

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA7330P, TA7330F

PREAMPLIFIER WITH ALC CIRCUIT FOR MINI / MICRO CASSETTE TAPE RECORDER

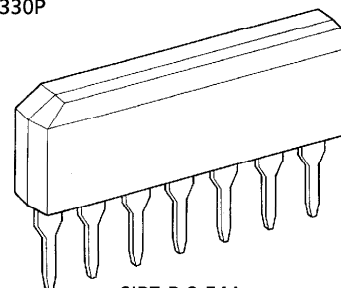
The TA7330P and TA7330F are preamplifier for 3V or 4.5V battery use.

It consists of low noise preamplifier and ALC (Automatic Level Control) circuit, and is suitable for mini / micro cassette tape recorder applications.

FEATURES

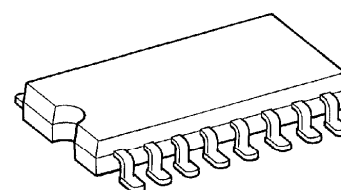
- Low supply voltage use : $V_{CC}(\text{opr}) = 2 \sim 5\text{V}$ ($T_a = 25^\circ\text{C}$)
- Low noise : $V_{ni} = 1 \mu\text{V}_{\text{rms}}$ (Typ.)
- Wide ALC range : $W_{\text{ALC}} = 40\text{dB}$ (Typ.)
- Low quiescent current : $I_{\text{CCQ}} = 0.75\text{mA}$ (Typ.)
($V_{\text{CC}} = 3\text{V}$,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

TA7330P



SIP7-P-2.54A

TA7330F (SO)



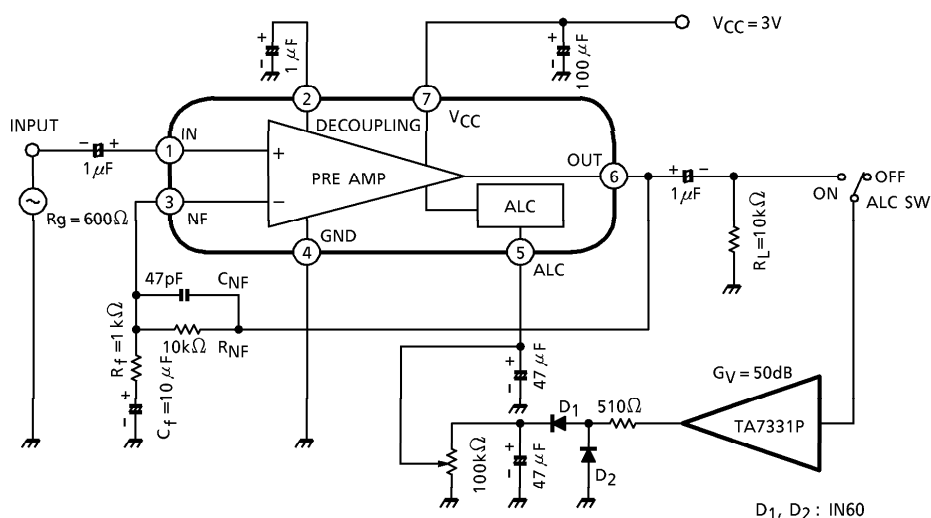
SSOP16-P-225-1.00

Weight

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

TEST CIRCUIT / BLOCK DIAGRAM

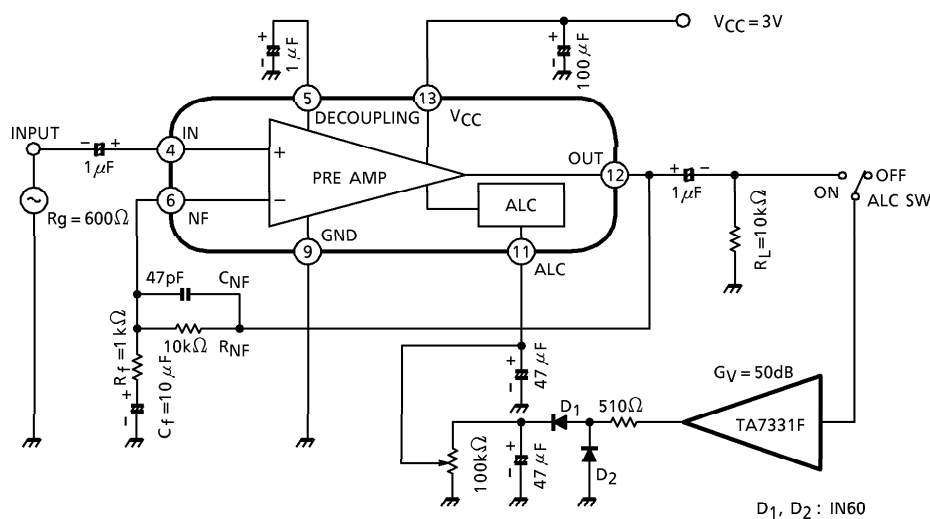
TA7330P



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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 |

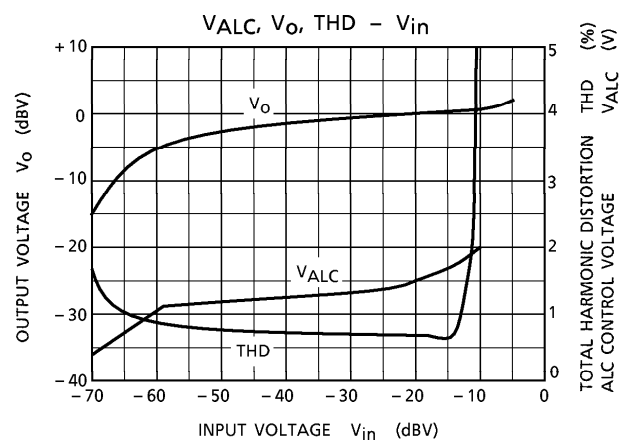
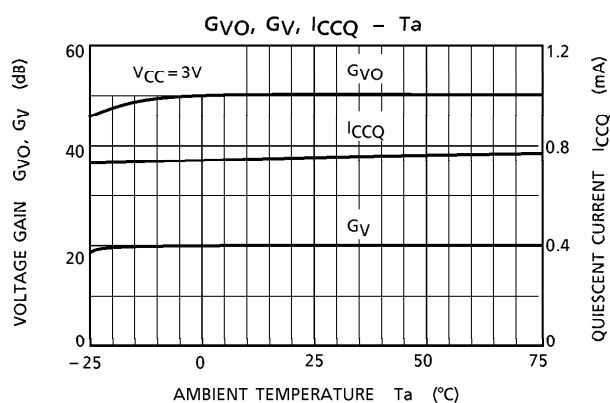
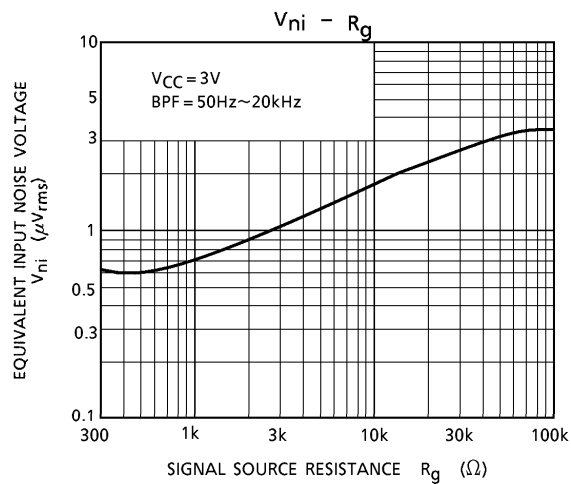
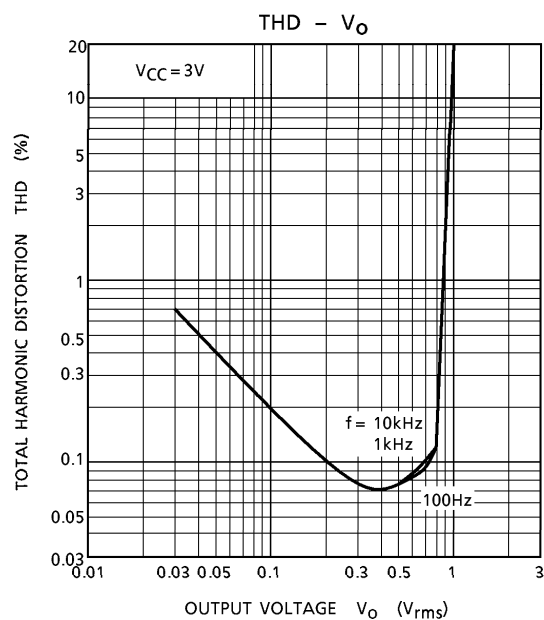
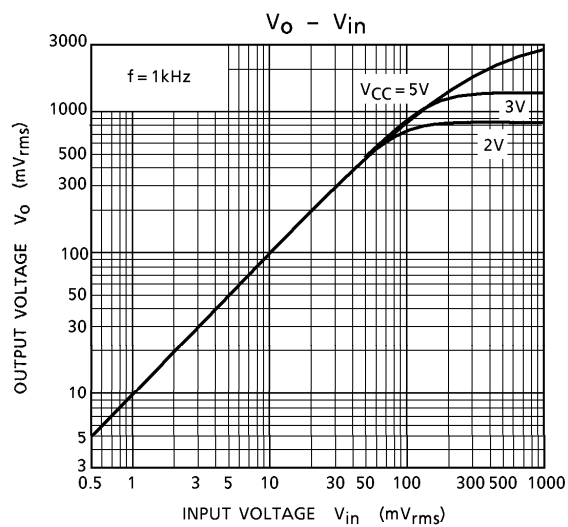
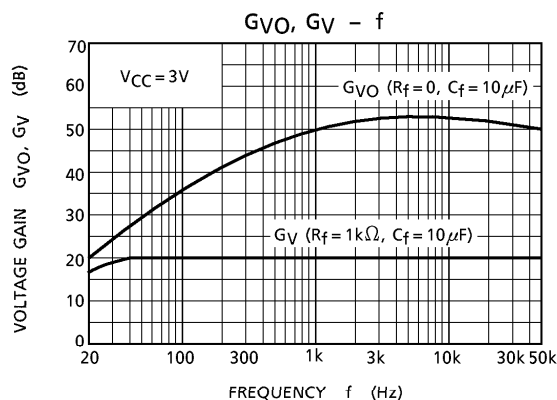
(Note) Derated above Ta = 25°C in the proportion of 3.2mW/°C for the TA7330P and 2.8mW/°C for the TA7330F.

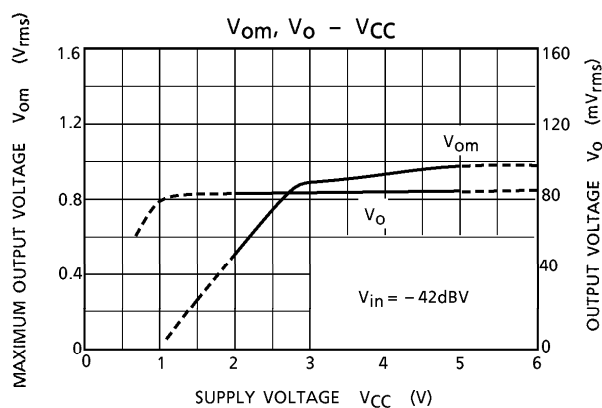
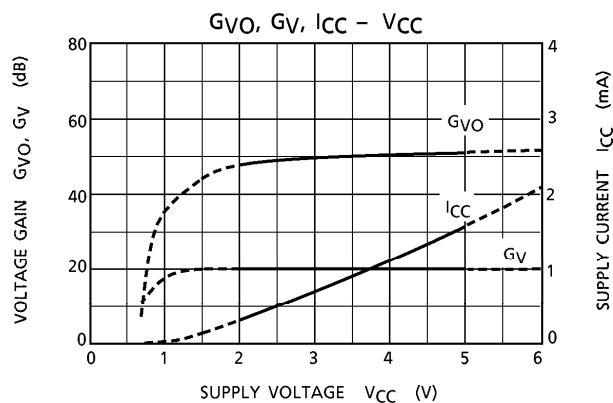
ELECTRICAL CHARACTERISTICS (Unless otherwise specified, V_{CC} = 3V, Ta = 25°C)

| 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 |

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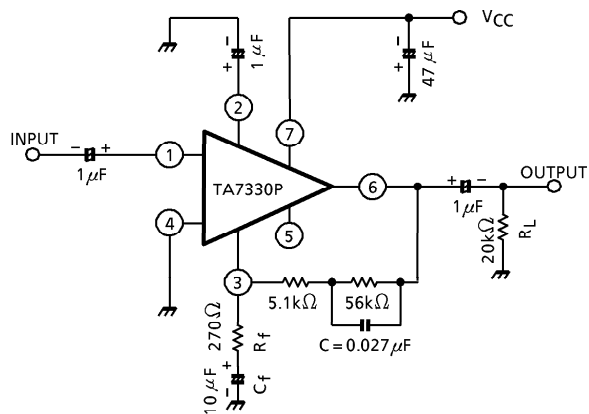
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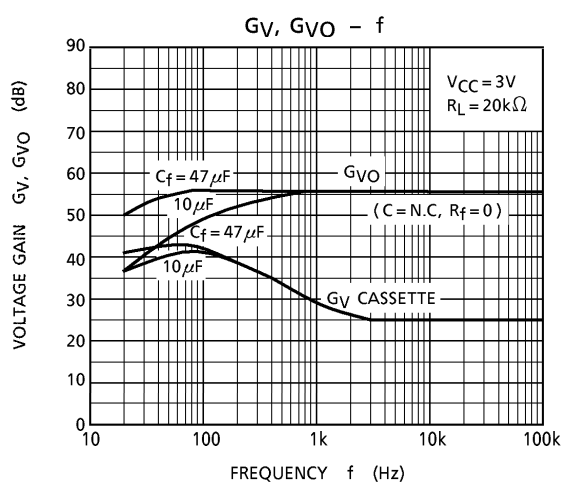
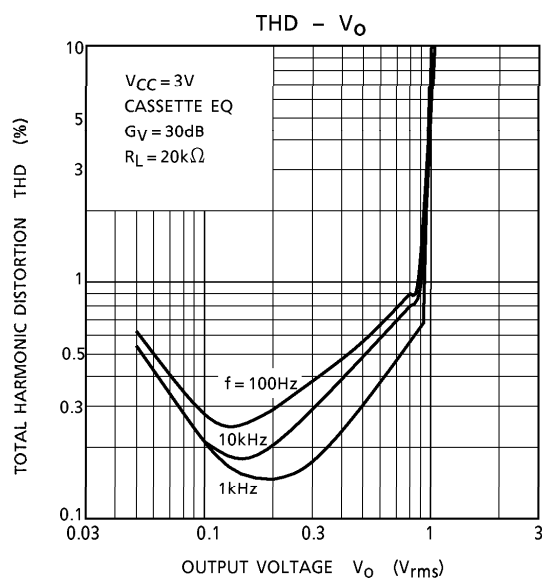
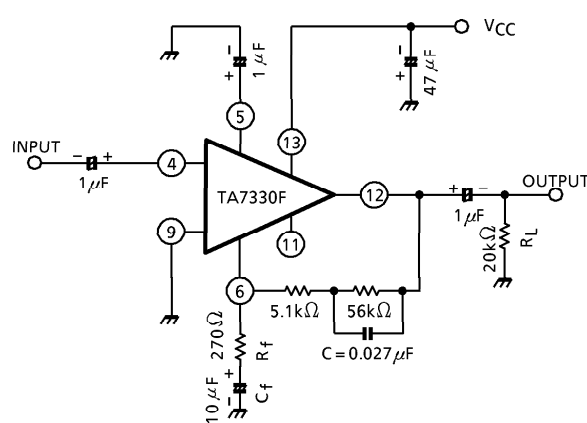


APPLICATION CIRCUIT CASSETTE EQUALIZER

TA7330P

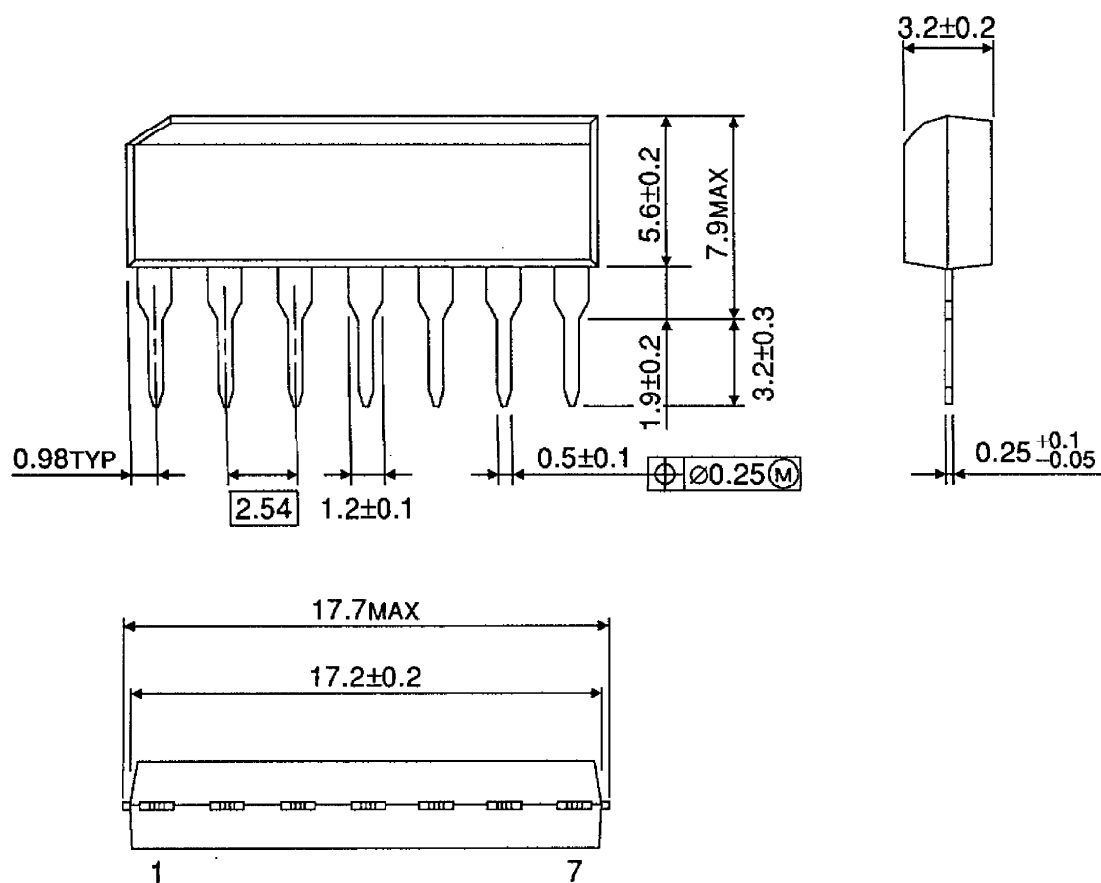


TA7330F



OUTLINE DRAWING
 SIP7-P-2.54A

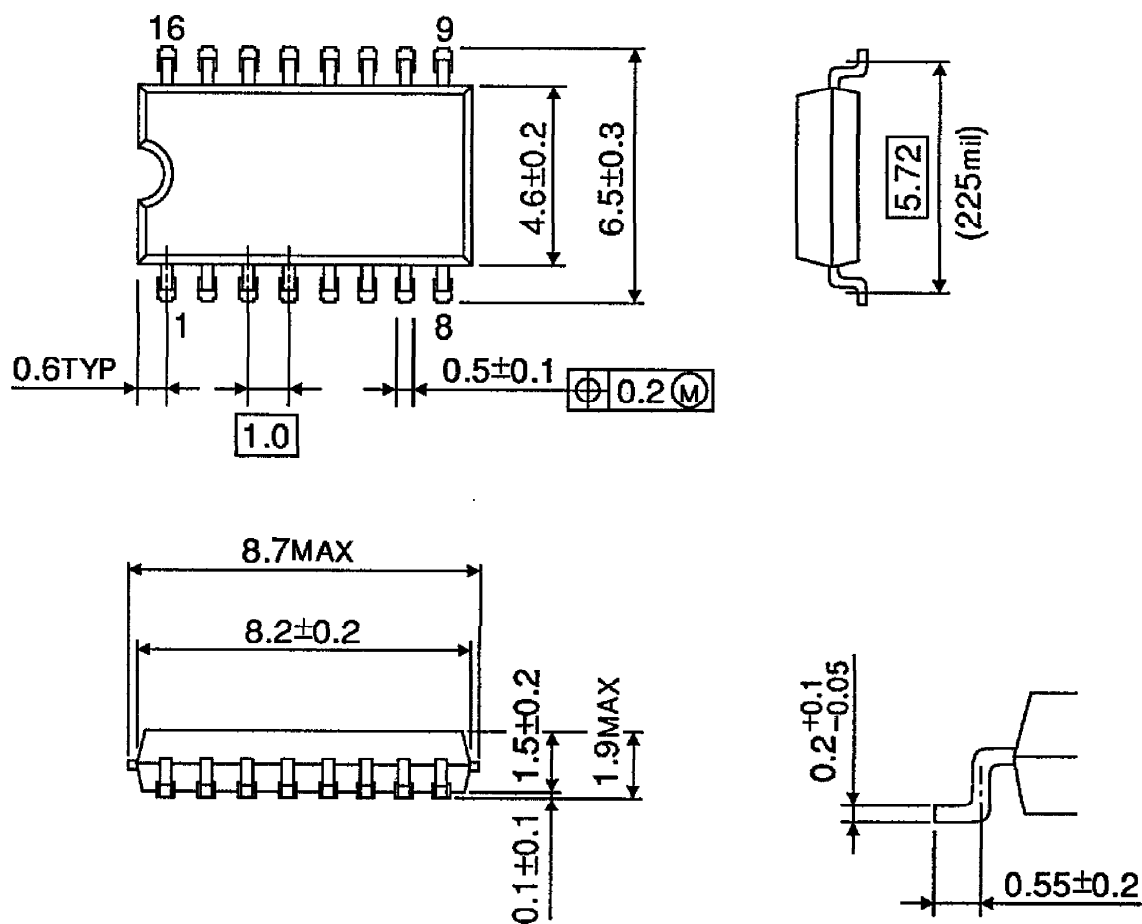
Unit : mm



Weight : 0.72g (Typ.)

OUTLINE DRAWING
SSOP16-P-225-1.00

Unit : mm



Weight : 0.14g (Typ.)