

General J-FET quad operational amplifier

Summary

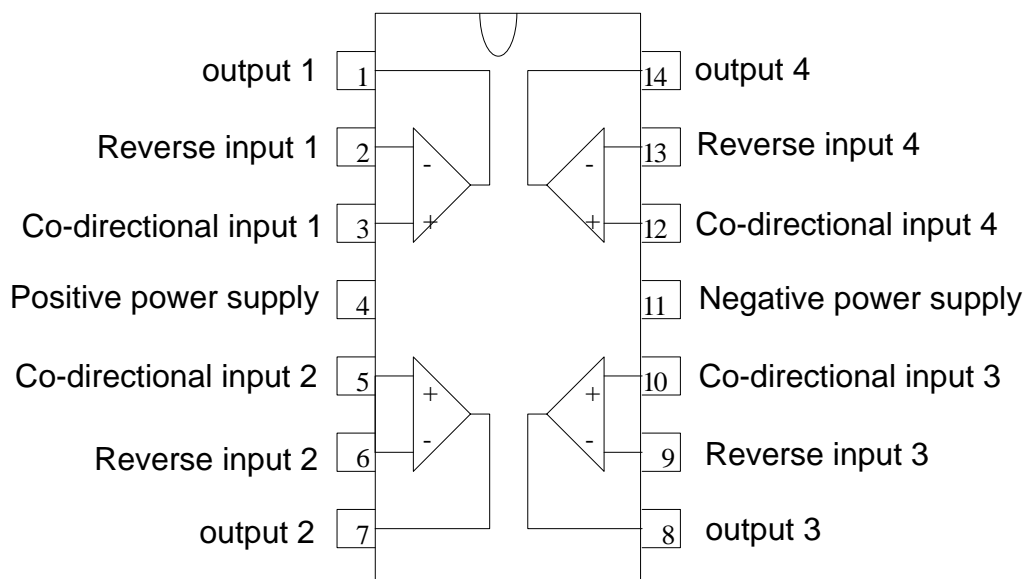
TL084 is a high-speed operational amplifier with four J-FET inputs, which consists of high-voltage J-FET and bipolar transistor.

It has high conversion rate, low input bias current and offset current, and low offset voltage temperature coefficient.

Main feature

- Wide common-mode and differential-mode input voltage range
- Low input bias current and offset current
- Output short-circuit current protection
- High input impedance
- Internal frequency compensation
- Self-latching station
- High conversion rate: 16V/us

Pin description



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Limit parameter (absolute maximum rating, unless otherwise specified, $T_{amb}=25^{\circ}C$)

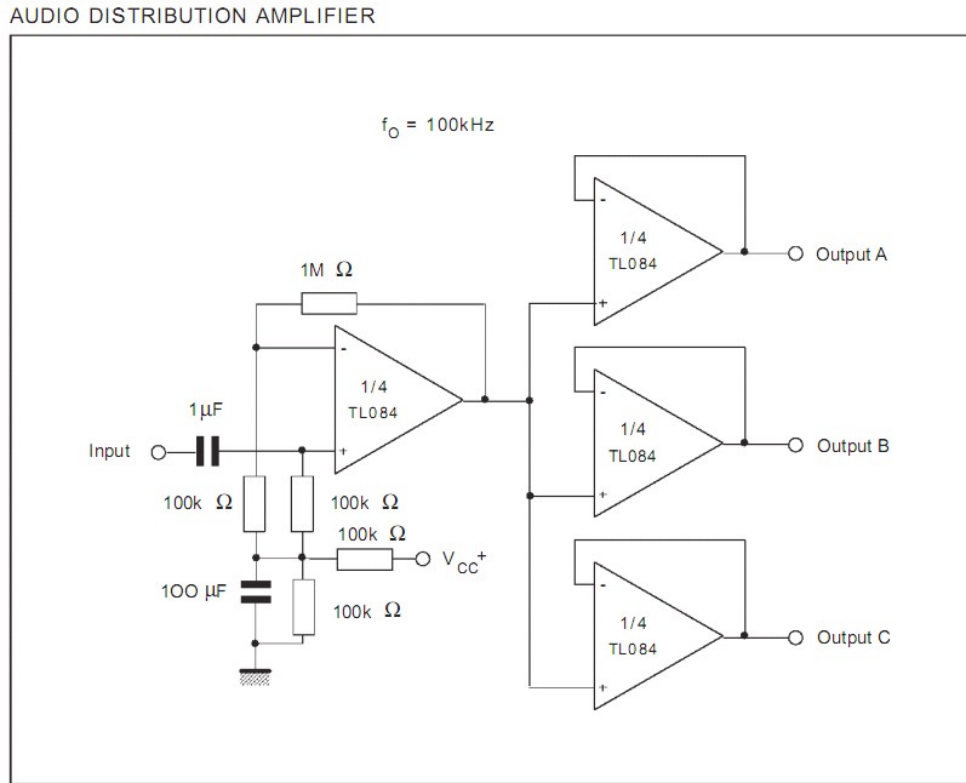
symbol	describe	limit value	unit
Vcc	Power supply voltage	± 18	V
Vi	input voltage	± 15	V
Vid	Differential mode input voltage	± 30	V
Ptot	power consumption	680	mW
Toper	Working temperature	-40~85	$^{\circ}C$
Tstg	Storage temperature	-65~150	$^{\circ}C$

Electrical characteristics ($V_{CC} = 15V$, $T_{amp} = 25^{\circ}C$ shall be specified separately)

symbol	describe	numerical value			unit
		minimum value	typical value	maximum	
Vio	Input offset voltage ($R_s=5\Omega$)		3	13	mV
lio	Input offset current			4	nA
lib	Output bias current			20	nA
Avd	Large signal voltage gain $R_L=2k\Omega$, $V_O = \pm 10v$		25		V/mV
SVR	Power supply voltage rejection ratio ($R_s=50\Omega$)	65	75		dB
Icc	Single-channel operational amplifier static current		1.4	2.5	mA
Vicm	Input common-mode voltage swing		± 11	+15 -12	V
CMR	Common mode rejection ratio ($R_s=50\Omega$)	65	75		dB
Ios	Output short-circuit current	10	50	60	mA
$\pm V_{opp}$	Output voltage swing: $R_L=2k\Omega$ $R_L=10k\Omega$	10 12	12 13.5		V
SR	Conversion rate ($V_{in} = 10v$, $R_L=2k\Omega$, $C_L = 100pf$)	8	16		V/us
tr	Delay time $V_{in} = 200mV$, $R_L = 2k\Omega$, $C_L = 100pF$.		0.1		us
GBP	Gain bandwidth product ($f=100kHz$, $V_{in}=10mV$ $R_L=2K\Omega$ $C_L=100pF$	2.5	4		MHz

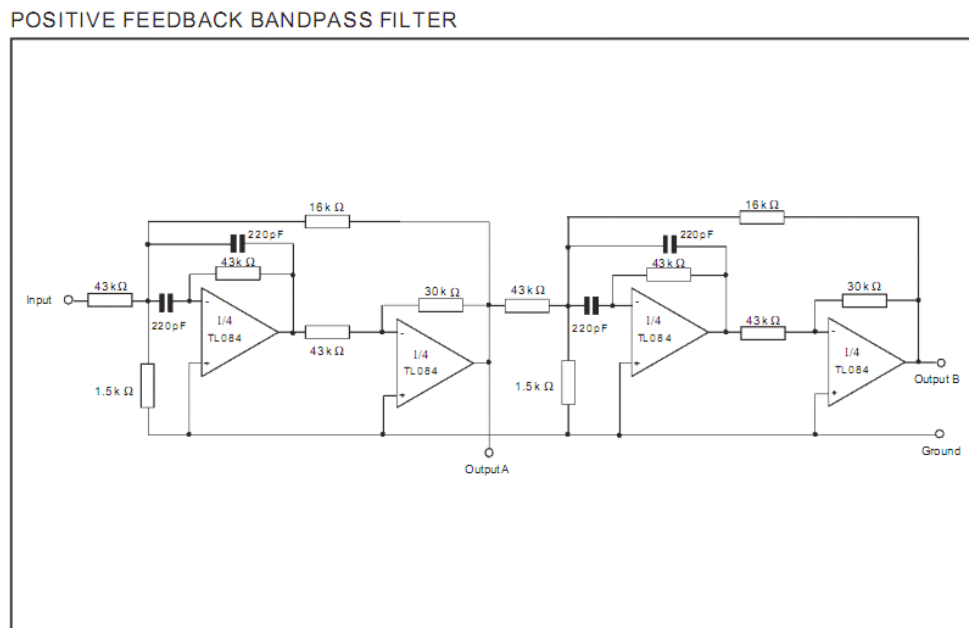
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Typical application diagram



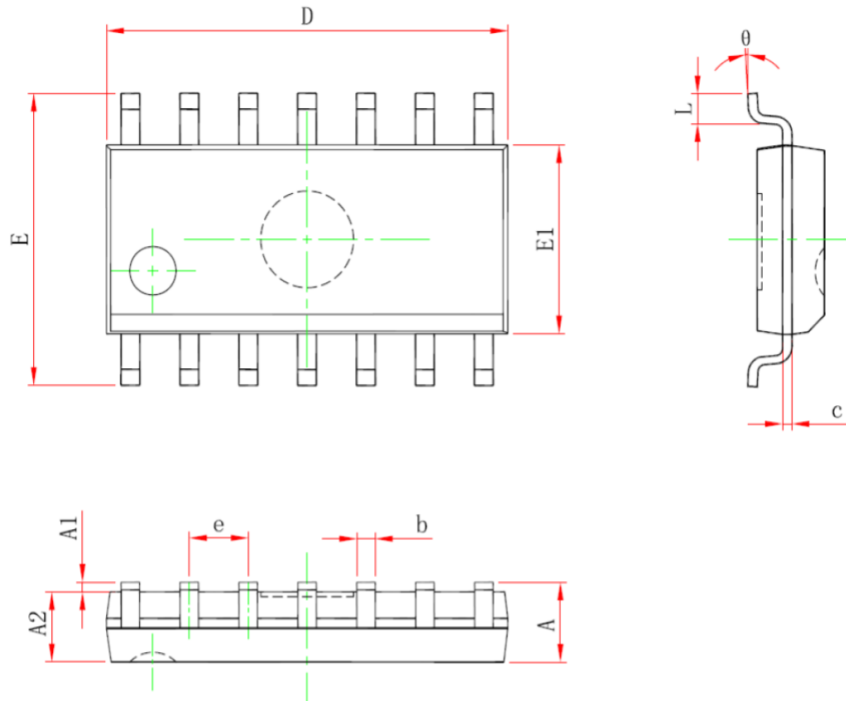
Application of Audio Distribution Amplifier

Application of active feedback filter

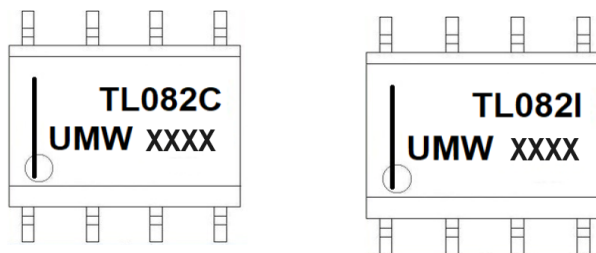


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SOP14



Marking



Ordering information

Order code	Package	Baseqty	Deliverymode
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UMW TL084IDR	SOP-14	2500	Tape and reel

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