

TA75393P, TA75393PA, TA75393S, TA75393F, TA75393FB

DUAL COMPARATOR

This device consist of two independent voltage comparators that designed to operate from a single power supply over a wide range of voltage.

Normal Operation from dual supplies is also to be guaranteed on voltage range from 2 V to 36 V.

V_{CC} is necessary at least more 1.5 V than the input common mode voltage.

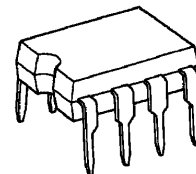
The output can be connected to other open collector outputs to achieve Wired-OR relation ship.

FEATURES

- Be possible to operate at the wide range single or two supply voltage.
2~36 V or $\pm 1\sim 18$ V
- Low supply current : 0.8 mA (Typ.)
- Low input offset voltage : ± 2 mV (Typ.)
- Wide common mode input voltage : $0\sim V_{CC} - 1.5$ V
- Output is compatible with TTL, DTL, MOS and C-MOS.
- Output is open collector and wired-OR possible.

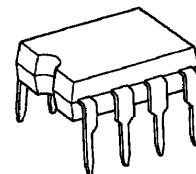
| | |
|------------------|----------------|
| Weight | |
| DIP8-P-300-2.54A | : 0.5 g (Typ.) |
| DIP8-P-300-2.54C | : 0.6 g (Typ.) |
| SIP9-P-2.54A | : 0.9 g (Typ.) |
| SOP8-P-225-1.27 | : 0.1 g (Typ.) |
| SOP8-P-225-1.27B | : 0.1 g (Typ.) |

TA75393P



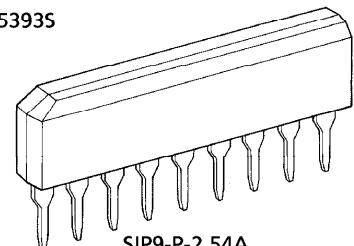
DIP8-P-300-2.54A

TA75393PA



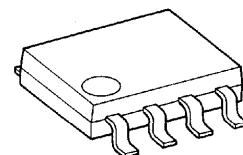
DIP8-P-300-2.54C

TA75393S



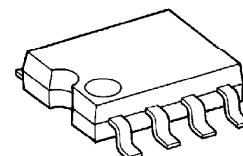
SIP9-P-2.54A

TA75393F



SOP8-P-225-1.27

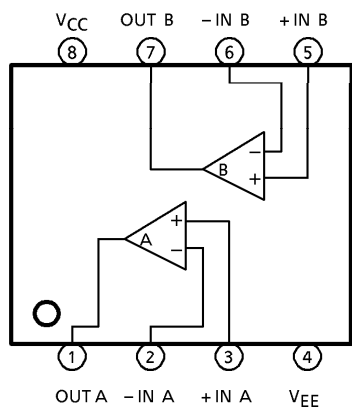
TA75393FB



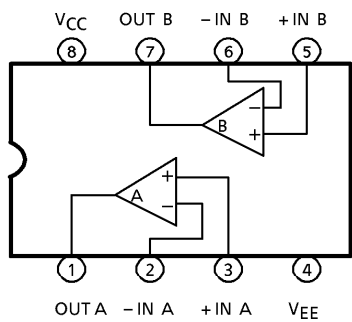
SOP8-P-225-1.27B

PIN CONNECTION (TOP VIEW)

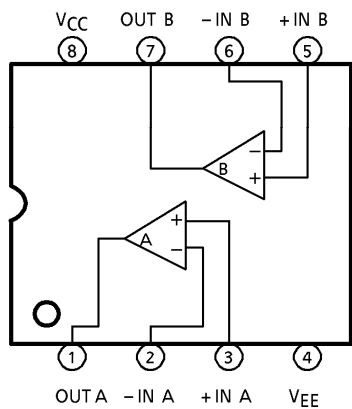
TA75393F



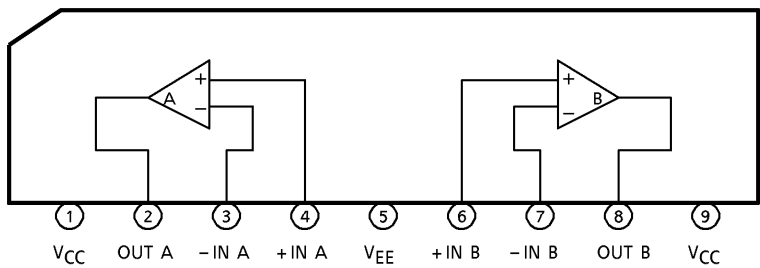
TA75393P, TA75393PA



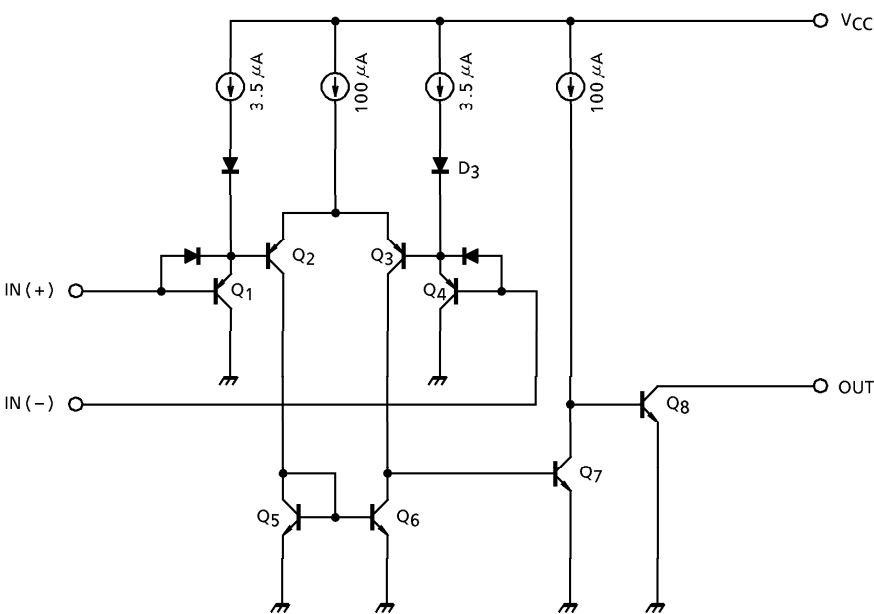
TA75393FB



TA75393S



EQUIVALENT CIRCUIT



MAXIMUM RATINGS (Ta = 25°C)

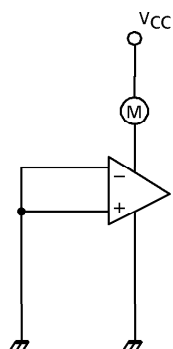
| CHARACTERISTIC | SYMBOL | TA75393P TA75393PA TA75393S | TA75393F TA75393FB | UNIT |
|----------------------------|-------------------|-----------------------------------|-----------------------|------|
| Supply Voltage | V _{CC} | ± 18 OR 36 | ± 18 OR 36 | V |
| Differential Input Voltage | DV _{IN} | ± 36 | ± 36 | V |
| Common Mode Input Voltage | CMV _{IN} | - 0.3~V _{CC} | - 0.3~V _{CC} | V |
| Power Dissipation | P _D | 500 | 240 | mW |
| Operating Temperature | T _{opr} | - 40~85 | - 40~85 | °C |
| Storage Temperature | T _{stg} | - 55~125 | - 55~125 | °C |

ELECTRICAL CHARACTERISTICS (V_{CC} = 5 V, Ta = 25°C)

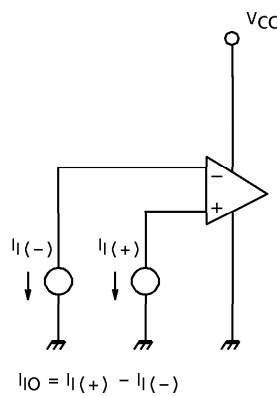
| CHARACTERISTIC | SYMBOL | TEST CIR-CUIT | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|----------------------------|-------------------|---------------|--|------|------|--------------------------|--------|
| Input Offset Voltage | V _{IO} | 4 | — | — | 2 | 5 | mV |
| Input Bias Current | I _I | 2 | — | — | 25 | 250 | nA |
| Input Offset Current | I _{IO} | 2 | — | — | 5 | 50 | nA |
| Common Mode Input Voltage | CMV _{IN} | 4 | — | 0 | — | V _{CC} - 1.5 | V |
| Voltage Gain | G _V | — | R _L = 15 kΩ | — | 200 | — | V / mV |
| Supply Current | I _{CC} | 1 | No load | — | 0.8 | 2 | mA |
| Sink Current | I _{SINK} | 5 | IN (+) = 0 V, IN (-) = 1 V V _{OL} = 1.5 V | 6 | 16 | — | mA |
| Output Voltage ("L" Level) | V _{OL} | 5 | IN (+) = 0 V, IN (-) = 1 V I _{SINK} = 3 mA | — | 0.2 | 0.4 | V |
| Output Leak Current | I _{LEAK} | 3 | IN (+) = 1 V, IN (-) = 0 V V _O = 5 V | — | 0.1 | — | nA |
| Response Time | t _{rsp} | 6 | R _L = 5.1 kΩ, C _L = 15 pF | — | 1.3 | — | μs |

TEST CIRCUIT

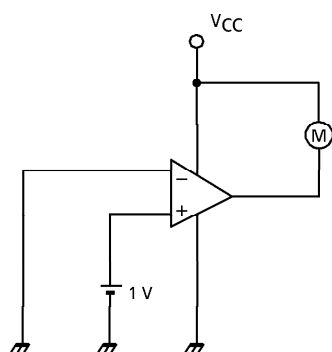
(1) I_{CC}



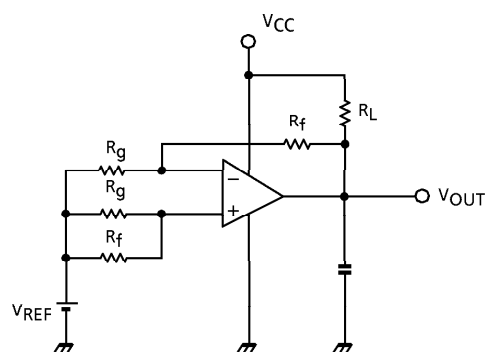
(2) I_I, I_{IO}



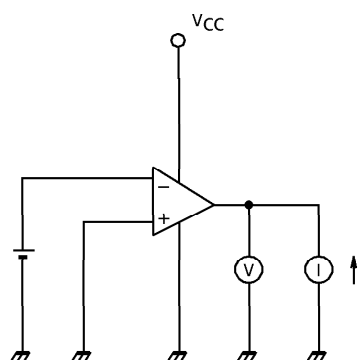
(3) I_{LEAK}



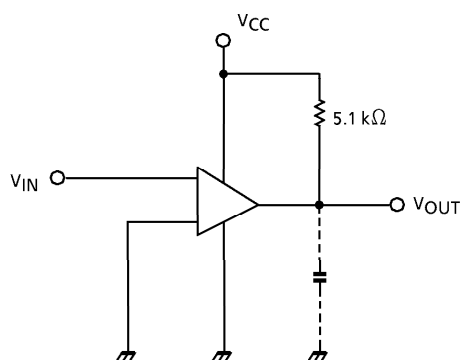
(4) V_{IO}, CMV_{IN}



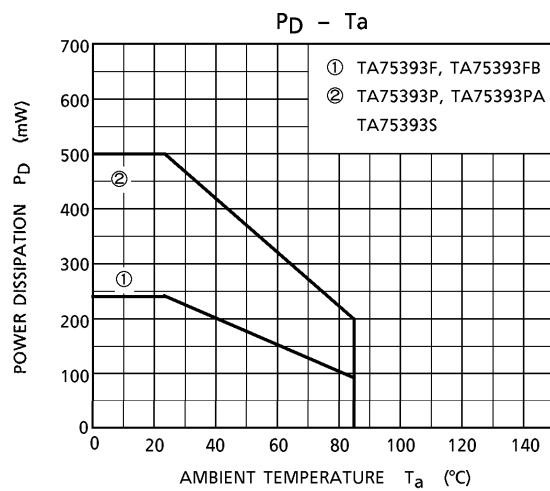
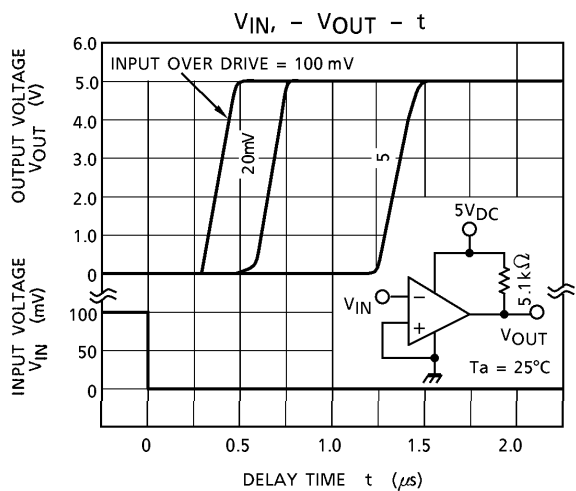
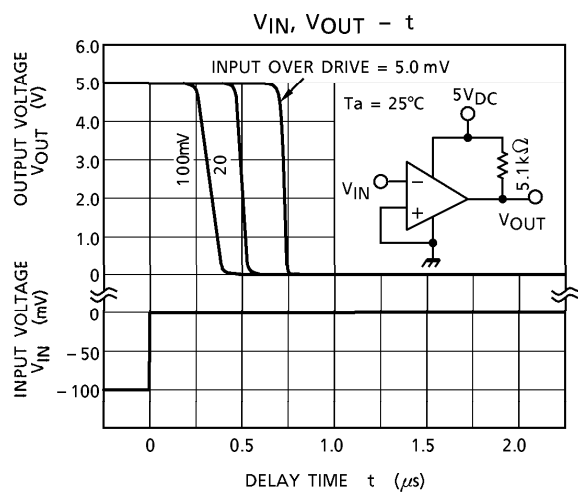
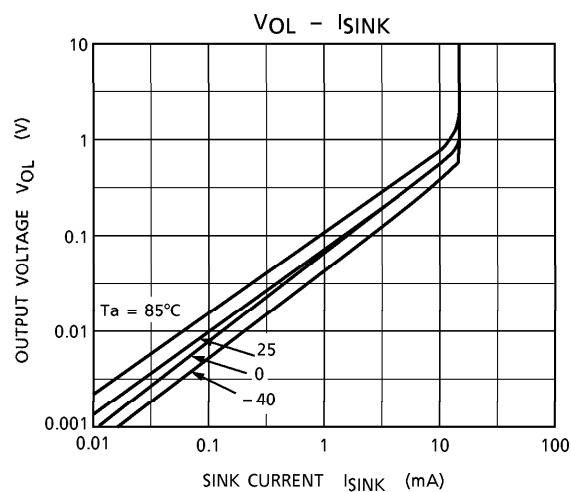
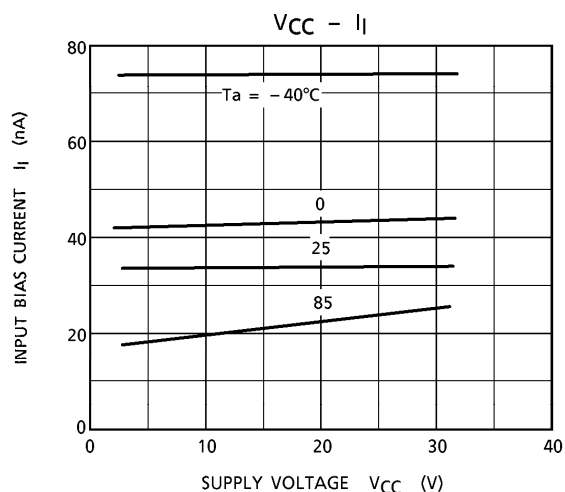
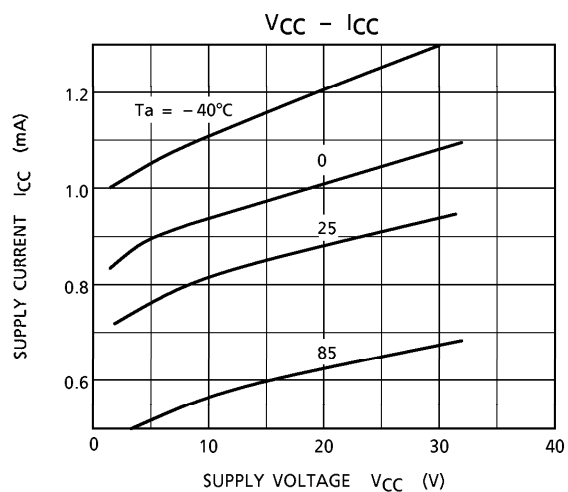
(5) I_{SINK}, V_{OL}



(6) t_{rsp}



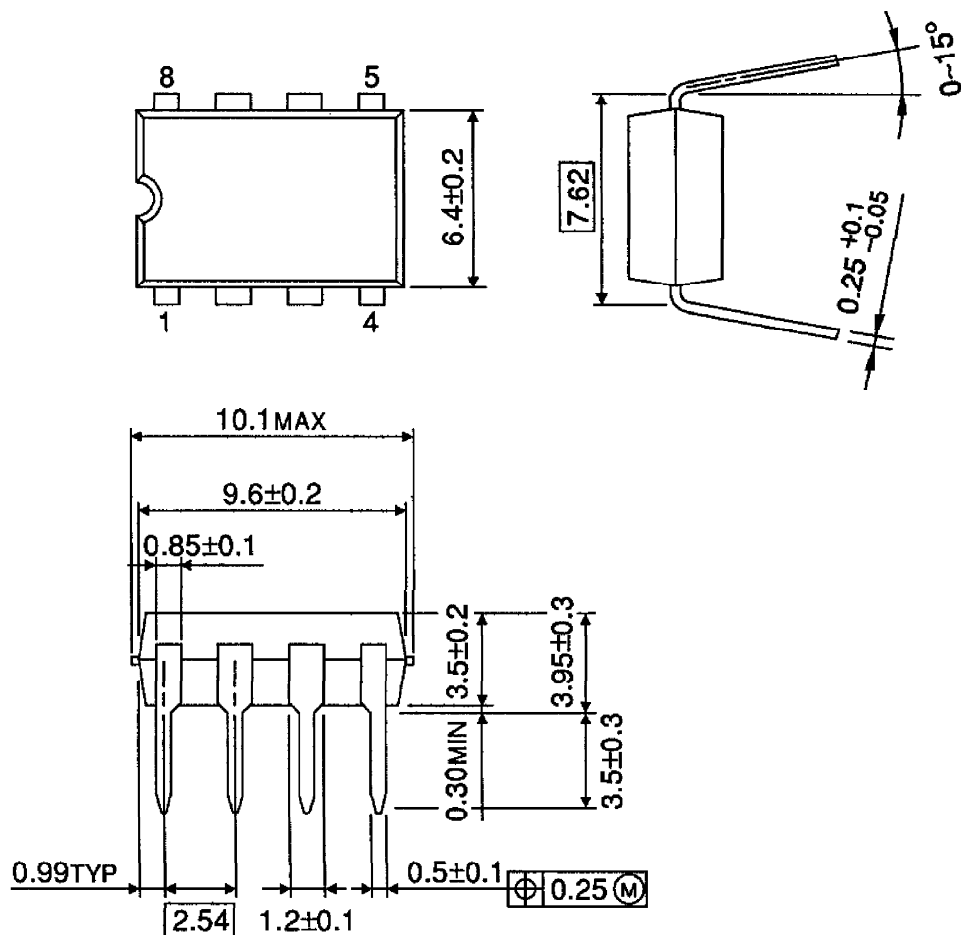
CHARACTERISTICS



PACKAGE DIMENSIONS

DIP8-P-300-2.54A

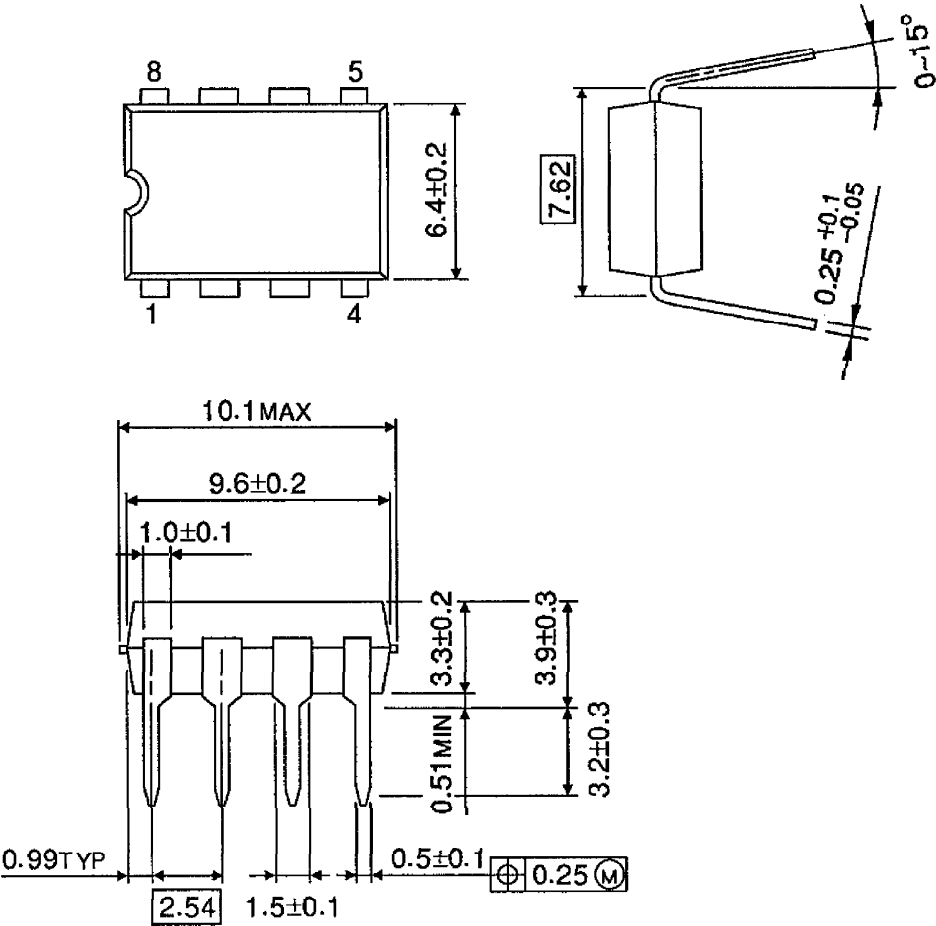
Unit : mm



Weight : 0.5 g (Typ.)

PACKAGE DIMENSIONS
DIP8-P-300-2.54C

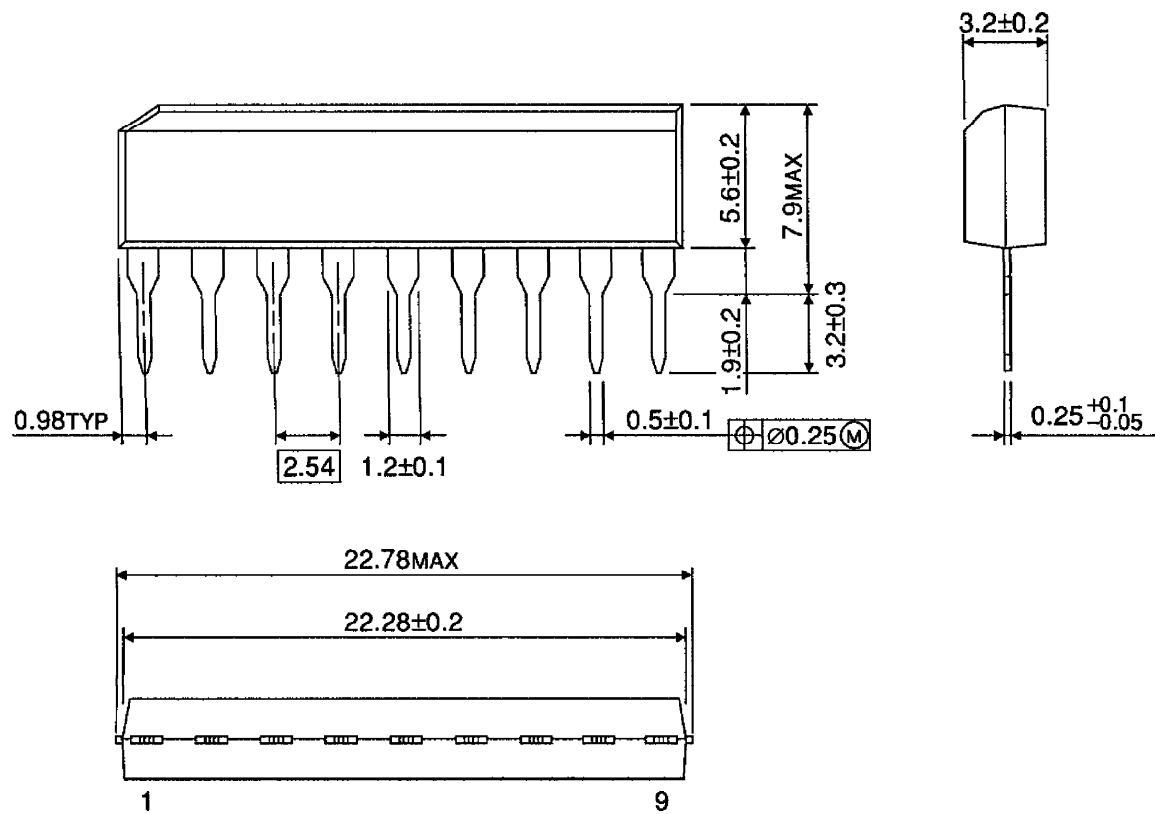
Unit : mm



Weight : 0.6 g (Typ.)

PACKAGE DIMENSIONS
SIP9-P-2.54A

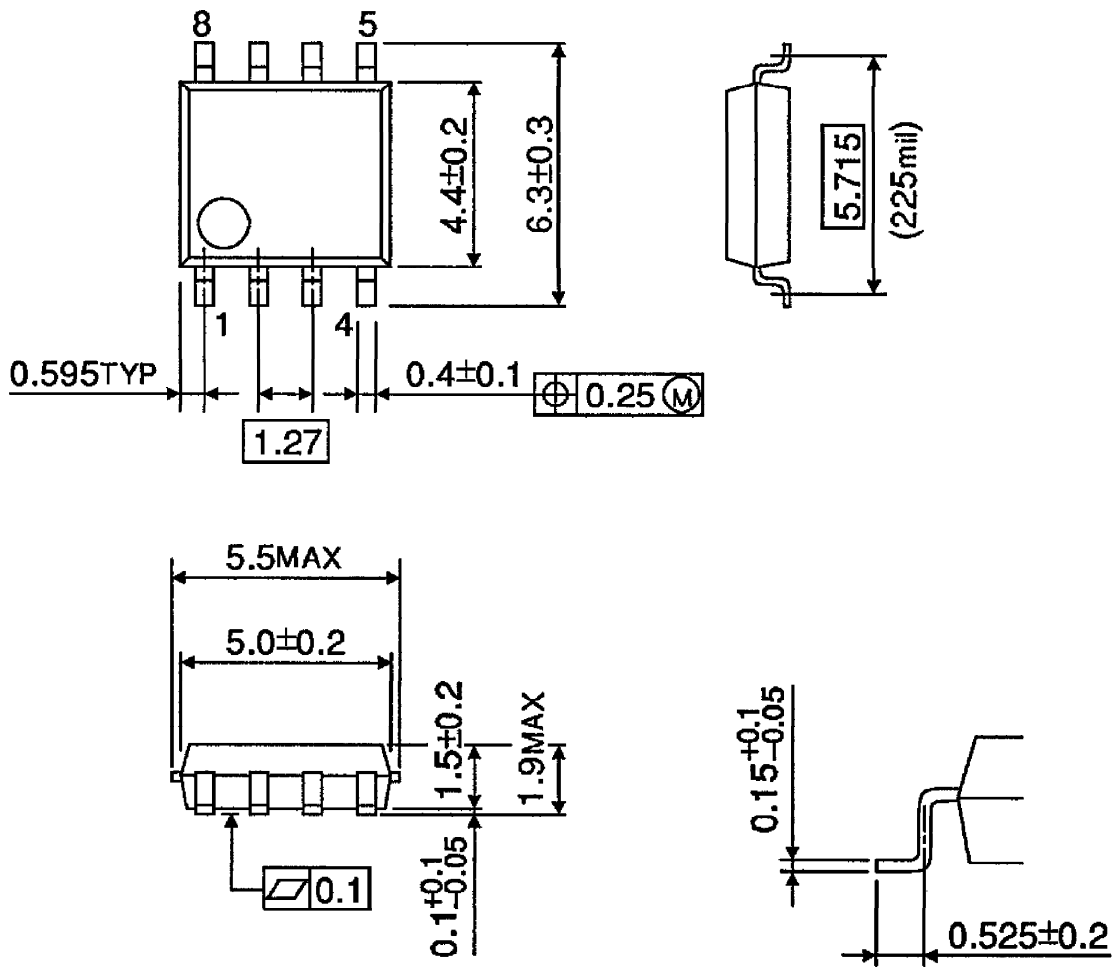
Unit : mm



Weight : 0.9 g (Typ.)

PACKAGE DIMENSIONS
SOP8-P-225-1.27

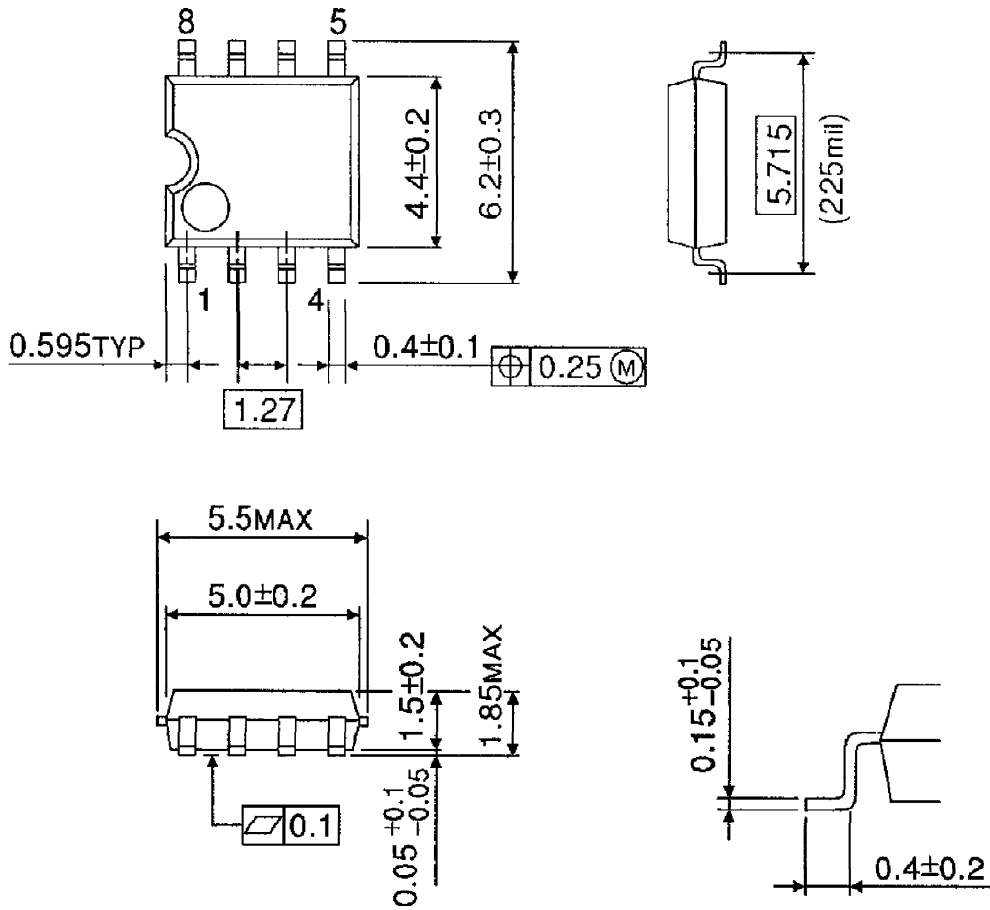
Unit : mm



Weight : 0.1 g (Typ.)

PACKAGE DIMENSIONS
SOP8-P-225-1.27B

Unit : mm



Weight : 0.1 g (Typ.)

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000707EBA

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