

SG1660

SG1760

The SG1660 is a superior, functional, and pin for pin, replacement for the 301A, 748C and 201 operational amplifiers. The SG1660 is also frequently a desirable replacement for the 308/308A types due to its lower cost.

The SG1760 is an internally compensated version of the SG1660 and is a superior replacement for the 307 and 741 type op amps.

- 15nA input bias current
- 2.0nA input offset current
- Low power – 7.5mW (typ)
- CMRR of 80dB
- PSRR of 80dB
- Available in minidip

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PARAMETERS*	1660	1760	UNITS
Supply Voltage	±5 to ±15	±5 to ±15	V
Operating Temperature Range	0 to +70	0 to +70	°C
Package Types	T, J, M, Y, F		—
Input Offset Voltage	7.5 (10.0)	7.5 (10.0)	mV
Input Offset Current	2.0 (4)	2.0 (4)	nA
Input Bias Current	15 (25)	15 (25)	nA
Temp Coeff. Input Offset Voltage	30	30	μV/°C
Temp Coeff. Input Offset Current	0.04	0.04	nV/°C
Large Signal Voltage Gain	25 (15) ¹	25 (15) ¹	V/mV
Common Mode Rejection	(80)	(80)	dB
Power Supply Rejection	(80)	(80)	μV/V
Input Common Mode Voltage Range ³	(±13.5) ³	(±13.5) ³	V
Differential Input Voltage	±1 ⁴	±1 ⁴	V
Slew Rate	$A_v = 1,$ $A_v = 10$	0.1 1 (typ)	V/μS
Unity Gain Bandwidth	0.3 (typ)	0.3 (typ)	MHz
Supply Current	0.75 ²	0.75 ²	mA
V _{out} R _L = 10kΩ	±13	±13	V
Noise			
R _S = 1kΩ f = 10Hz to 10kHz	4	4	μV(rms)
R _S = 500kΩ f = 10Hz to 10kHz	20	20	(typ)

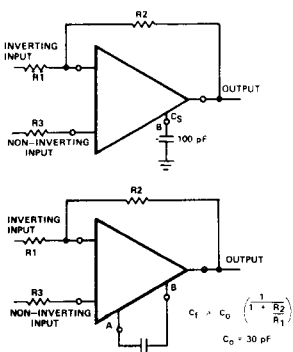
*Parameters apply over supply voltage range and are min./max. limits either at T_A = 25°C (or over operating temperature range if enclosed in parentheses), unless otherwise indicated.

¹ R_L = 10kΩ, V_S = ±15V, V_{out} = ±10V ² T_A = 70°C (1000 μA at 0°C)

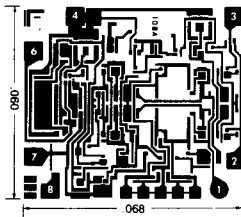
³ V_S = ±15V

⁴ Inputs are shunted with back-to-back diodes for overvoltage protection.

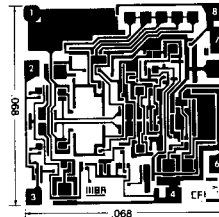
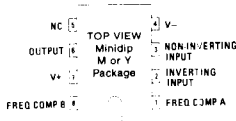
Compensation Circuit



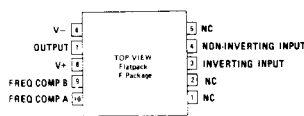
(not required for 1760)



SG1660 Chip (See T-package diagram for pad functions)



SG1760 Chip (See T-package diagram for pad functions)



CONNECTION DIAGRAMS

