

LINEAR INTEGRATED CIRCUIT DUAL OPERATIONAL AMPLIFIER

DESCRIPTION

The LPV358 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 - 36V.
- Input common-mode voltage range include ground.
- Large DC voltage gain.

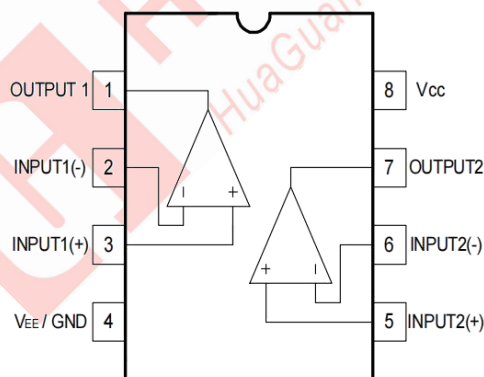
APPLICATIONS

- General purpose amplifier.
- Transducer amplifier.

ORDERING INFORMATION

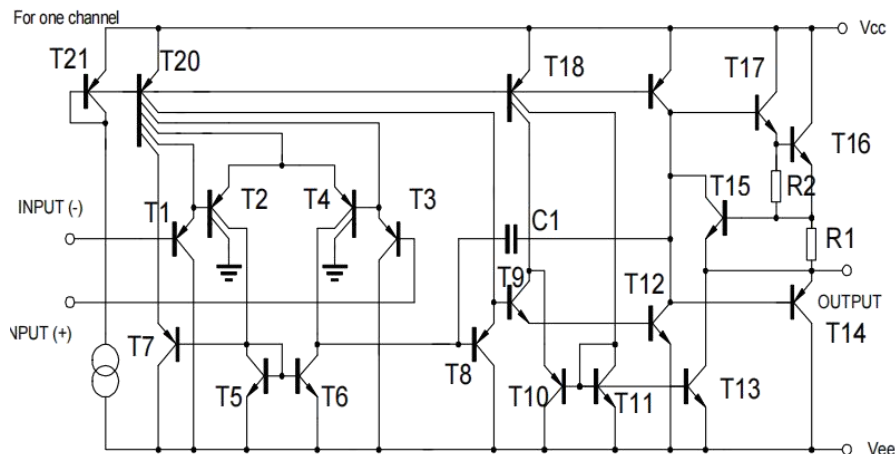
DEVICE	Package Type	MARKING	Packing	Packing Qty
LPV358N	DIP8	LPV358	TUBE	2000/box
LPV358M/TR	SOP8	LPV358	REEL	2500/reel
LPV358MM/TR	MSOP8	LPV358	REEL	3000/reel

PIN CONFIGURATIONS



DIP8/SOP8/MSOP8

BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	V _{CC}	±18 or 36	V
Differential Input Voltage	V _{I(DIFF)}	32	V
Input Voltage	V _I	-0.3 ~ +36	V
Output Short to Ground		Continuous	
Operating Temperature Range	TOPR	0 ~ +70	°C
Storage Temperature Range	TSTG	-65 ~ +150	°C

ELECTRICAL CHARACTERISTICS (V_{CC}=5.0V, V_{EE}=GND, T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Input Offset Voltage	V _{IO}	V _{CM} =0V to V _{CC} -1.5V V _{O(P)} =1.4V, R _S =0		2.9	7.0	mV
Input Offset Current	I _{IO}			5	50	nA
Input Bias Current	I _{BIAS}			45	250	nA
Input Common Mode Voltage	V _{I(R)}	V _{CC} =30V	0		V _{CC} -1.5	V
Power Supply Current	I _{CC}	R _L =∞, V _{CC} =30V		0.8	2.0	mA
		R _L =∞, Full Temperature Range		0.5	1.2	mA
Large Signal Voltage Gain	G _V	V _{CC} =15V, R _L ≥2K V _{O(P)} =1V to 11V	25	100		V/mV
		V _{CC} =30V, R _L =2K	26			V
		V _{CC} =30V, R _L =10K	27	28		V
Output Voltage Swing	VO(H)	V _{CC} =5V, R _L ≥10K		5	20	mV
	VO(L)					
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	I _{SC}			40	60	mA
Output Current	I _{SOURCE}	V _{I(+)} =1V, V _{I(-)} =0V V _{CC} =15V, V _{O(P)} =2V	20	30		mA
	I _{SINK}	V _{I(+)} =0V, V _{I(-)} =1V V _{CC} =15V, V _{O(P)} =2V	10	15		mA
		V _{I(+)} =0V, V _{I(-)} =1V V _{CC} =15V, V _{O(P)} =200mV	12	100		mA
Differential Input Voltage	V _{I(DIFF)}				V _{CC}	V

TYPICAL PERFORMANCE CHARACTERISTICS

Fig.1 Input Voltage Range

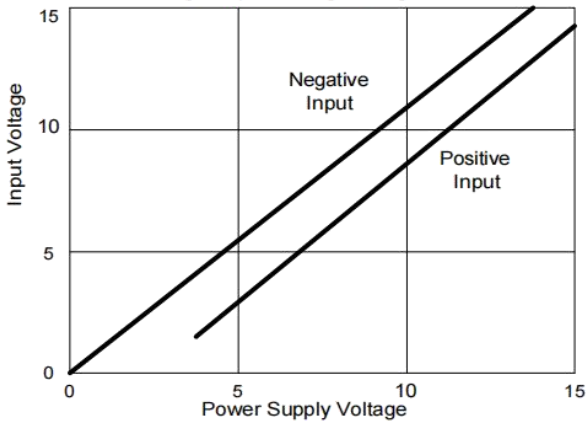


Fig.2 Input Current vs Temperature

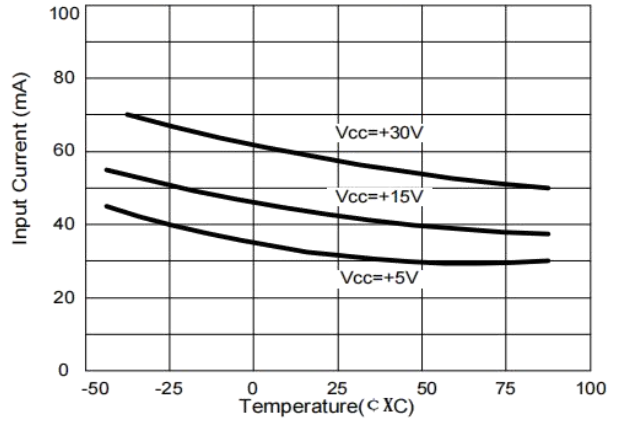


Fig.3 Input Current vs Supply Voltage

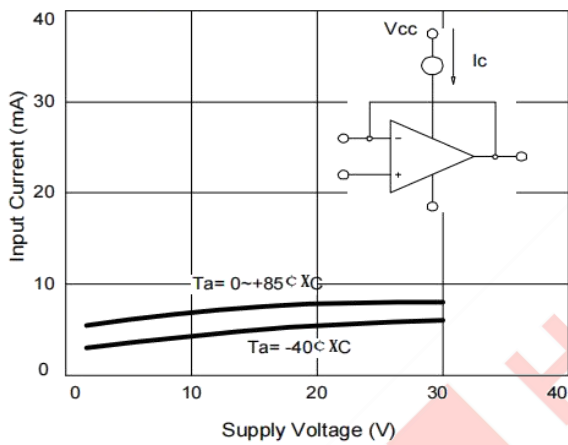


Fig. 4 Voltage Gain vs Supply Voltage

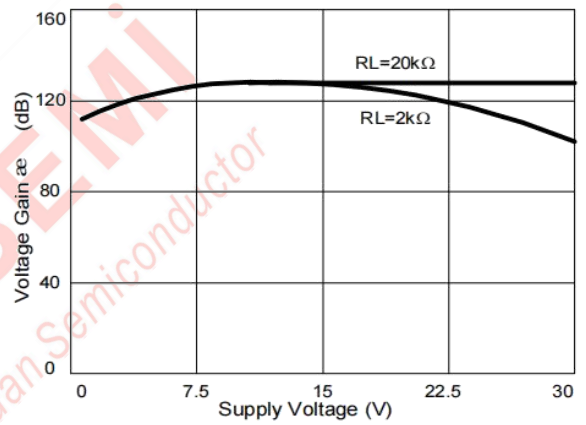


Fig. 5 Open Loop Gain vs Frequency

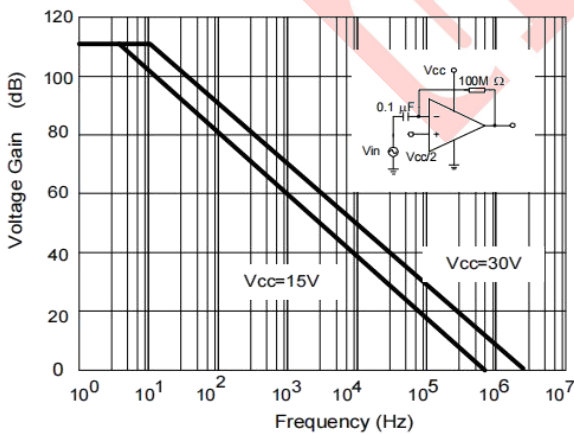


Fig. 6 Common Mode Rejection Ratio vs Frequency

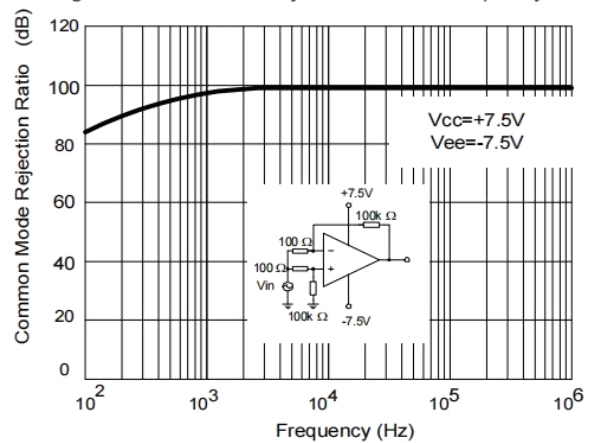


Fig. 7 Voltage Follower Pulse Response

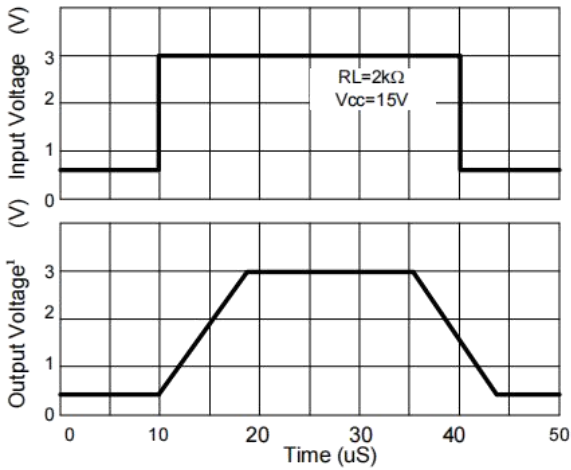


Fig. 8 Voltage Follower Response (Small Signal)

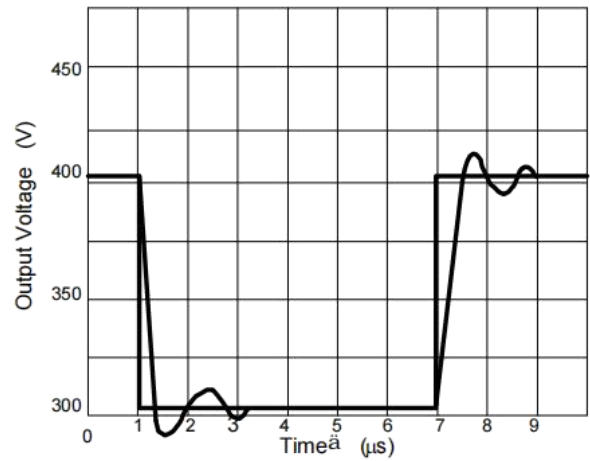


Fig. 9 Gain vs Large Signal Frequency

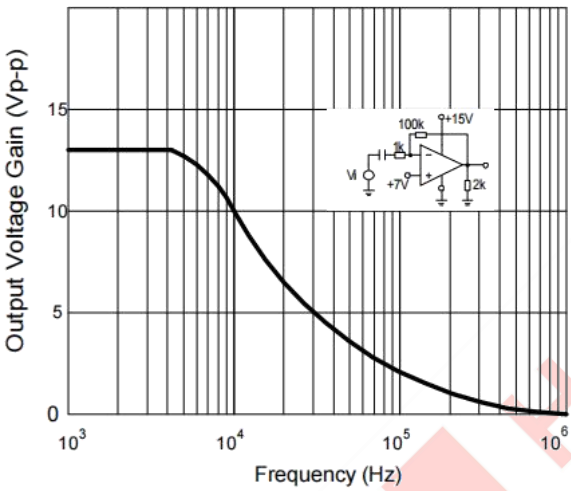


Fig. 10 Output Current Sinking vs Output Voltage

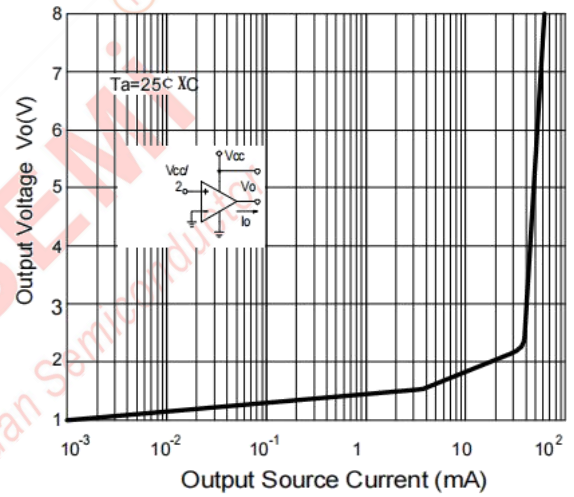


Fig. 11 Output Sink Current vs Output Voltage

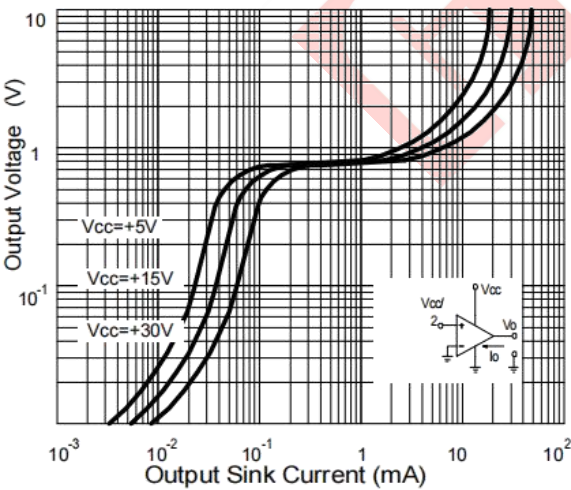
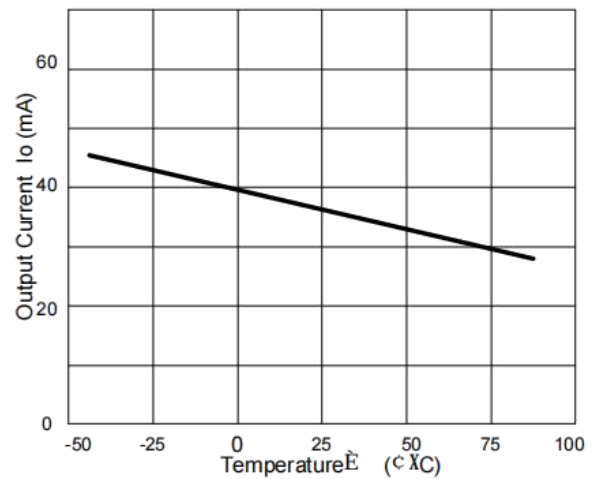
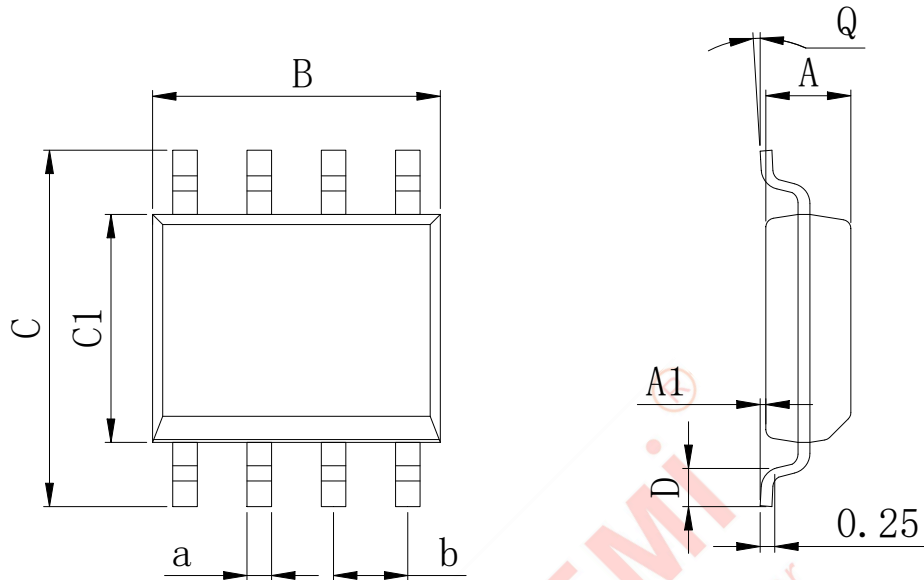


Fig. 12 Current Limiting vs Temperature



Physical Dimensions

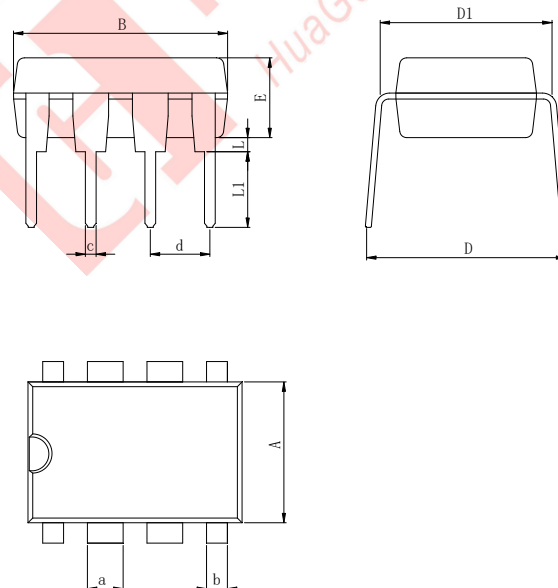
SOP8 (150mil)



Dimensions In Millimeters(SOP8)

Symbol:	A	A1	B	C	C1	D	Q	a	b
Min:	1.35	0.05	4.90	5.80	3.80	0.40	0°	0.35	1.27 BSC
Max:	1.55	0.20	5.10	6.20	4.00	0.80	8°	0.45	

DIP8

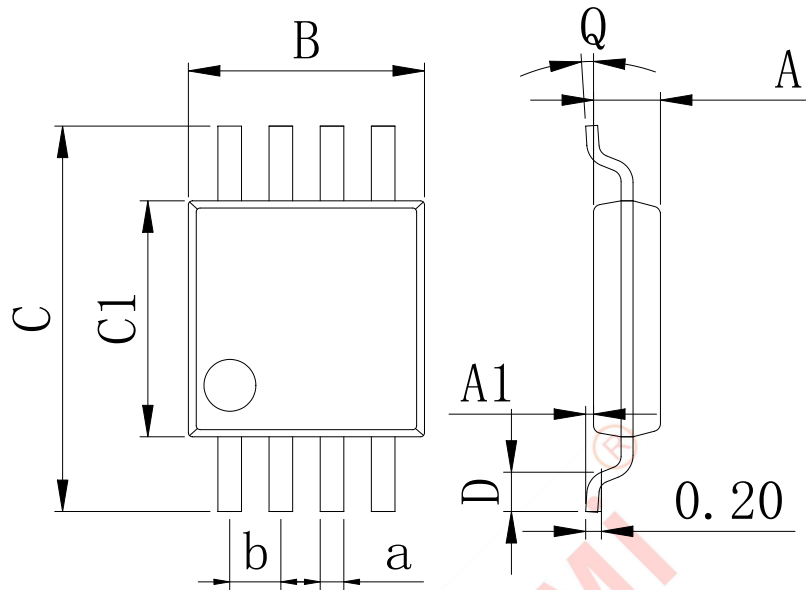


Dimensions In Millimeters(DIP8L)

Symbol:	A	B	D	D1	E	L	L1	a	b	c	d
Min:	6.10	9.00	8.40	7.42	3.10	0.50	3.00	1.50	0.85	0.40	2.54 BSC
Max:	6.68	9.50	9.00	7.82	3.55	0.70	3.60	1.55	0.90	0.50	

Physical Dimensions

MSOP8



Dimensions In Millimeters(MSOP8)									
Symbol:	A	A1	B	C	C1	D	Q	a	b
Min:	0.80	0.05	2.90	4.75	2.90	0.35	0°	0.25	0.65 BSC
Max:	0.90	0.20	3.10	5.05	3.10	0.75	8°	0.35	

IMPORTANT STATEMENT:

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