

## SG107/207/307

The SG107/207/307 offer excellent input bias currents and drift characteristics as well as short circuit protection and pin compatibility with the 741 class of amplifiers.

- 3mV max offset voltage over temperature
- 100 nA max input bias current over temperature
- 20nA max offset current over temperature
- Offsets guaranteed over full common mode range
- Guaranteed drift characteristics

## SG741/741C

SG741/741C are pin compatible with the most widely accepted operational amplifiers and provide excellent performance for a wide range of applications.

- Complete short circuit protection
- Offset voltage null capability
- High common mode voltage range
- High differential input voltage range

## SG1217/3217

These devices are identical to the SG741/741C types, except internal compensation is reduced from 30pF to 3pF. Frequency response is ten times that of the standard device. Stability is unconditional from open loop to a closed loop gain of 20dB. These devices are especially useful in hybrid applications since higher bandpass is achieved without an out-board capacitor.

- Slow rate typically 5V/μsec
- 10 times frequency response 741/741C
- Ideal chip for hybrid applications

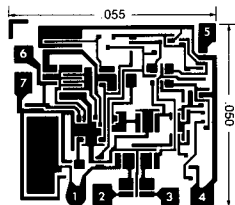
PARAMETERS*	107	207	307	741	741C	1217	3217	Units
Supply Voltage	±5 to ±20		±5 to ±20	±15	±15	±15	±15	V
Operating Temperature Range	-55 to +125	-25 to +85	0 to +70	-55 to +125	0 to +70	-55 to +125	0 to +70	°C
Package Types	T, J, F, Y	T, J, F, Y, M, N	T, J, F, Y	T, J, F, Y	T, J, Y, F, M, N	T, J, F, Y	T, J, Y, F, M, N	-
Input Offset Voltage	2.0 (3.0)		7.5 (10)	5.0 (6.0)	6.0 (7.5)	5.0 (6.0)	6.0 (7.5)	mV
Input Offset Current	10 (20)		50 (70)	200 (500)	200 (300)	200 (500)	200 (500)	nA
Input Bias Current	0.075 (0.1)		0.25 (0.3)	0.5 (1.5)	0.5 (0.8)	0.5 (1.5)	0.5 (0.8)	μA
Temp. Coeff. Input Offset Voltage	(15) <sup>2</sup>		(30) <sup>3</sup>	(3.0 typ)	(6.0 typ)	(3.0 typ)	(6.0 typ)	μV/°C
Temp. Coeff. Input Offset Current	(0.2)		(0.6)	(0.5 typ)	(0.5 typ)	(0.5 typ)	(0.5 typ)	nA/°C
Large Signal Voltage Gain	50 (25)		25 (15)	50 (25)	20 (15)	50 (25)	20 (15)	V/mV
Common Mode Rejection	(80)		(80)	(70)	70	(70)	70	dB
Power Supply Rejection	(100)		(100)	(150)	150	(150)	150	μV/V
Input Common Mode Range	+15, -12		+15, -12	±12	±12	±12	±12	V
Differential Input Voltage	±30		±30	±30	±30	±30	±30	V
Unity Gain Bandwidth	0.5 (typ)		0.5 (typ)	0.8 (typ)	0.8 (typ)	0.8 (typ) <sup>3</sup>	0.8 (typ) <sup>3</sup>	MHz
Slew Rate	0.2		0.2	0.3	0.3	5.0 (typ) <sup>3</sup>	5.0 (typ) <sup>3</sup>	V/μS
Supply Current	3.0		3.0	2.8	2.8	2.8	2.8	mA
Output Voltage Swing								
$R_L = 2k\Omega$	±10		±10	±10	±10	±10	±10	V
$R_L = 10k\Omega$	±12		±12	±12		±12	±12	V
Noise (typ)								
$R_s = 1k\Omega$ $f = 10\text{Hz to } 10\text{kHz}$	4		4	3	3	3	3	μV (rms) (typ)
$R_s = 500k\Omega$ $f = 10\text{Hz to } 10\text{kHz}$	25		25	25	25	25	25	

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

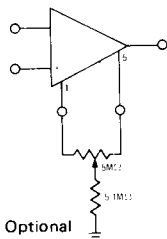
<sup>1</sup> $V_S = \pm 15\text{V}$

<sup>2</sup> $T_A = +25^\circ\text{C} \leq +125^\circ\text{C}$

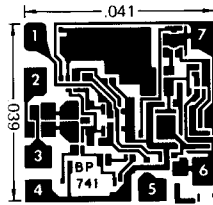
<sup>3</sup>Minimum recommended closed loop gain of 10.



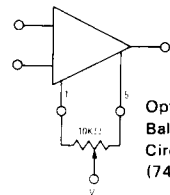
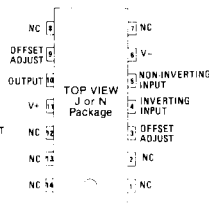
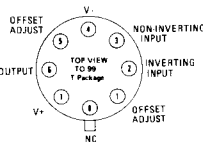
SG107/207/307 Chip (See T-Package diagram for pad functions)



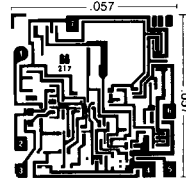
Optional Balancing Circuit (107)



SG741/741C Chip (See T-Package diagram for pad functions)



Optional Balancing Circuit (741)



SG1217/3217 Chip (See T-Package diagram for pad functions)