ELECTRICAL CHARACTERISTICS (see note)

Parameter		Test conditions	LS 107/LS 207 Min.	LS 107/LS 207 Typ.	LS 107/LS 207 Max.	LS 307 Min.	LS 307 Typ.	LS 307 Max.	Unit
V_{os}	Input offset voltage	$R_g \leq 10\ k\Omega$ $R_g \leq 10\ k\Omega$ $T_{amb} = 25°C$		 0.7	3 2		 2	10 7.5	mV mV
$\frac{\Delta V_{os}}{\Delta T}$	Average temperature coefficient of input offset voltage			3	15		6	30	μV/°C
I_{os}	Input offset current	 $T_{amb} = 25°C$		 1.5	20 10		 3	70 50	nA nA
$\frac{\Delta I_{os}}{\Delta T}$	Average temperature coefficient of input offset current	$T_{amb} = 25°C$ to T_{max} $T_{amb} = T_{min}$ to 25°C		0.01 0.02	0.1 0.2		0.01 0.02	0.3 0.6	nA/°C nA/°C
I_b	Input bias current	 $T_{amb} = 25°C$		 30	100 75		 70	300 250	nA nA
R_i	Input resistance	$T_{amb} = 25°C$	1.5	4		0.5	2		MΩ
G_v	Large signal voltage gain	$V_s = \pm 15V$ $V_o = \pm 10V$ $R_L \geq 2\ k\Omega$	 88			 84			dB
		$V_s = \pm 15V$ $V_o = \pm 10V$ $R_L \geq 2\ k\Omega$ $T_{amb} = 25°C$	94	104		88	104		dB
V_i	Input voltage range	$V_s = \pm 20V$ $V_s = \pm 15V$	±15 			 ±12			V V
V_o	Output voltage swing	$V_s = \pm 15V$ $R_L = 10\ k\Omega$ $V_s = \pm 15V$ $R_L = 2\ k\Omega$	±12 ±10	±14 ±13		±12 ±10	±14 ±13		V V
CMR	Common mode rejection	$R_g \leq 10\ k\Omega$	80	96		70	90		dB
SVR	Supply voltage rejection	$R_g \leq 10\ k\Omega$	80	96		70	96		dB
I_s	Supply current	$V_s = \pm 20V$ $T_{amb} = 25°C$ $T_{amb} = 125°C$ $V_s = \pm 15V$ $T_{amb} = 25°C$		 1.8 1.2 	 3 2.5 		 1.8	 3	 mA mA mA

Note: These specifications, unless otherwise specified, apply for $V_s = \pm 5V$ to $\pm 20V$ and $T_{amb} = -55$ to 125°C for LS 107; $V_s = \pm 5V$ to $\pm 20V$ and $T_{amb} = -25$ to 85°C for LS 207; $V_s = \pm 5V$ to $\pm 15V$ and $T_{amb} = 0$ to 70°C for LS 307.

LS107 LS207 LS307

Fig. 1 - Supply current vs. supply voltage

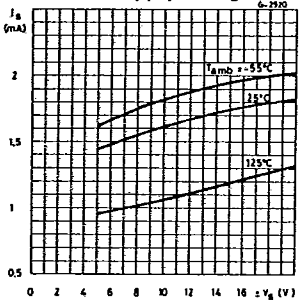


Fig. 2 - Voltage gain vs. supply voltage

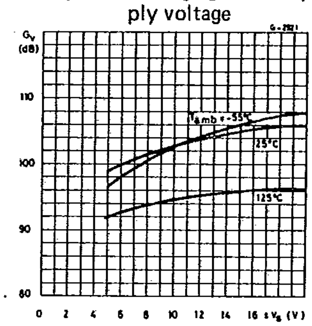


Fig. 3 - Input current vs. ambient temp.

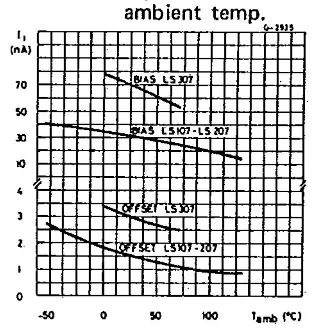


Fig. 4 - Current limiting vs. output current

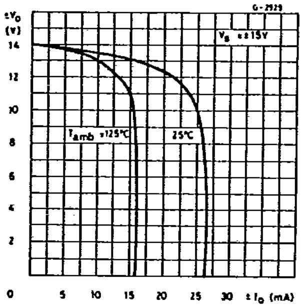


Fig. 5 - Input noise voltage vs. frequency

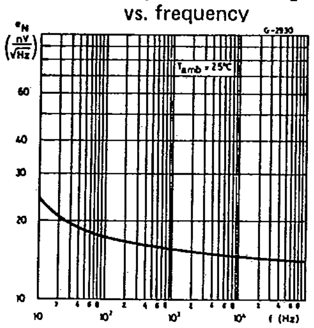


Fig. 6 - Input noise current vs. frequency

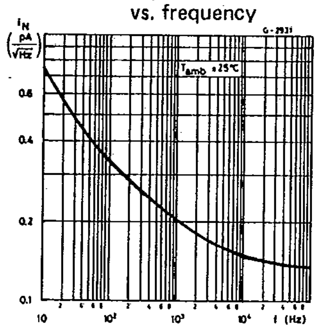


Fig. 7 - Open loop frequency response

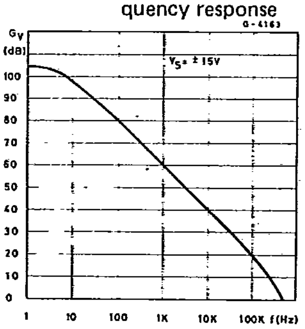


Fig. 8 - Large signal frequency response

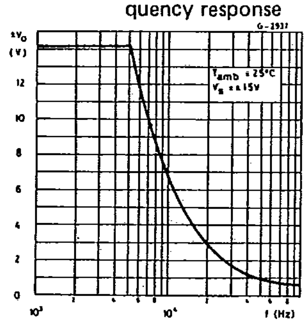
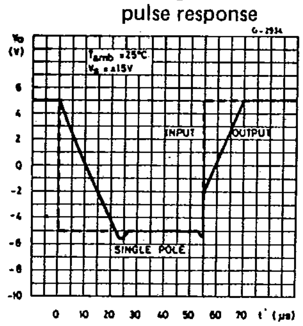


Fig. 9 - Voltage follower pulse response



Guaranteed performance characteristics (LS 107/LS 207)

Fig. 10 - Input voltage range vs. supply voltage

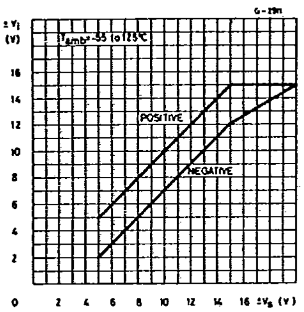


Fig. 11 - Output voltage swing vs. supply voltage

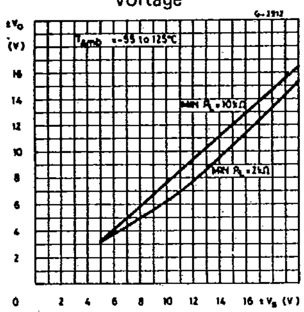
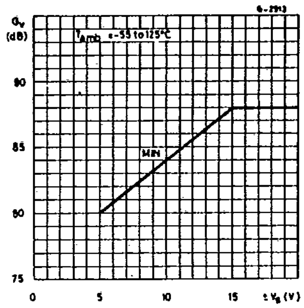


Fig. 12 - Voltage gain vs. supply voltage



Guaranteed performance characteristics (LS 307)

Fig. 13 - Input voltage range vs. supply voltage

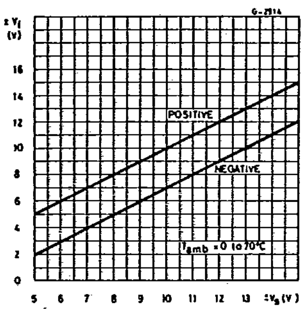


Fig. 14 - Output voltage swing vs. supply voltage

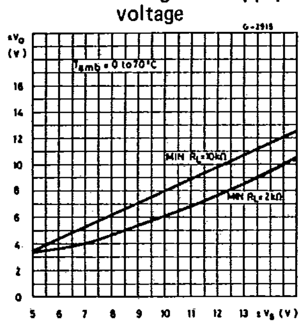
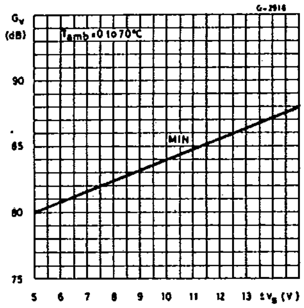


Fig. 15 - Voltage gain vs. supply voltage



TYPICAL APPLICATIONS

Fig. 16 - Inverting amplifier

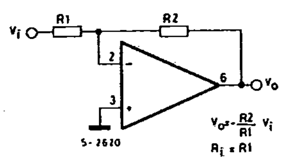


Fig. 17 - Non-inverting AC amplifier

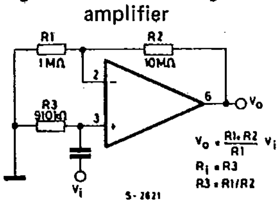
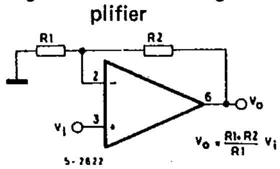


Fig. 18 - Non-inverting amplifier



LS141
LS141A
LS141C

LINEAR INTEGRATED CIRCUITS

FREQUENCY COMPENSATED OPERATIONAL AMPLIFIERS

- NO FREQUENCY COMPENSATION REQUIRED
- SHORT CIRCUIT PROTECTION
- OFFSET VOLTAGE NULL CAPABILITY
- LARGE COMMON MODE AND DIFFERENTIAL VOLTAGE RANGE
- NO LATCH-UP

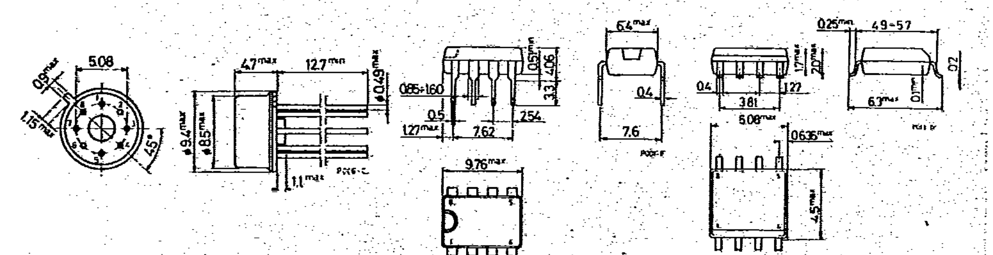
The LS 141 series consists of general purpose operational amplifiers, intended for a wide range of analog applications. High common mode voltage range and absence of "latch-up" tendencies make the LS 141 series ideal for use as a voltage follower. The high gain and wide range of operating voltage provide superior performance in integrators, summing amplifiers, and general feedback applications. The LS 141 series is available with hermetic gold chip (8000 series). This is particularly suitable for professional and telecom applications, wherever very high MTBF are required.

ABSOLUTE MAXIMUM RATINGS		TO-99	Minidip	µpackage
V_s	Supply voltage for **LS 141/LS 141A**		± 22V	
	for **LS 141C**		± 18V	
V_I (1)	Input voltage		± 15V	
ΔV_I	Differential input voltage		± 30V	
T_{op}	Operating temperature for **LS 141/LS 141A**		-55 to 125°C	
	for **LS 141C**		0 to 70°C	
	Output short circuit duration (2)		indefinite	
P_{tot}	Power dissipation at T_{amb} = 70°C	520 mW	665 mW	400 mW
T_{stg}	Storage temperature	-65 to 150°C	-55 to 150°C	-55 to 150°C
	Lead soldering temperature	300°C (10s)	260°C (12s)	260°C (5s) 235°C (11s)

1) For supply voltage less than ± 15V, input voltage is equal to the supply voltage
2) The short circuit duration is limited by thermal dissipation

MECHANICAL DATA

Dimensions in mm



TO-99 Minidip SO-8