

Dual common-mode rejection differential line receiver

TDA8579

FEATURES

- Excellent common-mode rejection, up to high frequencies
- Elimination of source resistance dependency in the common-mode rejection
- Few external components
- High supply voltage ripple rejection
- Low noise
- Low distortion
- All pins protected against electrostatic discharge
- AC and DC short-circuit safe to ground and V_{CC}
- Fast DC settling.

GENERAL DESCRIPTION

The TDA8579 is a two channel differential amplifier with 0 dB gain and low distortion. The device has been primarily developed for car radio applications where long connections between signal sources and amplifiers (or boosters) are necessary and where ground noise has to be eliminated. The device is intended to be used to receive line inputs in audio applications that require a high level of common-mode rejection. The device is contained in an 8-pin small outline (SO) or dual in-line (DIP) package.

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V_{CC}	supply voltage		5.0	8.5	18	V
I_{CC}	supply current	$V_{CC} = 8.5 \text{ V}$	–	11	14	mA
G_v	voltage gain		–0.5	0	+0.5	dB
SVRR	supply voltage ripple rejection		55	60	–	dB
V_{no}	noise output voltage		–	3.7	5.0	μV
$ Z_i $	input impedance		100	240	–	$\text{k}\Omega$
CMRR	common-mode rejection ratio	$R_s = 0 \Omega$	–	80	–	dB

ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
TDA8579	DIP8	plastic dual in-line package; 8 leads (300 mil)	SOT97-1
TDA8579T	SO8	plastic small outline package; 8 leads; body width 3.9 mm	SOT96-1

Dual common-mode rejection differential line receiver

TDA8579

BLOCK DIAGRAM

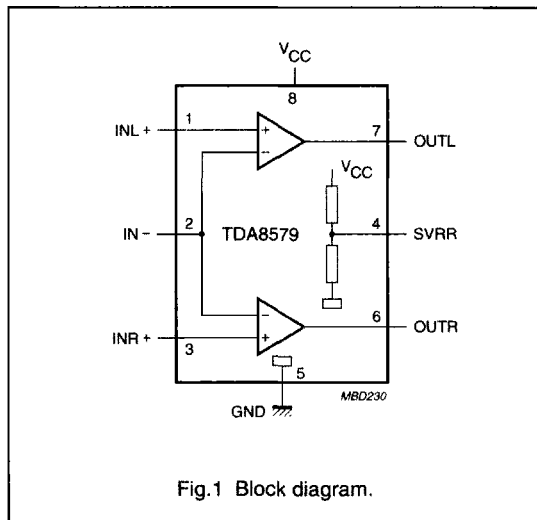


Fig.1 Block diagram.

FUNCTIONAL DESCRIPTION

The TDA8579 contains two identical differential amplifiers with a voltage gain of 0 dB. The device is intended to receive line input signals for audio applications. The TDA8579 has a very high level of common-mode rejection and thus eliminates ground noise. The common-mode rejection remains constant up to high frequencies (the amplifier gain is fixed at 0 dB). The inputs have a high input impedance. The output stage is a class AB stage with a low output impedance. For a large common-mode rejection, also at low frequencies, an electrolytic capacitor connected to the negative input is advised. Because the input impedance is relatively high, this results in a large settling time of the DC input voltage. Therefore a quick-charge circuit is included to charge the input capacitor within 0.2 seconds.

All input and output pins are protected against high electrostatic discharge conditions (4000 V, 150 pF, 150 Ω).

PINNING

SYMBOL	PIN	DESCRIPTION
INL+	1	positive input left
IN-	2	common negative input
INR+	3	positive input right
SVRR	4	half supply voltage
GND	5	ground
OUTR	6	output right
OUTL	7	output left
V _{CC}	8	supply voltage

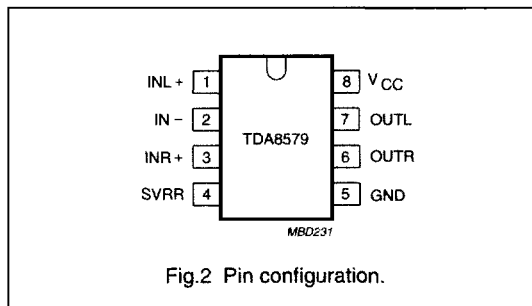


Fig.2 Pin configuration.