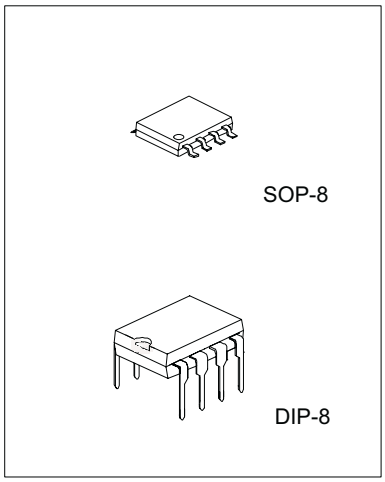
LM358 LINEAR INTEGRATED CIRCUIT

DUAL OPERATIONAL AMPLIFIER



DESCRIPTION

The Contek LM358 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.

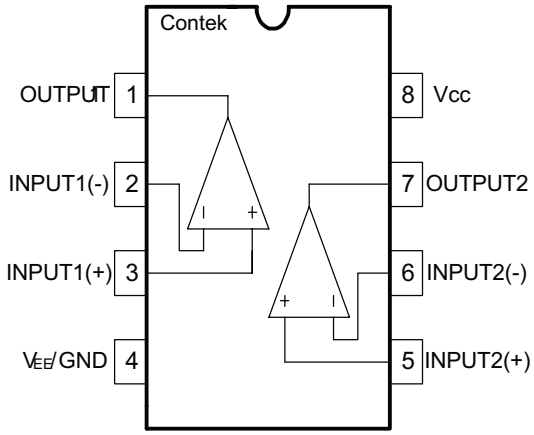
FEATURES

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

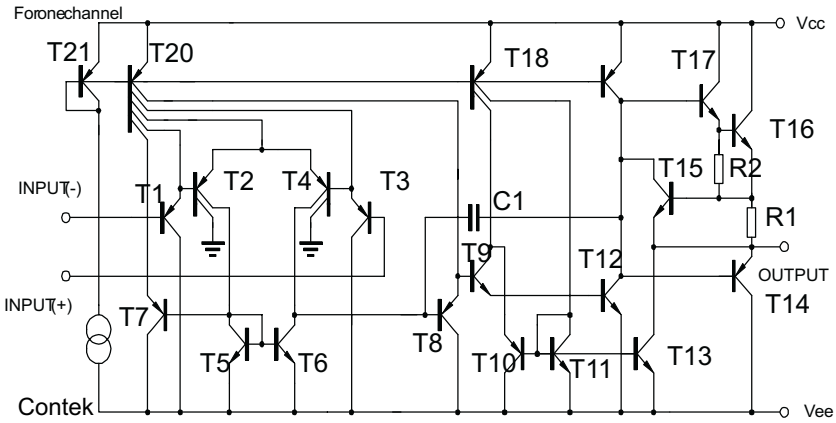
APPLICATIONS

*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=0Ω		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= ,VCC=30V		0.8	2.0	mA
		RL= ,Full Temperature Range		0.5	1.2	mA
Large Signal Voltage Gain	GV	VCC=15V,RL>=2KΩ VO(P)=1V to 11V	25	100		V/mV
Output Voltage Swing	VO(H)	VCC=30V,RL=2KΩ	26			V
		VCC=30V,RL=10KΩ	27	28		
	VO(L)	VCC=5V,RL>=10KΩ		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	10	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

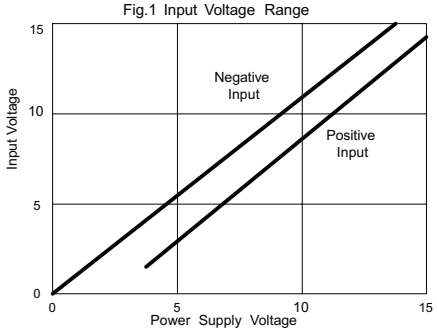


Fig.2 Input Current vs Temperature

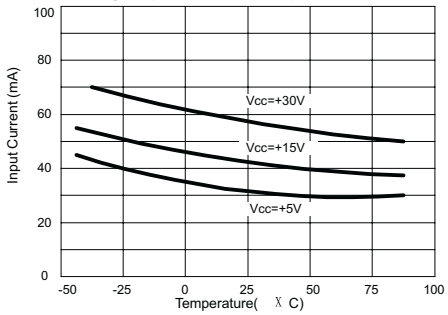


Fig.3 Input Current vs Supply Voltage

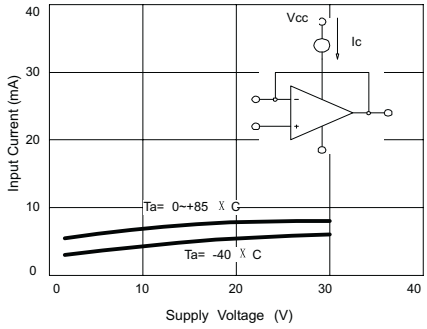


Fig. 4 Voltage Gain vs Supply Voltage

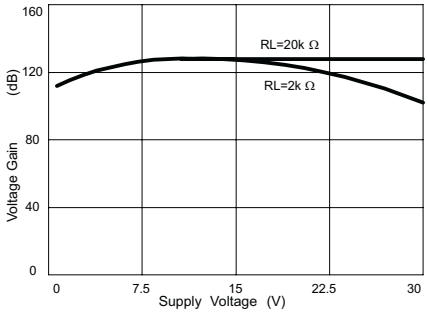


Fig. 5 Open Loop Gain vs Frequency

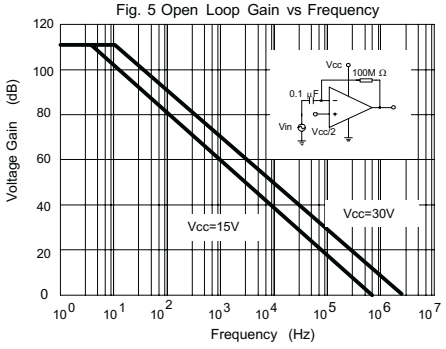


Fig. 6 Common Mode Rejection Ratio vs Frequency

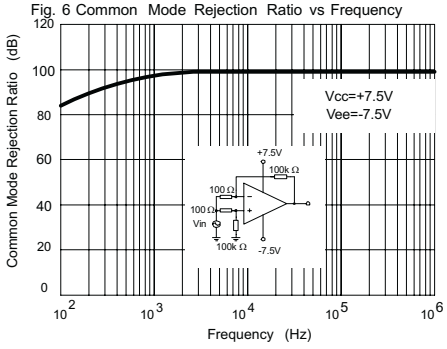


Fig. 7 Voltage Follower Pulse Response

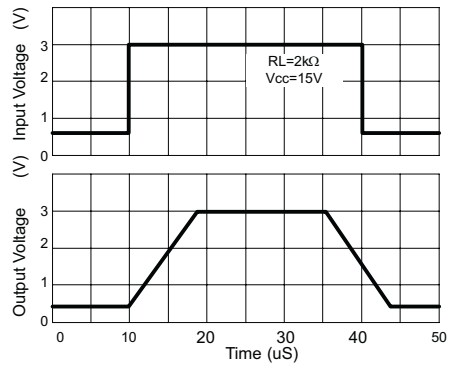


Fig. 8 Voltage Follower Response (Small Signal)

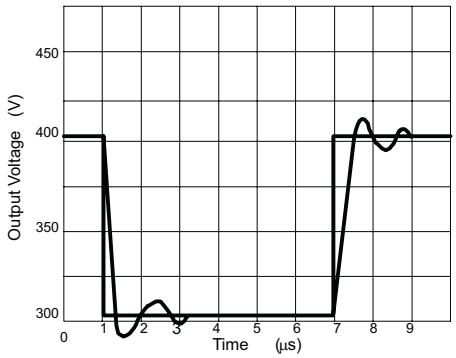


Fig. 9 Gain vs Large Signal Frequency

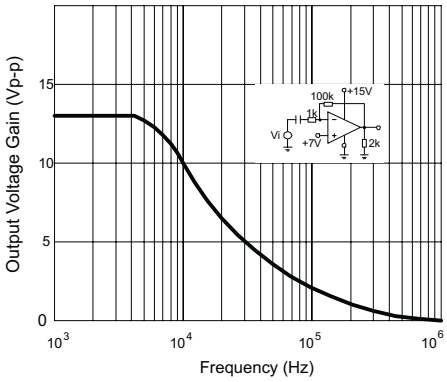


Fig. 10 Output Current Sinking vs Output Voltage

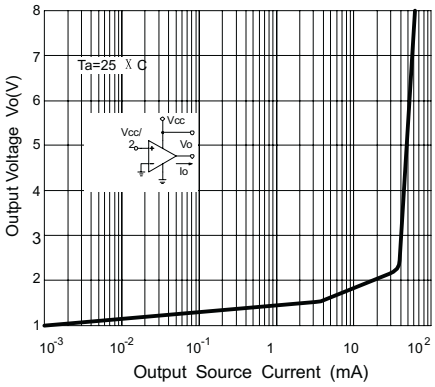


Fig. 11 Output Sink Current vs Output Voltage

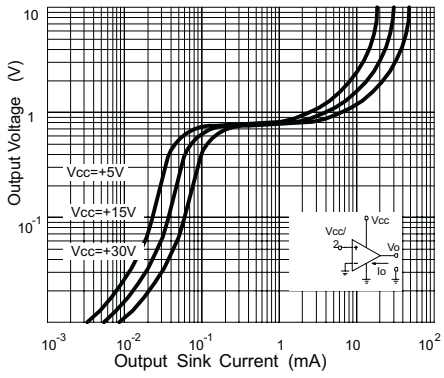


Fig.12 Current Limiting vs Temperature