DUAL OPERATIONAL AMPLIFIER

DESCRIPTION

The LM321 consists of two independent high gain, internally frequency compensated operational amplifier. It can be operated from a single power supply and also split power supplies.

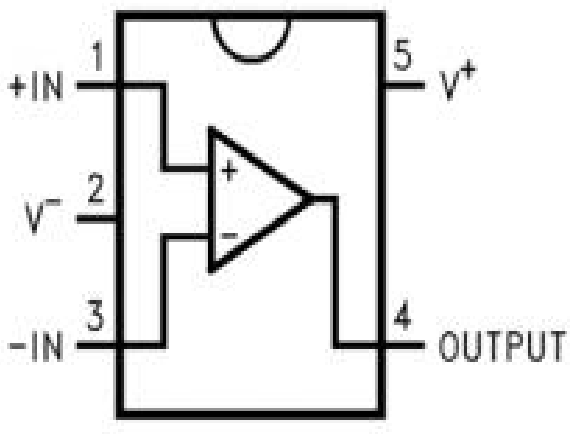
FEATURES

*Internally frequency compensated for unity gain.
*Wide power supply range 3V - 32V.
*Input common-mode voltage range include ground.
*Large DC voltage gain.

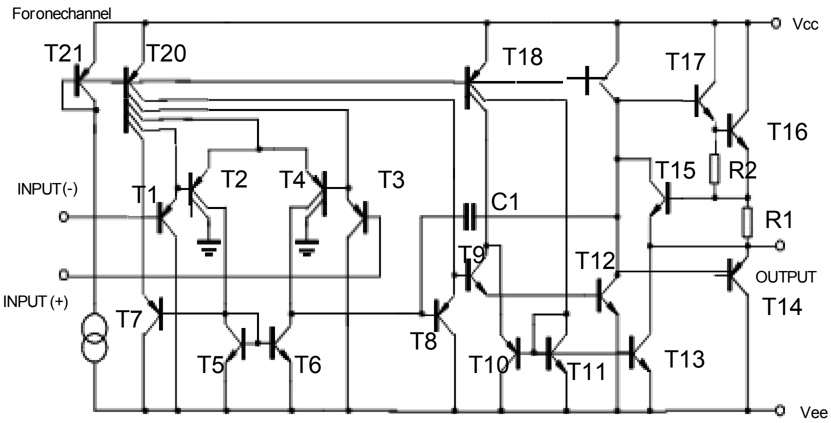
APPLICATIONS

*General purpose amplifier.
*Transducer amplifier.

PIN CONFIGURATIONS



BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	Vcc	+-16 or 32	V
Differential Input Voltage	VI(DIFF)	32	V
Input Voltage	VI	-0.3 ~ +32	V
Output Short to Ground		Continuous	
Operating Temperature Range	TOPR	0 ~ +70	∘C
Storage Temperature Range	TSTG	-65 ~ +150	∘C

ELECTRICAL CHARACTERISTICS(Vcc=5.0V , VEE= GND, TA=25 。C, unless otherwise specified £ ©

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Input Offset Voltage	VIO	VCM=0V toVCC- 1 . 5V VO(P)= 1 .4V , RS=0 Ω		2.9	7.0	mV
Input Offset Current	IIO			5	50	nA
Input Bias Current	IBIAS			45	250	nA
Input Common Mode Voltage	VI(R)	VCC=30V	0		VCC- 1 .5	V
Power Supply Current	ICC	RL=父,VCC=30V		0.8	2.0	mA
		RL= 父, Full Temperature Range		0.5	1.2	mA
Large Signal Voltage Gain	GV	VCC= 15V , RL>=2K Ω VO(P)= 1V to 11V	25	100		V/ mV
Output Voltage Swing	VO(H)	VCC=30V , RL=2K Ω	26			V
		VCC=30V , RL= 10K Ω	27	28		V
	VO(L)	VCC=5V , RL>= 10K Ω		5	20	mV
Common Mode Rejection Ratio	CMRR		65	80		dB
Power Supply Rejection Ratio	PSRR		65	100		dB
Channel Separation	CS	f= 1KHZ to 20KHZ		120		dB
Short Circuit Current to Ground	ISC			40	60	mA
Output Current	ISOURCE	VI(+)= 1V ,VI(-)=0V VCC= 15V ,VO(P)=2V	20	30		mA
	ISINK	VI(+)=0V ,VI(-)= 1V VCC= 15V ,VO(P)=2V	10	15		mA
		VI(+)=0V ,VI(-)= 1V VCC= 15V , VO(P)=200mV	12	100		mA
Differential Input Voltage	VI(DIFF)				VCC	V

TYPICAL PERFORMANCE CHARACTERISTICS

Fig. 1 Input Voltage Range

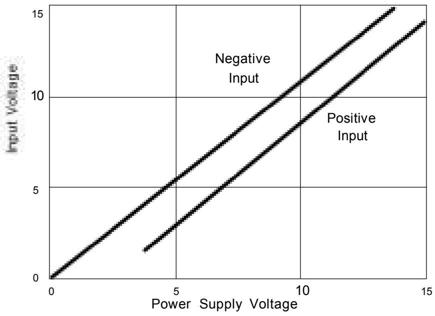


Fig.2 Input Current vs Temperature

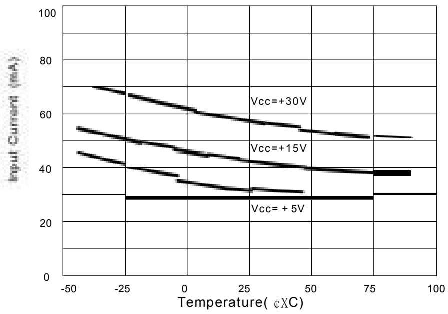


Fig.3 Input Current vs Supply Voltage

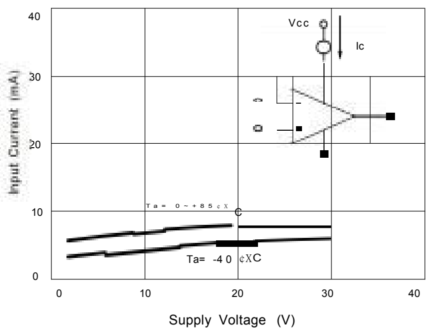


Fig. 4 Voltage Gain vs Supply Voltage

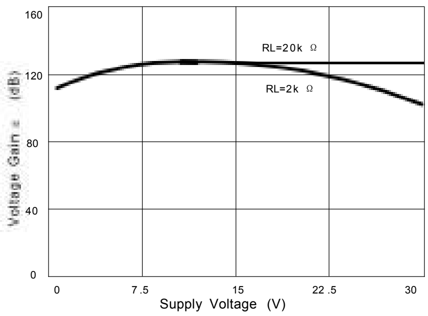


Fig. 5 Open Loop Gain vs Frequency

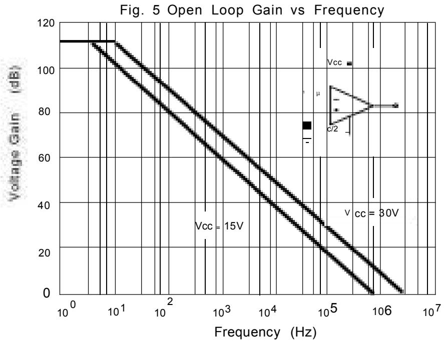


Fig. 6 Common Mode Rejection Ratio vs Frequency

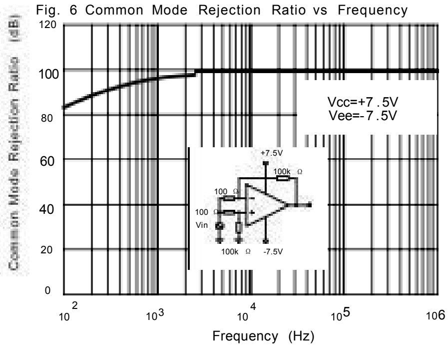


Fig. 7 Voltage Follower Pulse Response

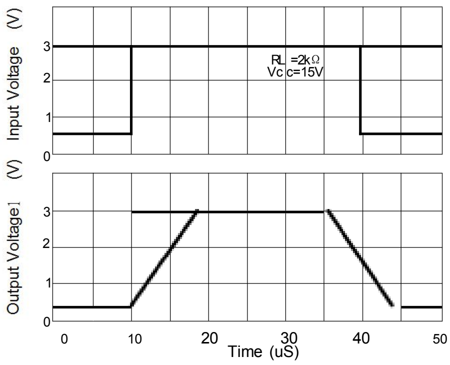


Fig. 8 Voltage Follower Response (Small Signal)

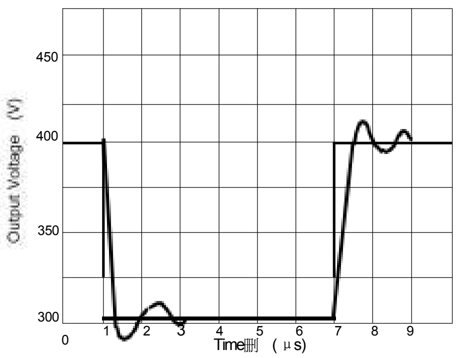


Fig. 9 Gain vs Large Signal Frequency

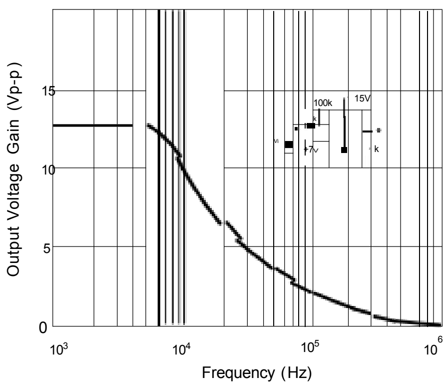


Fig. 10 Output Current Sinking vs Output Voltage

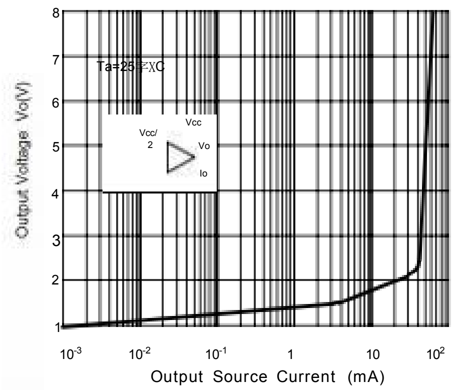


Fig. 11 Output Sink Current vs Output Voltage

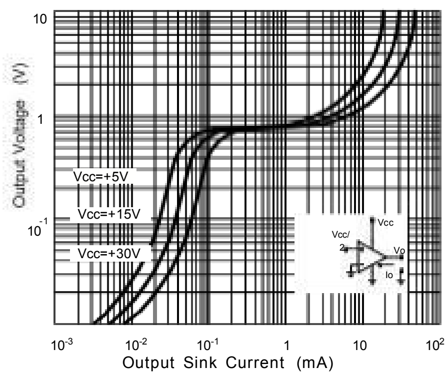
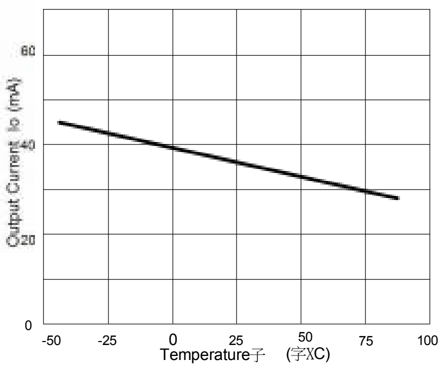


Fig. 12 Current Limiting vs Temperature



OUTLINE DRAWING

SOT-23-5L Unit:mm