

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

**TA75062P, TA75062S, TA75062F****DUAL OPERATIONAL AMPLIFIER**

The TA75062P, TA75062S and TA75062F are J-FET input low-power operational amplifiers with low input bias and offset current and fast slew rate.

The TA75062P is pin compatible with the TA75458P and 1458. The TA75062S is single-in-line package.

It is possible to exchange the position of 9 pin for 1 pin because of pin connection being symmetric.

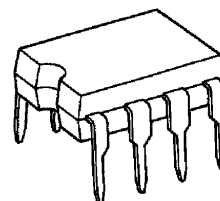
The TA75062F is mini-flat package.

The TA75062P series are excellent choice for active filters, integrators, buffers and sample-and-hold circuits.

**FEATURES**

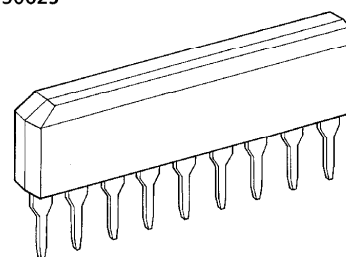
- Low Supply Current : 500 $\mu$ A MAX.
- Low Input Bias Current : 400pA MAX.
- Low Input Offset Current : 200pA MAX.
- High Slew Rate : 3.5V /  $\mu$ s
- Wide Supply Voltage Range :  $\pm 2 \sim \pm 18$ V
- Internal Frequency Compensation
- Output Short Circuit Protection

TA75062P



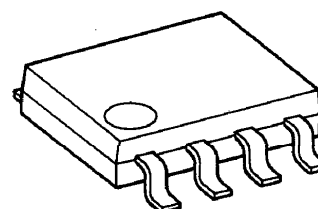
DIP8-P-300-2.54A

TA75062S



SIP9-P-2.54A

TA75062F



SOP8-P-225-1.27

**Weight**

|                 |               |
|-----------------|---------------|
| DIP8-P-300-2.54 | : 0.5g (Typ.) |
| SIP9-P-2.54A    | : 0.9g (Typ.) |
| SOP8-P-225-1.27 | : 0.1g (Typ.) |

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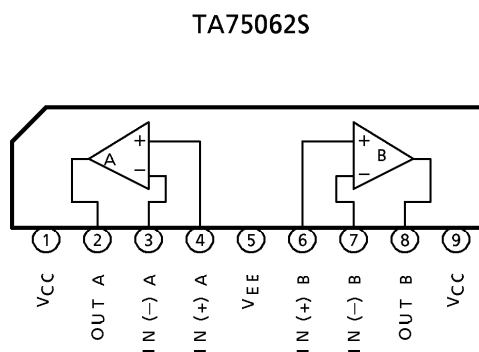
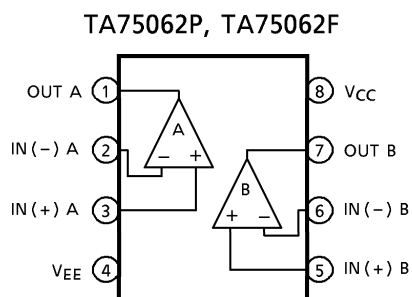
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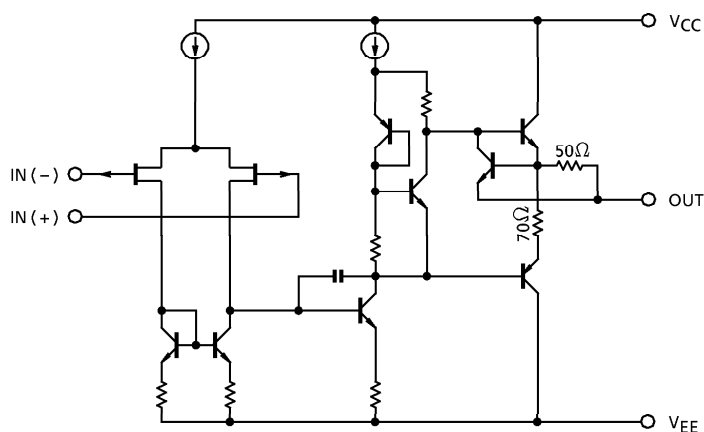
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● The information contained herein is subject to change without notice.

## PIN CONNECTION (TOP VIEW)



## EQUIVALENT CIRCUIT



## MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC             |          | SYMBOL           | RATING   | UNIT |
|----------------------------|----------|------------------|----------|------|
| Supply Voltage             |          | V <sub>CC</sub>  | 18       | V    |
|                            |          | V <sub>EE</sub>  | - 18     |      |
| Differential Input Voltage |          | DV <sub>IN</sub> | ± 30     | V    |
| Input Voltage              |          | V <sub>IN</sub>  | ± 15     | V    |
| Power Dissipation          | TA75062P | P <sub>D</sub>   | 500      | mW   |
|                            | TA75062S |                  |          |      |
|                            | TA75062F |                  | 240      |      |
| Operating Temperature      |          | T <sub>opr</sub> | - 40~85  | °C   |
| Storage Temperature        |          | T <sub>stg</sub> | - 55~125 | °C   |

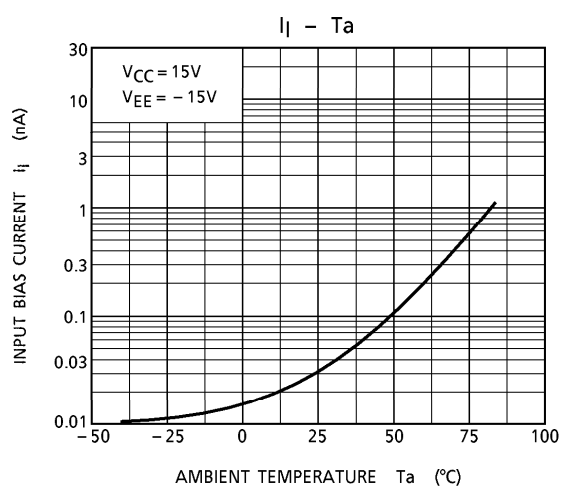
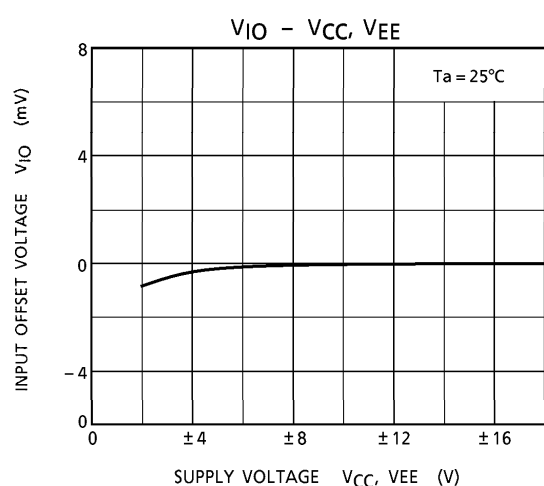
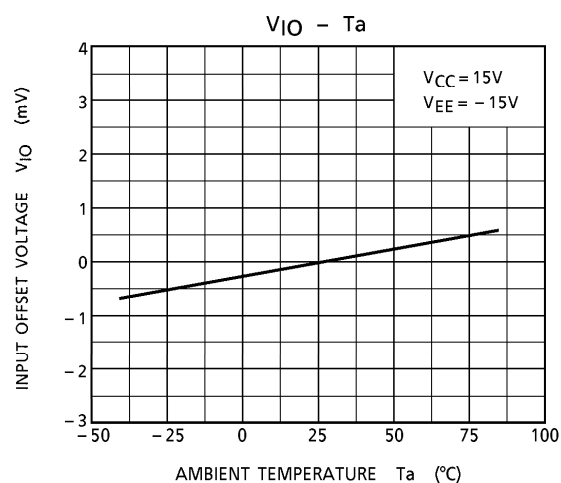
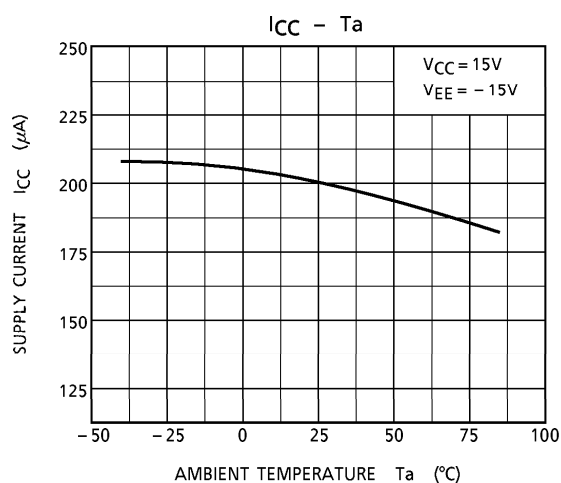
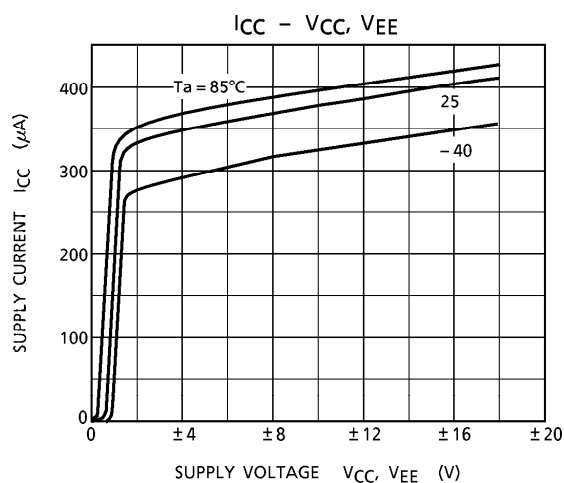
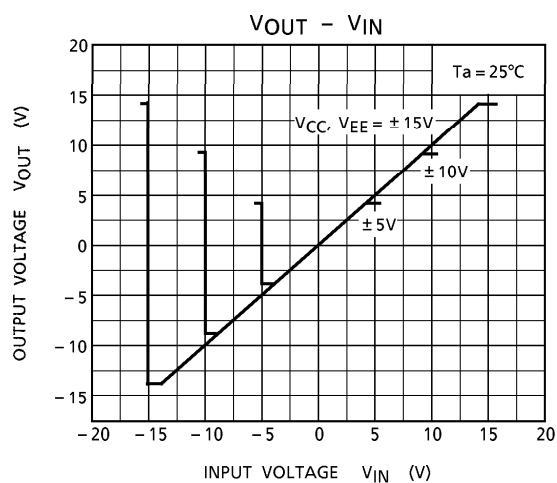
ELECTRICAL CHARACTERISTICS ( $V_{CC} = 15V$ ,  $V_{EE} = -15V$ ,  $T_a = 25^\circ C$ )

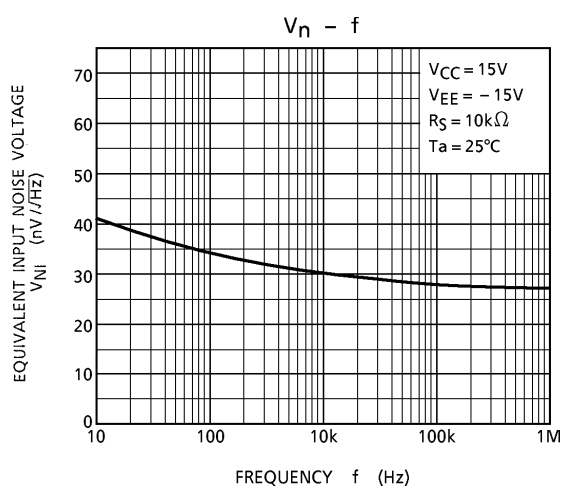
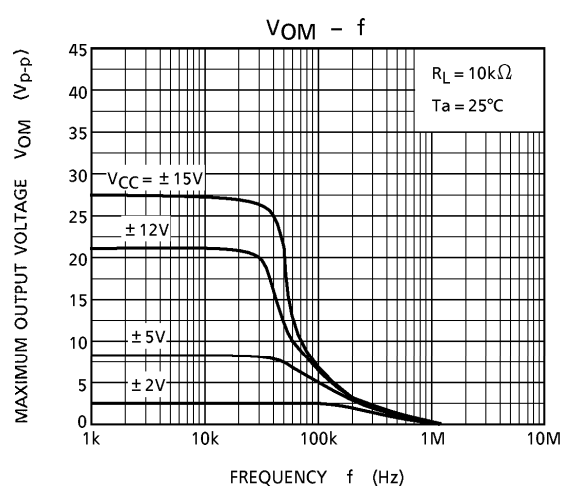
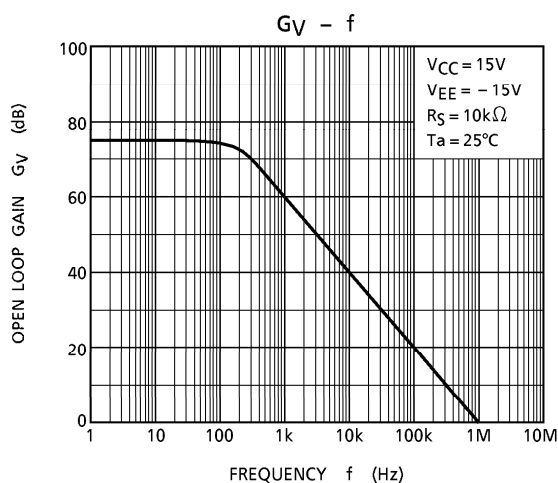
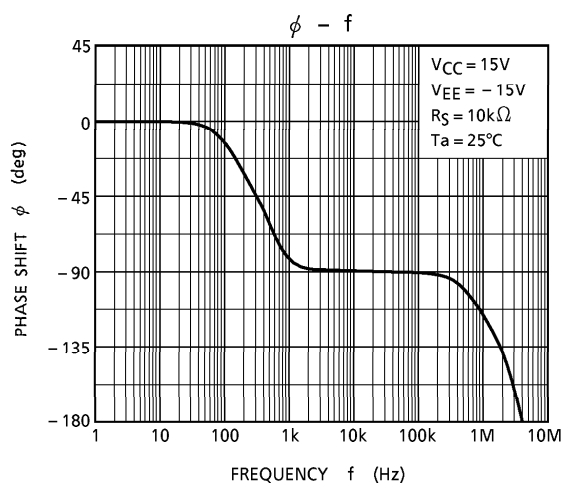
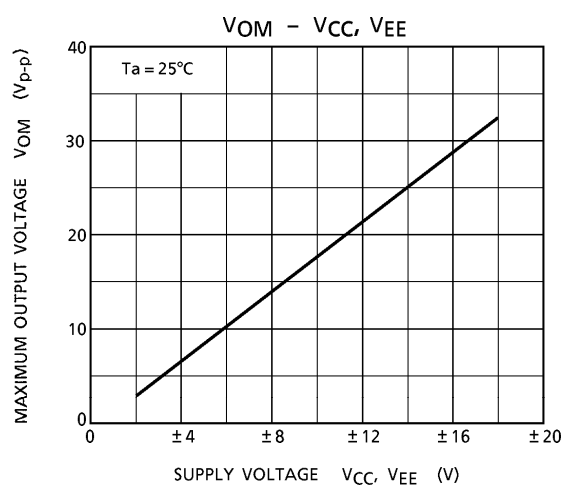
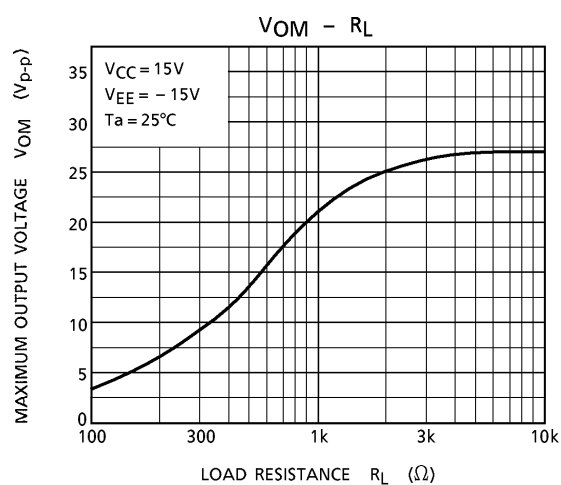
| CHARACTERISTIC                           | SYMBOL              | TEST CIR-CUIT | TEST CONDITION                          | MIN.       | TYP.      | MAX. | UNIT               |
|------------------------------------------|---------------------|---------------|-----------------------------------------|------------|-----------|------|--------------------|
| Input Offset Voltage                     | $V_{IO}$            | —             | $R_g \leq 10k\Omega$                    | —          | 3         | 15   | mV                 |
| TC Of Input Offset Voltage               | $TCV_{IO}$          | —             | —                                       | —          | 10        | —    | $\mu V / ^\circ C$ |
| Input Offset Current                     | $I_{IO}$            | —             | —                                       | —          | 5         | 200  | pA                 |
| Input Bias Current                       | $I_I$               | —             | —                                       | —          | 30        | 400  | pA                 |
| Common Mode Input Voltage                | $CMV_{IN}$          | —             | —                                       | $\pm 11.5$ | $\pm 12$  | —    | V                  |
| Maximum Output Voltage                   | $V_{OM}$            | —             | $R_L = 10k\Omega$                       | 20         | 27        | —    | $V_{p-p}$          |
| Voltage Gain (Open Loop)                 | $G_V$               | —             | $V_{OUT} = \pm 10V$ , $R_L = 10k\Omega$ | 3          | 6         | —    | V / mV             |
| Unity Gain Cross Frequency               | $f_T$               | —             | Open Loop, $R_L = 10k\Omega$            | —          | 1         | —    | MHz                |
| Input Resistance                         | $R_{IN}$            | —             | —                                       | —          | $10^{12}$ | —    | $\Omega$           |
| Common Mode Input Signal Rejection Ratio | CMRR                | —             | $R_g \leq 10k\Omega$                    | 70         | 76        | —    | dB                 |
| Supply Voltage Rejection Ratio           | SVRR                | —             | $R_g \leq 10k\Omega$                    | 70         | 76        | —    | dB                 |
| Supply Current                           | $I_{CC}$ , $I_{EE}$ | —             | Non load                                | —          | 400       | 500  | $\mu A$            |
| Cross Talk                               |                     | —             | —                                       | —          | -120      | —    | dB                 |

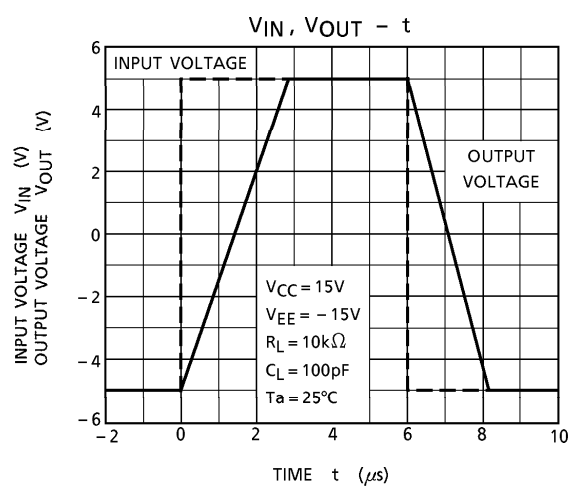
OPERATING CHARACTERISTICS ( $V_{CC} = 15V$ ,  $V_{EE} = -15V$ ,  $T_a = 25^\circ C$ )

| CHARACTERISTIC                 | SYMBOL | TEST CIR-CUIT | TEST CONDITION                                            | MIN. | TYP. | MAX. | UNIT             |
|--------------------------------|--------|---------------|-----------------------------------------------------------|------|------|------|------------------|
| Slew Rate                      | SR     | —             | $V_{IN} = 10V_{p-p}$ , $R_L = 10k\Omega$<br>$C_L = 100pF$ | —    | 3.5  | —    | V / $\mu s$      |
| Equivalent Input Noise Voltage | $V_n$  | —             | $R_S = 100\Omega$ , $f = 1kHz$                            | —    | 42   | —    | $nV / \sqrt{Hz}$ |

## CHARACTERISTICS

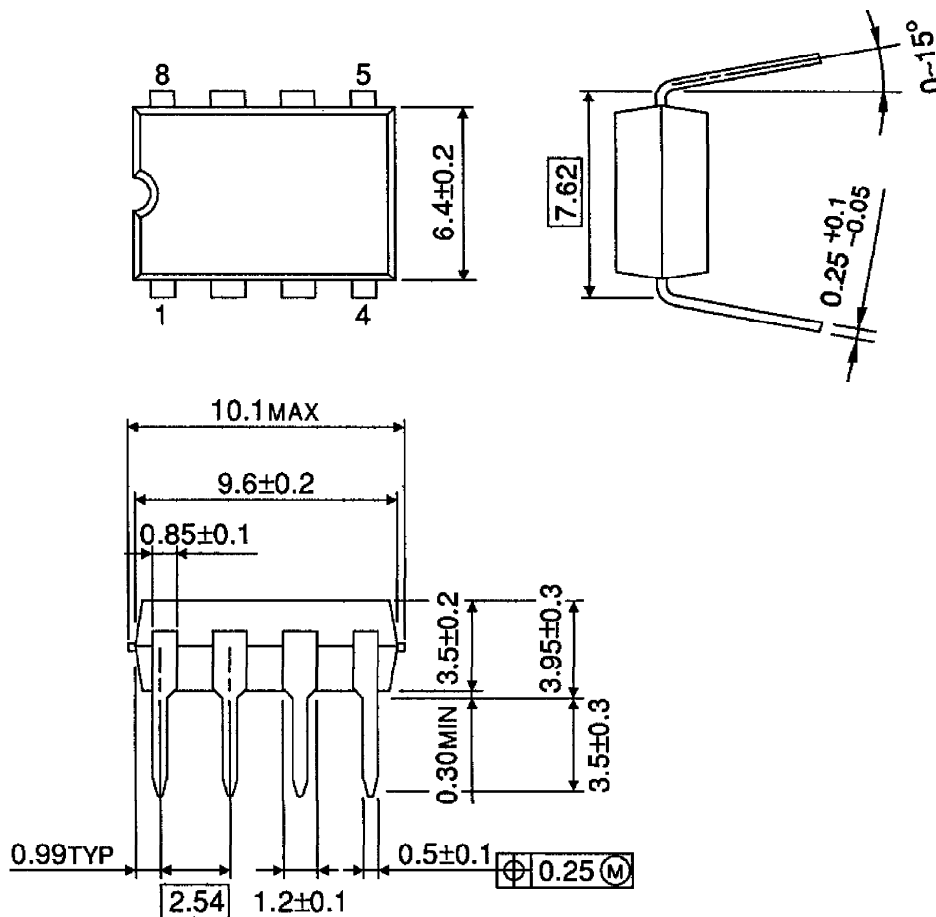






**OUTLINE DRAWING**  
DIP8-P-300-2.54A

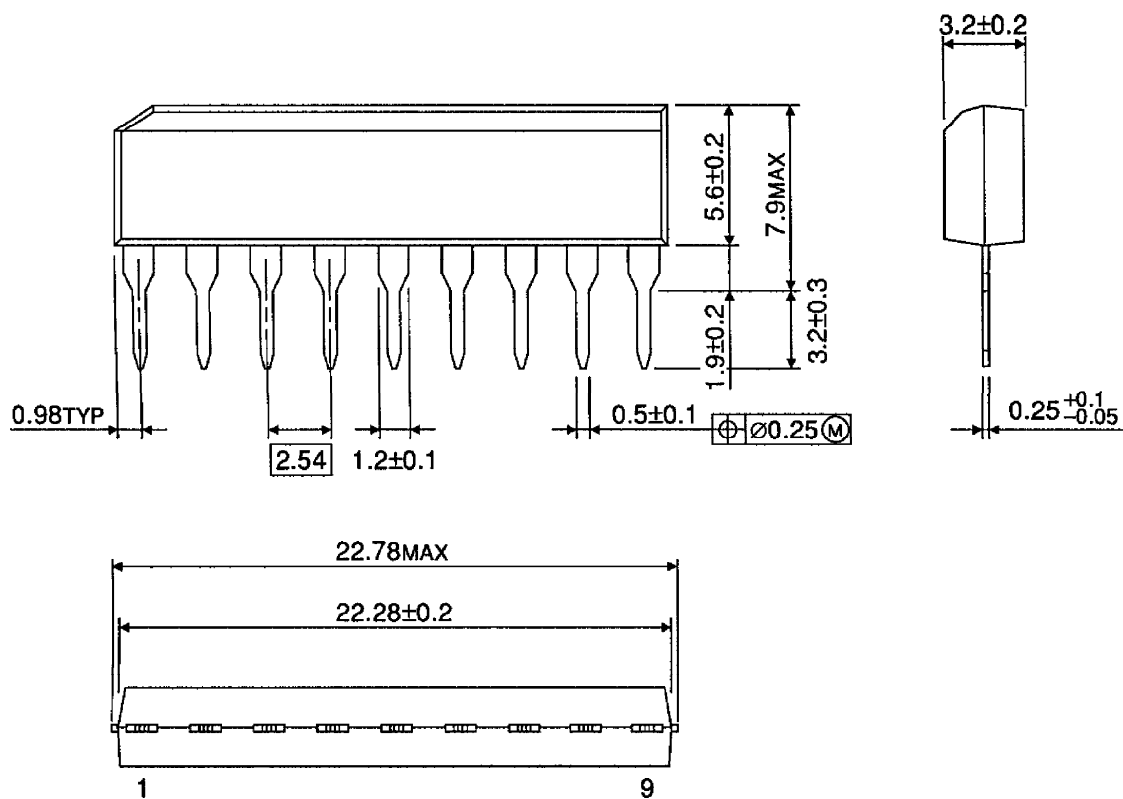
Unit : mm



Weight : 0.5g (Typ.)

**OUTLINE DRAWING**  
SIP9-P-2.54A

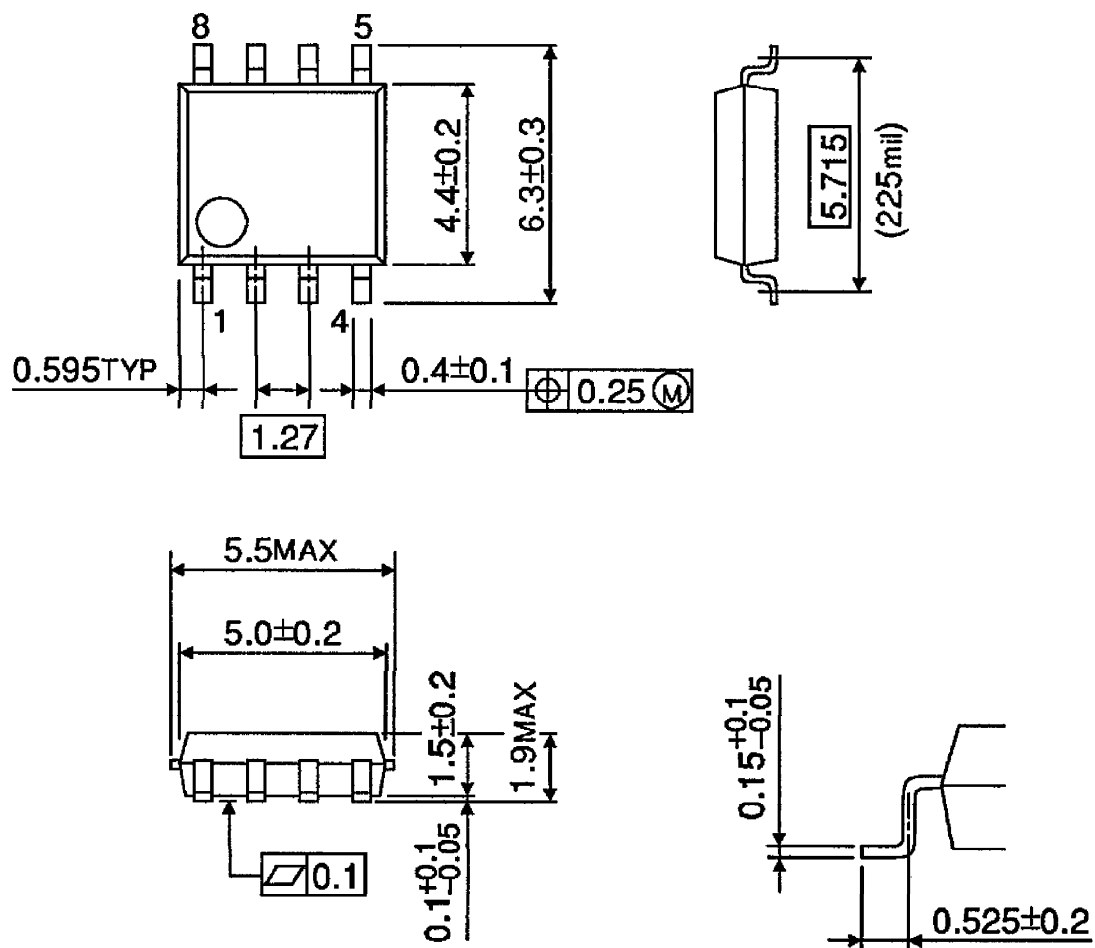
Unit : mm



Weight : 0.9g (Typ.)

OUTLINE DRAWING  
SOP8-P-225-1.27

Unit : mm



Weight : 0.1g (Typ.)