

General J-FET quad operational amplifier

Summary

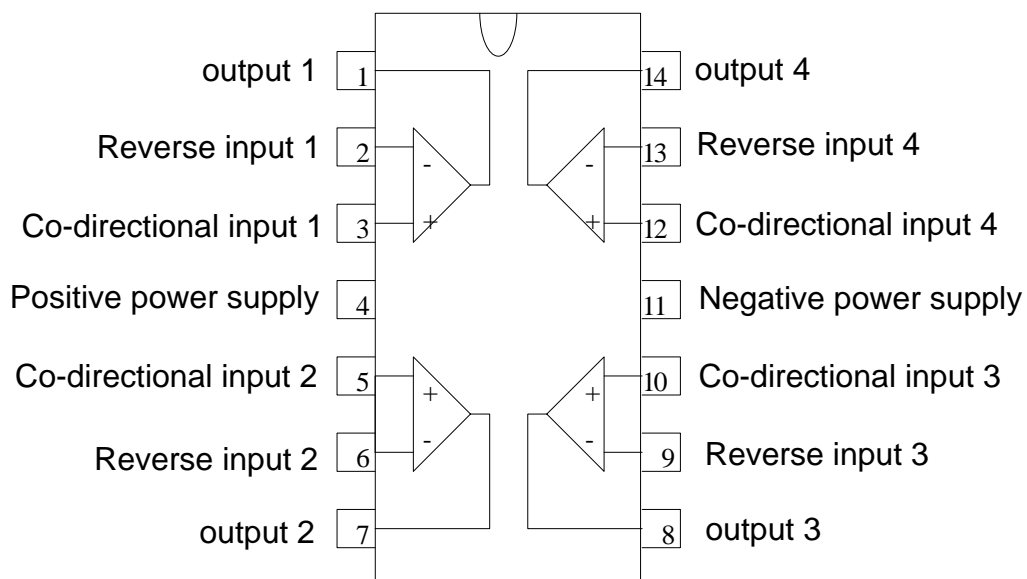
TL084 is a high-speed operational amplifier with four J-FET inputs, which consists of high-voltage J-FET and bipolar transistor.

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, $T_{amb}=25^{\circ}C$)

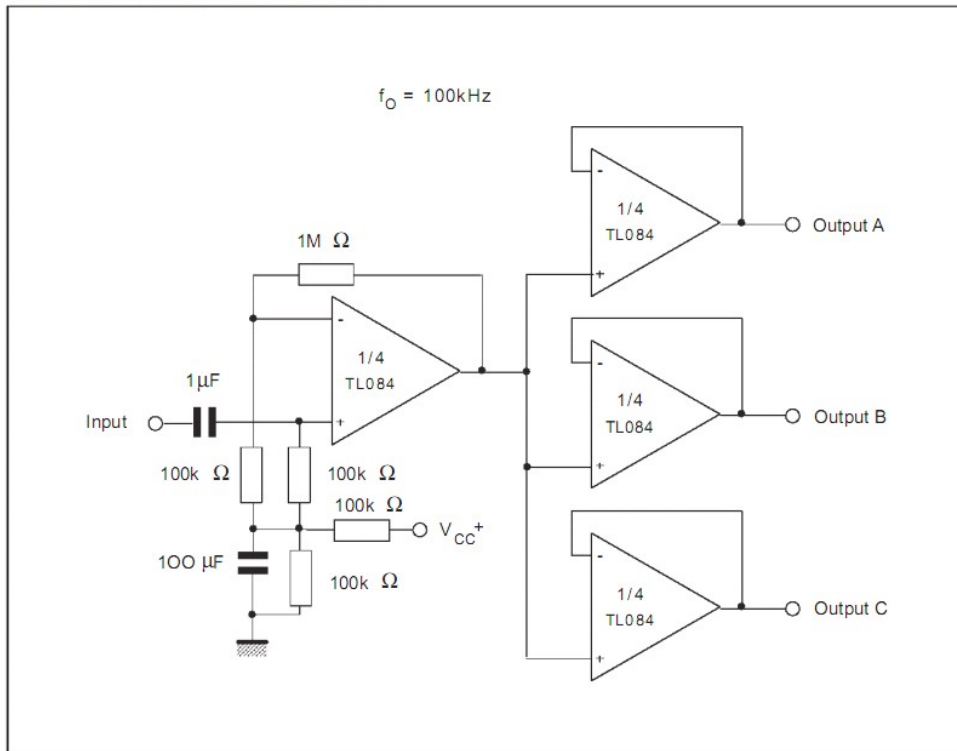
symbol	describe	limit value	unit
Vcc	Power supply voltage	± 18	V
Vi	input voltage	± 15	V
Vid	Differential mode input voltage	± 30	V
Ptot	power consumption	680	mW
Toper	Working temperature	-40~85	$^{\circ}C$
Tstg	Storage temperature	-65~150	$^{\circ}C$

 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

Typical application diagram

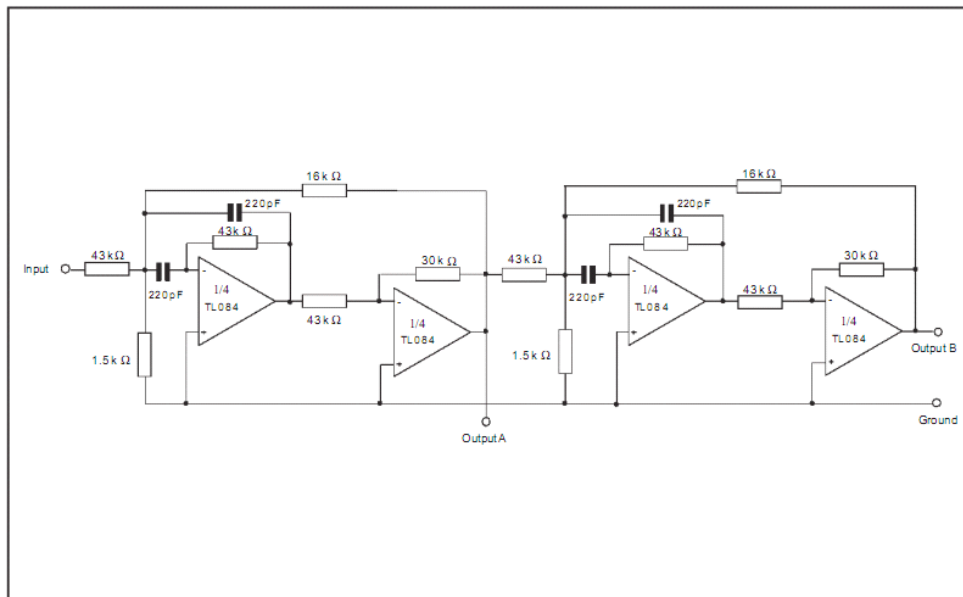
AUDIO DISTRIBUTION AMPLIFIER



Application of Audio Distribution Amplifier

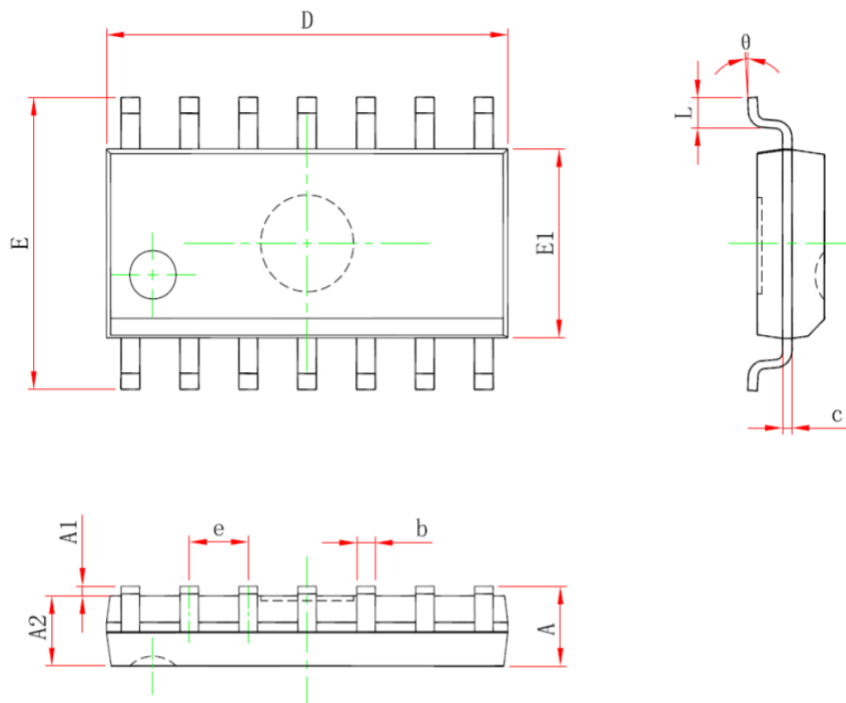
Application of active feedback filter

POSITIVE FEEDBACK BANDPASS FILTER



PACKAGE OUTLINE DIMENSIONS

SOP14



Ordering information

Order code	Package	Baseqty	Deliverymode	Marking
UMW TL084CDR	SOP-14	2500	Tape and reel	TL084C
UMW TL084IDR	SOP-14	2500	Tape and reel	TL084I