DATA SHEET

TDA8571J

4 × 40 W BTL quad car radio power amplifier

Product specification
Supersedes data of 1998 Mar 13

2002 Mar 05

Philips Semiconductors

PHILIPS

4 × 40 W BTL quad car radio power amplifier

TDA8571J

FEATURES

- Requires very few external components
- High output power
- Low output offset voltage
- Fixed gain
- Diagnostic facility (distortion, short-circuit and temperature pre-warning)
- Good ripple rejection
- Mode select switch (operating, mute and standby)
- Load dump protection
- Short-circuit safe to ground and to V_P and across the load
- Low power dissipation in any short-circuit condition
- Thermally protected
- Reverse polarity safe
- Electrostatic discharge protection
- No switch-on/switch-off plop
- Flexible leads
- Low thermal resistance
- Pin compatible with the TDA8568Q, except for the gain.

GENERAL DESCRIPTION

The TDA8571J is a integrated class-B output amplifier contained in a 23-lead Single-In-Line (SIL) plastic power package. It contains four amplifiers in a BTL configuration, each with a gain of 34 dB. The output power is 4 × 40 W (EIAJ) into a 4 Ω load.

APPLICATIONS

- Primarily developed for car radio applications.

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V_P	operating supply voltage		6	14.4	18	V
I_{ORM}	repetitive peak output current		–	–	7.5	A
$I_{q(tot)}$	total quiescent current		–	200	–	mA
I_{stb}	standby current		–	0.2	100	μA
I_{sw}	switch-on current		–	–	80	μA
$\lvert Z_i \rvert$	input impedance		25	30	–	kΩ
$P_{o(EIAJ)}$	EIAJ output power	THD = maximum	–	40	–	W
SVRR	supply voltage ripple rejection	R_s = 0 Ω	–	50	–	dB
α_{cs}	channel separation	R_s = 10 kΩ	–	50	–	dB
$G_{v(cl)}$	closed-loop voltage gain		33	34	35	dB
$V_{n(o)}$	noise output voltage	R_s = 0 Ω	–	–	170	μV
$\lvert V_{OS} \rvert$	DC output offset voltage	MUTE	–	–	80	mV
$\lvert \Delta V_{OS} \rvert$	delta DC output offset voltage	ON ↔ MUTE	–	–	80	mV

ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
TDA8571J	DBS23P	plastic DIL-bent-SIL power package; 23 leads (straight lead length 3.2 mm)	SOT411-1

BLOCK DIAGRAM

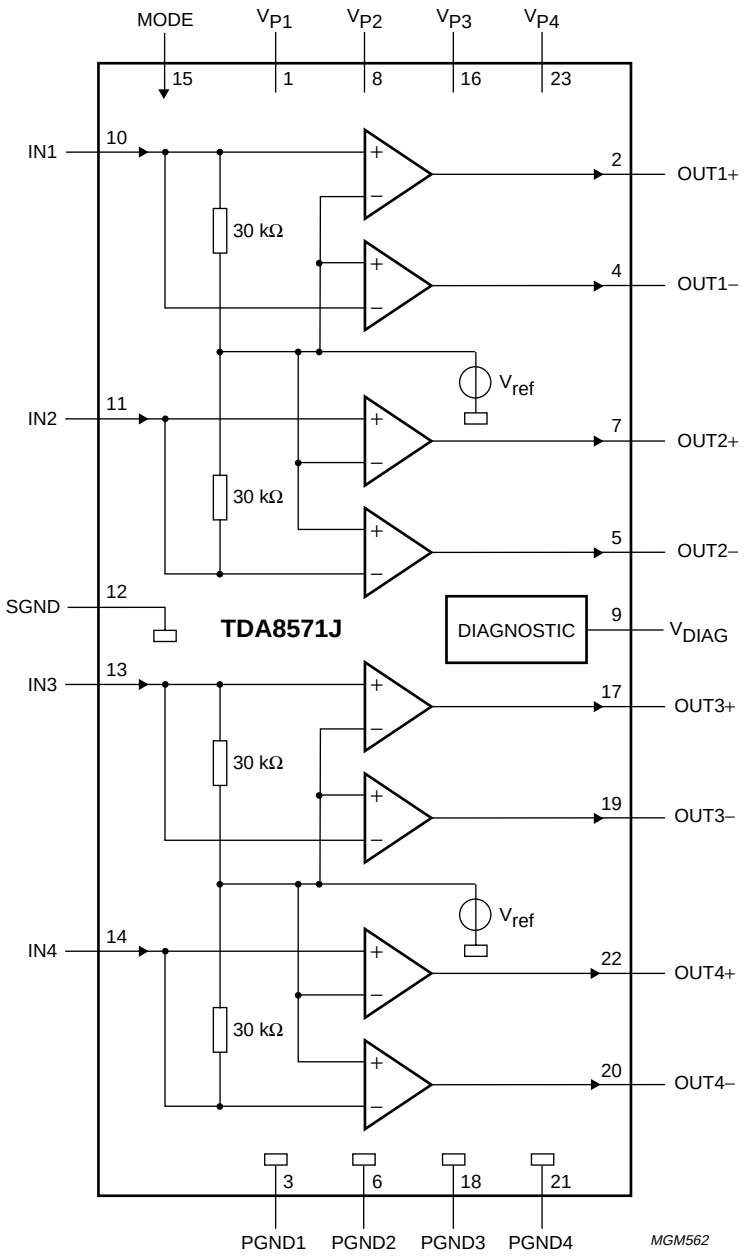

Fig.1 Block diagram.

PINNING

SYMBOL	PIN	DESCRIPTION
V_{P1}	1	supply voltage 1
OUT1+	2	output 1+
PGND1	3	power ground 1
OUT1–	4	output 1–
OUT2–	5	output 2–
PGND2	6	power ground 2
OUT2+	7	output 2+
V_{P2}	8	supply voltage 2
V_{DIAG}	9	diagnostic output
IN1	10	input 1
IN2	11	input 2
SGND	12	signal ground
IN3	13	input 3
IN4	14	input 4
MODE	15	mode select switch input
V_{P3}	16	supply voltage 3
OUT3+	17	output 3+
PGND3	18	power ground 3
OUT3–	19	output 3–
OUT4–	20	output 4–
PGND4	21	power ground 4
OUT4+	22	output 4+
V_{P4}	23	supply voltage 4

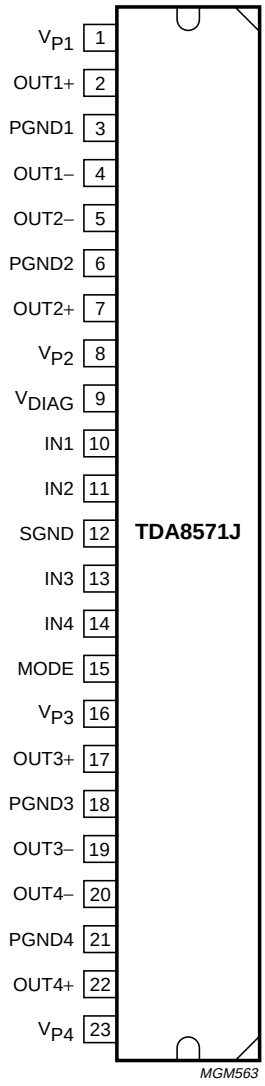

Fig.2 Pin configuration.