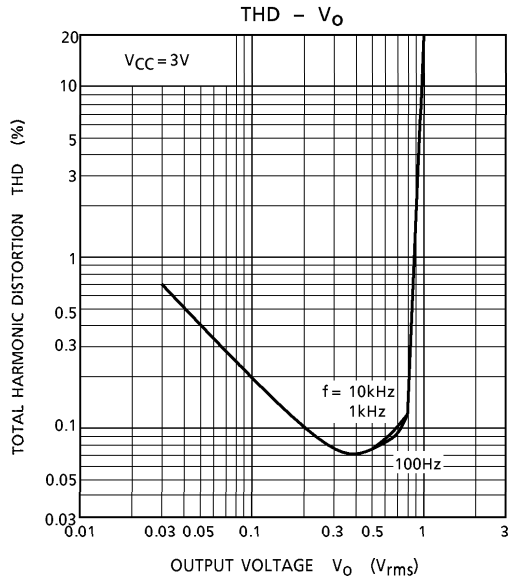
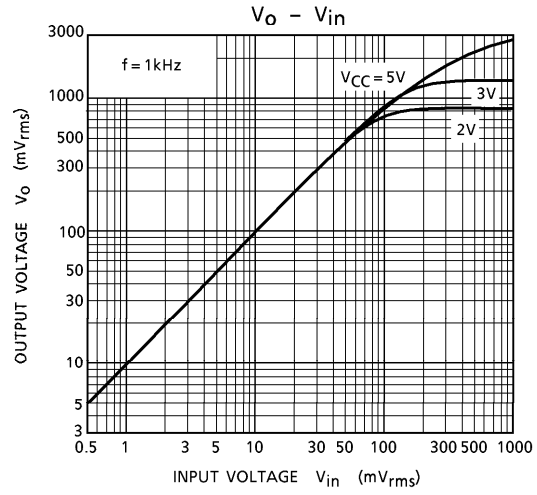
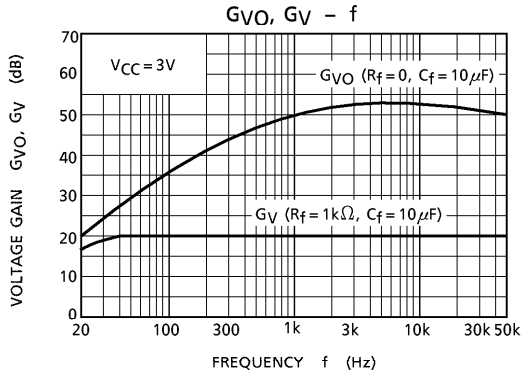
(Note) Derated above Ta = 25°C in the proportion of 3.2mW/°C for the TA7330P and 2.8mW/°C for the TA7330F.

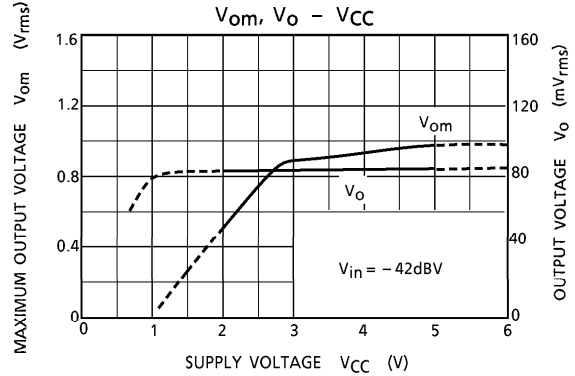
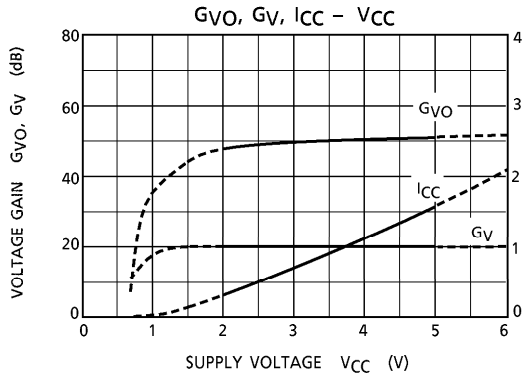
ELECTRICAL CHARACTERISTICS (Unless otherwise specified, V<sub>CC</sub> = 3V, Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Quiescent Current	I <sub>CCQ</sub> (1)	—	—	—	0.75	1	mA
	I <sub>CCQ</sub> (2)	—	V <sub>CC</sub> = 4.5V	—	1.38	1.8	
Open Loop Voltage Gain	G <sub>VO</sub>	—	f = 1kHz	40	50	—	dB
Closed Loop Voltage Gain	G <sub>V</sub>	—	f = 1kHz, R <sub>NF</sub> = 10kΩ R <sub>f</sub> = 1kΩ, R <sub>L</sub> = 10kΩ	—	20	—	dB
Maximum Output Voltage	V <sub>om</sub>	—	f = 1kHz, THD = 1%, R <sub>L</sub> = 10kΩ	0.5	0.9	—	V <sub>rms</sub>
Input Resistance	R <sub>IN</sub>	—	f = 1kHz, R <sub>NF</sub> = 10kΩ, R <sub>f</sub> = 1kΩ	—	30	—	kΩ
Equivalent Input Noise Voltage	V <sub>ni</sub>	—	R <sub>g</sub> = 2.2kΩ, BPF = 50Hz~20kHz	—	1.0	2.5	µV <sub>rms</sub>
ALC Range	W <sub>ALC</sub>	—	f = 1kHz, ALC ON	—	40	—	dB

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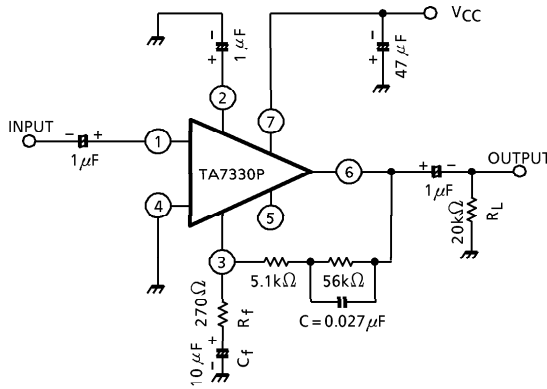
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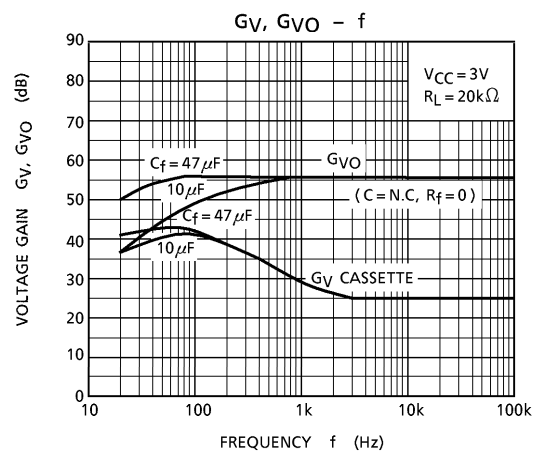
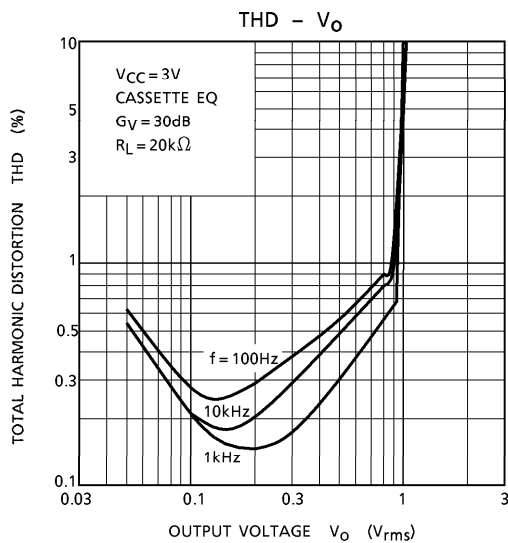
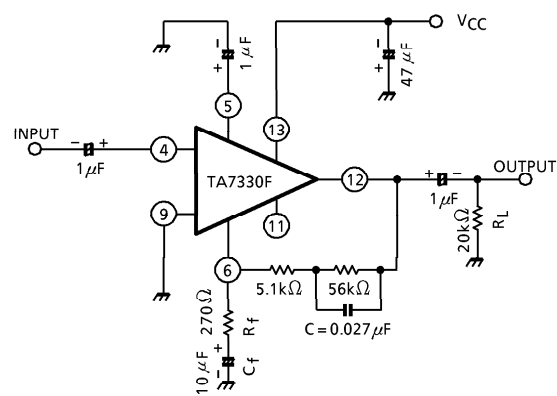


**APPLICATION CIRCUIT CASSETTE EQUALIZER**

TA7330P

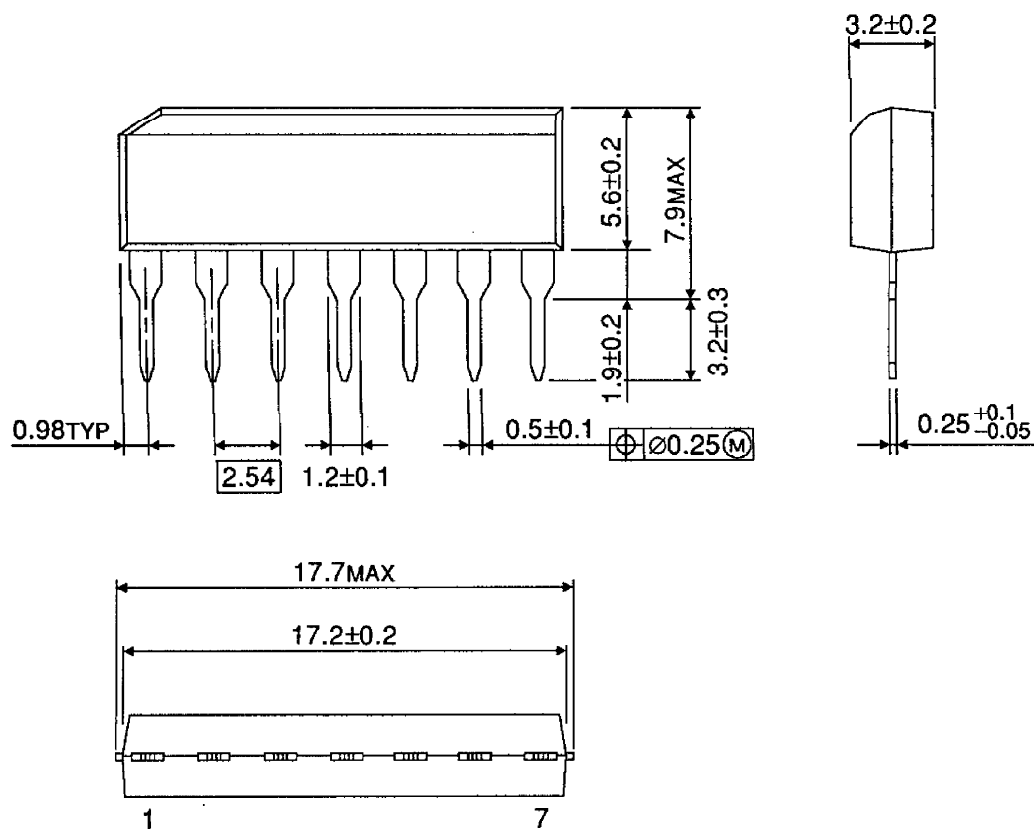


TA7330F



OUTLINE DRAWING  
SIP7-P-2.54A

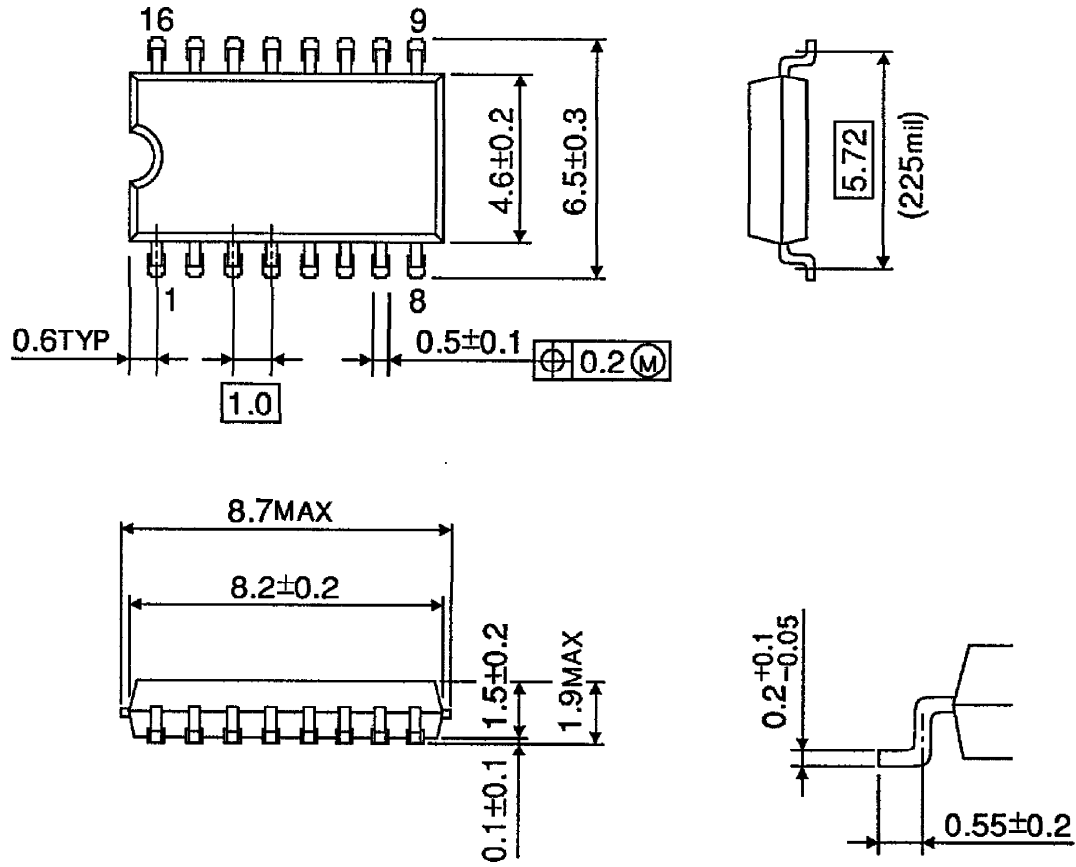
Unit : mm



Weight : 0.72g (Typ.)

OUTLINE DRAWING  
SSOP16-P-225-1.00

Unit : mm



Weight : 0.14g (Typ.)