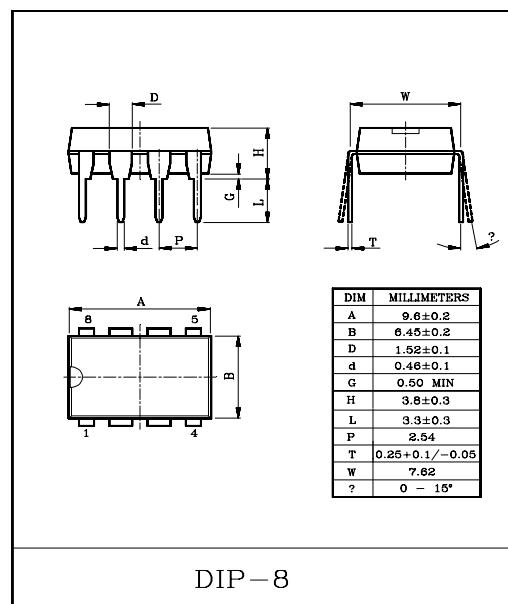


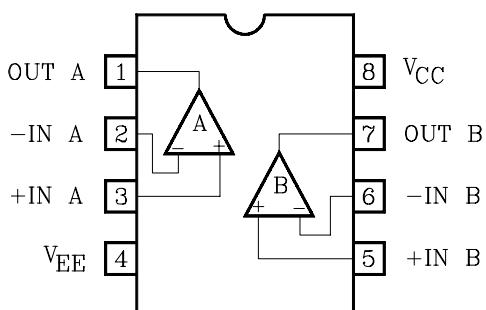
DUAL LOW NOISE OPERATIONAL AMPLIFIER

- Wide Band Decompensated ($A_v \geq 20\text{dB}$)
- Possible to Exchange the Position of Pin ⑨ for Pin ① Because of Pin Connection Being Symmetric. (KIA4559S Device Only)
- Pin ① and Pin ⑨ of lead frame was each other connected (KIA4559S Only).
- Wide Band Range : $f_T=5\text{MHz}$ (Typ.)
- Suitable Application for Active Filter, Equalizer Amp. and Headphone Amp.

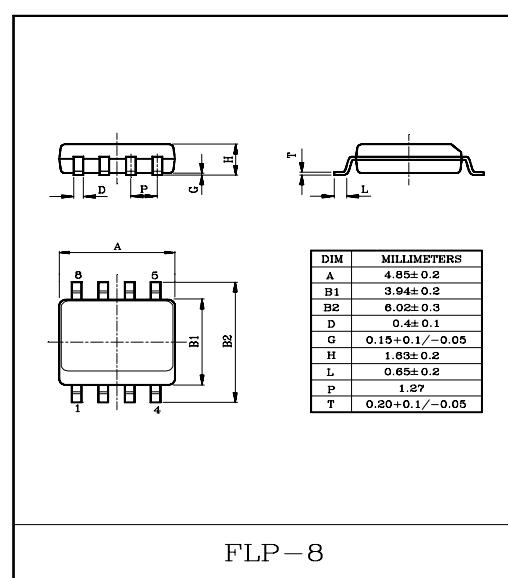
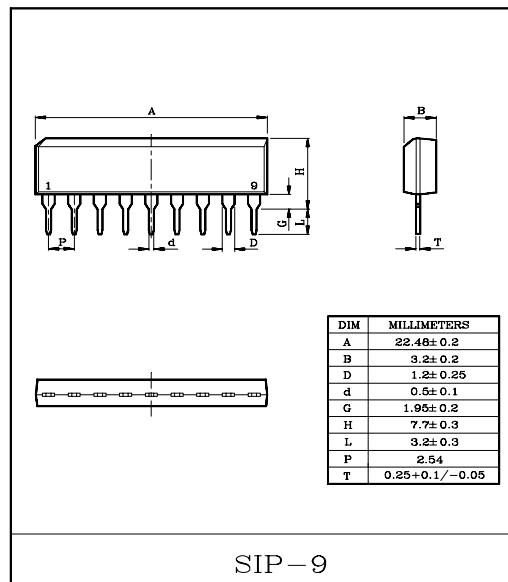
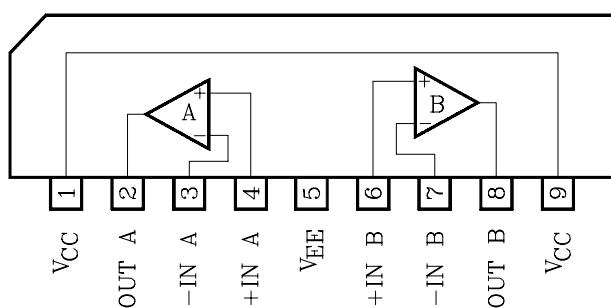


PIN CONNECTION (TOP VIEW)

KIA4559P, KIA4559F



KIA4559S

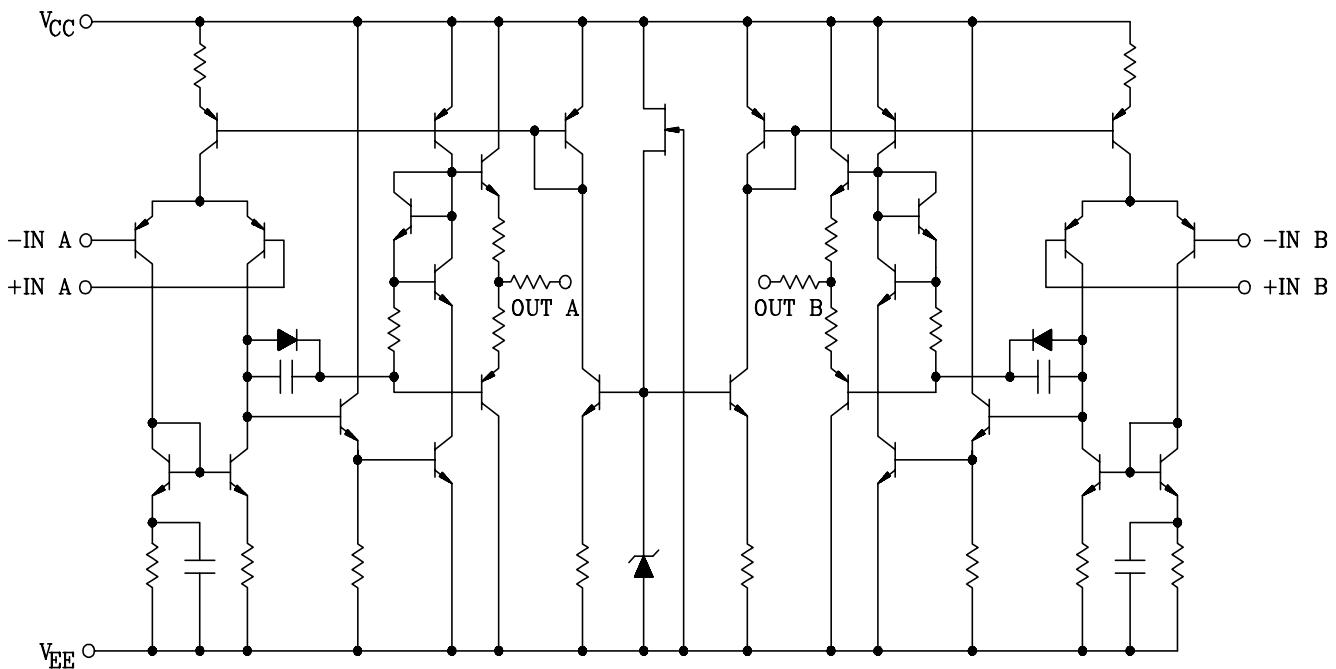


KIA4559P/S/F

MAXIMUM RATINGS (Ta=25°C)

| CHARACTERISTIC | | SYMBOL | RATING | UNIT |
|-----------------------------------|----------|------------------------------------|----------------------------------|------|
| Supply Voltage | | V _{CC} V _{EE} | 36, +18 or 0, -18 | V |
| Differential Input Voltage | | D _{VIN} | ±30 | V |
| Input Voltage | | V _{IN} | V _{CC} ~V _{EE} | V |
| Power Dissipation | KIA4559P | P _D | 500 | mW |
| | KIA4559S | | 240 | |
| | KIA4559F | | | |
| Operating Temperature | | T _{opr} | -40~85 | °C |
| Storage Temperature | | T _{stg} | -55~125 | °C |
| Pin ① to Pin ⑨ Maximum Current | KIA4559S | I _{max} | 1 | A |

EQUIVALENT CIRCUIT



KIA4559P/S/F

ELECTRICAL CHARACTERISTICS (V_{CC}=15V, V_{EE}=-15V, Ta=25°C)

| CHARACTERISTIC | SYMBOL | TEST CIRCUIT | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|--|-----------------------------------|--------------|---|------|------|------|-------------------|
| Input Offset Voltage | V _{IO} | - | R _g ≤10kΩ | - | 0.5 | 6 | mV |
| Input Offset Current | I _{IO} | - | - | - | 5 | 200 | nA |
| Input Bias Current | I _I | - | - | - | 60 | 500 | nA |
| Common Mode Input Voltage | CMV _{IN} | - | - | ±12 | ±14 | - | V |
| Maximum Output Voltage | V _{OM} | - | R _L =10kΩ | ±12 | ±14 | - | V |
| | V _{OMR} | | R _L =2kΩ | ±10 | ±13 | - | |
| Source Current | I _{source} | - | - | - | 40 | - | mA |
| Sink Current | I _{sink} | - | - | - | 40 | - | mA |
| Voltage Gain (Open Loop) | G _V | - | V _{OUT} =±10V, R _L =2kΩ | 86 | 100 | - | dB |
| Common Mode Input Signal Rejection Ratio | CMRR | - | R _g ≤10kΩ | 70 | 90 | - | dB |
| Supply Voltage Rejection Ratio | SVRR | - | R _g ≤10kΩ | - | 30 | 150 | µV/V |
| Slew Rate | SR | - | G _V =1, R _L =2kΩ | - | 2.0 | - | V/µS |
| Unity Gain Cross Frequency | f _T | - | Open Loop | - | 5.0 | - | MHz |
| Supply Current | I _{CC} , I _{EE} | - | - | - | 4.0 | 6.0 | mA |
| Equivalent Input Noise Voltage | V _{NI} | - | R _S =1kΩ, f=30Hz~30kHz | - | 2.5 | - | µV _{rms} |

KIA4559P/S/F

