

SG747/747C

SG1558/1458

The SG747/747C are dual operational amplifiers offering performance which is identical to that of the 741/741C.

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

SG1558/1458 are internally compensated dual operational amplifiers intended for a wide range of analog applications where board space and/or weight are important. High common mode voltage range and absence of "latch-up" make these devices ideal for use as voltage followers. High gain and wide operating voltage range provide superior performance in integrator, summing amplifier and general feedback applications.

- Internally compensated
- Short-circuit protected
- Low power consumption
- 6dB/octave roll-off
- Minidip package

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PARAMETERS*	747 ^{2,5}	747C ^{2,5}	1558 ²	1458 ²	1458C ²	Units
Supply Voltage	±15	±15	±15	±15	±15	V
Operating Temperature Range	-55 to +125	0 to +70	-55 to +125	0 to 75	0 to 75	°C
Package Types	T, J, N			T, M		-
Input Offset Voltage	5.0 (6.0)	6.0 (7.5)	5.0 (6.0)	6.0 (7.5)	10.0 (12.0)	mV
Input Offset Current	200 (500)	200 (300)	200 (500)	200 (300)	300 (400)	nA
Input Bias Current	0.5 (1.5)	0.5 (0.8)	0.5 (1.5)	0.5 (0.8)	0.7 (1.0)	µA
Temp Coeff Input Offset Voltage	(3.0 typ)	(6.0 typ)	(3.0 typ)	(6.0 typ)	(6.0 typ)	µV/°C
Temp Coeff Input Offset Current	(0.5 typ)	0.5 typ	(0.5 typ)	(0.5 typ)	(0.5 typ)	nA/°C
Large Signal Voltage Gain	50 (25) ³	20 (15) ³	50 (25) ³	20 (15) ³	20 (15) ⁴	V/mV
Common Mode Rejection	(70)	70	(70)	70	60	dB
Power Supply Rejection	(150)	150	(150)	150	30 typ	µV/V
Input Common Mode Range	±12 ¹	±12 ¹	±12 ¹	±12 ¹	±11 ¹	V
Differential Input Voltage	±30	±30	±30	±30	±30	V
Unity Gain Bandwidth	0.8 (typ)	0.8 (typ)	0.8 (typ)	0.8 (typ)	0.8 (typ)	MHz
Slew Rate	0.3	0.3	0.3	0.3	0.3	V/µS
Supply Current	2.8 ²	2.8 ²	2.8 ²	2.8 ²	4.0 ²	mA
Output Voltage Swing	$R_L = 2k\Omega$ ±10	±10	±10	±10	±9	V
	$R_L = 10k\Omega$ ±12	—	±12	±12	±11	V
Noise						µV(rms)
$R_s = 1k\Omega$ $f = 10\text{Hz to } 10\text{kHz}$	3 (typ)	3 (typ)	3 (typ)	3 (typ)	3 (typ)	
$R_s = 500k\Omega$ $f = 10\text{Hz to } 10\text{kHz}$	25 (typ)	25 (typ)	25 (typ)	25 (typ)	25 (typ)	

*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.

¹ $V_S = \pm 15\text{V}$

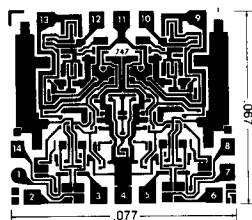
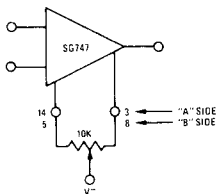
² Each half

³ $R_L = 2k$

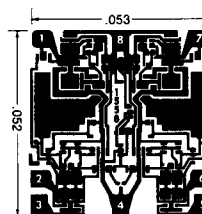
⁴ $R_L = 10k$

⁵ $V^+ + A$ and $V^- + B$ are internally connected

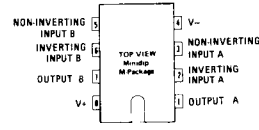
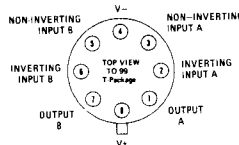
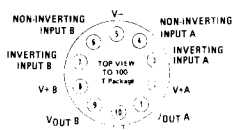
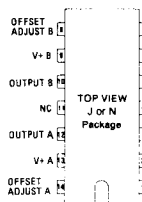
Balancing Circuit (optional)
(J or N Package only)



SG747/747C Chip (See 747J-Package for pad functions)



SG1558/1458 Chip (See 1558 M-Package for pad functions)



CONNECTION DIAGRAMS