Operational Amplifiers / Comparators

Op amp Circuit Collection

No.11049EAY01

Low Noise Operational Amplifiers

BA4558F, BA4558R F/FV/FVM, BA4560F, BA4560R F/FV/FVM, BA4564RFV
BA4580R F/FVM, BA4584FV, BA4584R F/FV, BA8522R F/FV/FVM
BA15218F, BA14741F, BA15532F, BA4510F/FV, BA2115F/FVM

Ground Sense Operational Amplifiers

BA10358F/FV, BA10324AF/FV, BA2904S F/FV/FVM, BA2904F/FV/FVM
BA2902SF/FV/KN, BA2902F/FV/KN, BA3404F/FVM

High Speed with Low Voltage CMOS Operational Amplifiers

Input-Output Full Swing
BU7291G, BU7291SG, BU7255HFV, BU7255SHFV

Ground sense
BU7495HFV, BU7495SHFV, BU7481G, BU7481SG
BU7485G, BU7485SG, BU5281G, BU5281SG

Automotive Operational Amplifiers : Ground Sense

BA2904YF-C,BA2904YFVM-C,BA2902YF-C,BA2902YFV-C

●Examples of circuits

○Voltage follower

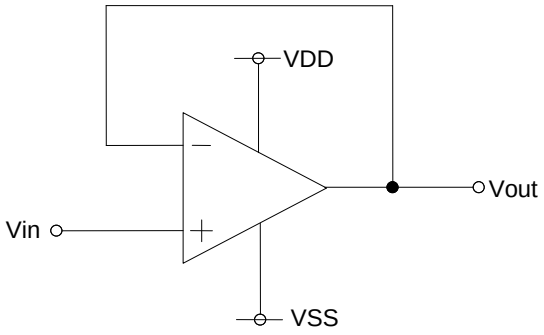

Fig.1 Voltage follower circuit

Voltage gain is 0 [dB].
This circuit controls output voltage (Vout) equal input voltage (Vin), and keeps Vout with stable because of high input impedance and low output impedance.
Vout is shown next formula.
Vout=Vin

○Inverting amplifier

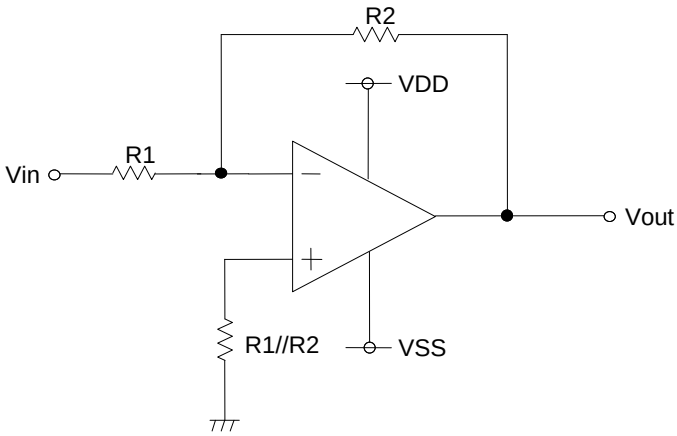

Fig.2 Inverting amplifier circuit

For inverting amplifier, Vi(b) Derating curve voltage gain decided R1 and R2, and phase reversed voltage is outputted.
Vout is shown next formula.
Vout=-(R2/R1)・Vin
Input impedance is R1.

○Non-inverting amplifier

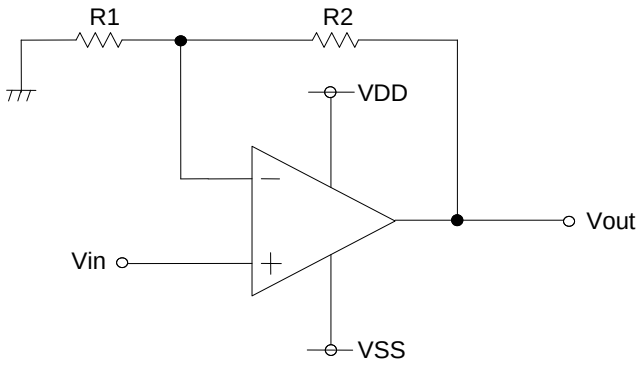

Fig.3 Non-inverting amplifier circuit

For non-inverting amplifier, Vin is amplified by voltage gain decided R1 and R2, and phase is same with Vin.
Vout is shown next formula.
Vout=(1 + R2/R1)・Vin
This circuit realizes high input impedance because Input impedance is operational amplifier's input Impedance.

Notes

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