

# DATA SHEET

## **TDA1519**

**2 x 6 W stereo car radio power  
amplifier**

Product specification  
File under Integrated Circuits, IC01

May 1992

**2 x 6 W stereo car radio power amplifier****TDA1519****GENERAL DESCRIPTION**

The TDA1519 is an integrated class-B dual output amplifier in a 9-lead single in-line (SIL) plastic medium power package. The device is primarily developed for car radio applications.

**Features**

- Requires very few external components
- High output power
- Fixed gain
- Good ripple rejection
- Mute/stand-by switch
- Load dump protection
- AC and DC short-circuit-safe to ground and  $V_P$
- Thermally protected
- Reverse polarity safe
- Capability to handle high energy on outputs ( $V_P = 0$  V)
- No switch-on/switch-off plop
- Protected against electrostatic discharge
- Compatible with TDA1517 (except gain).

**QUICK REFERENCE DATA**

PARAMETER	CONDITIONS	SYMBOL	MIN.	TYP.	MAX.	UNIT
Supply voltage range						
operating		$V_P$	6,0	14,4	18,0	V
non-operating		$V_P$	–	–	30	V
load dump protected		$V_P$	–	–	45	V
Repetitive peak output current		$I_{ORM}$	–	–	2,5	A
Total quiescent current		$I_{tot}$	–	40	80	mA
Stand-by current		$I_{sb}$	–	0,1	100	$\mu$ A
Switch-on current		$I_{sw}$	–	–	40	$\mu$ A
Input impedance		$ Z_i $	50	–	–	k $\Omega$
Output power	THD = 0,5%; 4 $\Omega$	$P_o$	–	5	–	W
	THD = 10%; 4 $\Omega$	$P_o$	–	6	–	W
Channel separation		$\alpha$	40	–	–	dB
Noise output voltage		$V_{no(rms)}$	–	150	–	$\mu$ V
Supply voltage ripple rejection	f = 100 Hz	SVRR	40	–	–	dB
	f = 1 kHz to 10 kHz	SVRR	48	–	–	dB
Crystal temperature		$T_c$	–	–	150	$^{\circ}$ C

**PACKAGE OUTLINE**

9-lead SIL-bent-to-DIL; plastic (SOT110B); SOT110-1; 1996 July 19.

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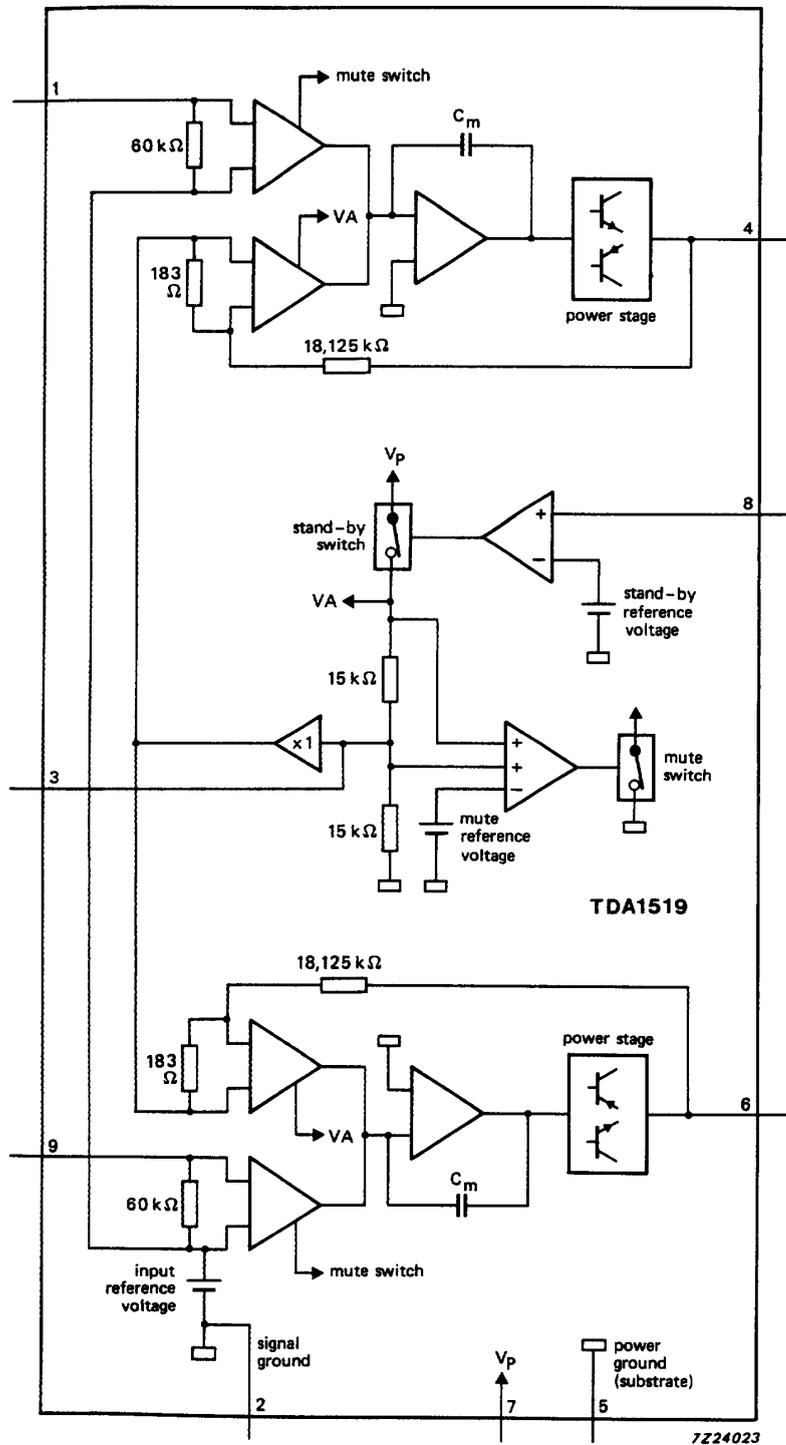


Fig.1 Block diagram.

## 2 x 6 W stereo car radio power amplifier

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**PINNING**

1	INV1	non-inverting input 1
2	GND1	ground (signal)
3	SVRR	supply voltage ripple rejection
4	OUT1	output 1
5	GND2	ground (substrate)
6	OUT2	output 2
7	V <sub>P</sub>	supply voltage
8	M/SS	mute/stand-by switch
9	-INV2	non-inverting input 2

**FUNCTIONAL DESCRIPTION**

The TDA1519 contains two identical amplifiers with differential input stages. The gain of each amplifier is fixed at 40 dB. A special feature of this device is the mute/stand-by switch which has the following features:

- low stand-by current (< 100  $\mu$ A)
- low mute/stand-by switching current (low cost supply switch)
- mute condition.

**RATINGS**

Limiting values in accordance with the Absolute Maximum System (IEC 134)

PARAMETER	CONDITIONS	SYMBOL	MIN.	MAX.	UNIT
Supply voltage					
operating		V <sub>P</sub>	–	18	V
non-operating		V <sub>P</sub>	–	30	V
load dump protected	during 50 ms; t <sub>r</sub> ≥ 2,5 ms	V <sub>P</sub>	–	45	V
AC and DC short-circuit-safe voltage		V <sub>PSC</sub>	–	18	V
Reverse polarity		V <sub>PR</sub>	–	6	V
Energy handling capability at outputs	V <sub>P</sub> = 0 V		–	200	mJ
Non-repetitive peak output current		I <sub>OSM</sub>	–	4	A
Repetitive peak output current		I <sub>ORM</sub>	–	2,5	A
Total power dissipation	see Fig.2	P <sub>tot</sub>	–	15	W
Crystal temperature		T <sub>c</sub>	–	150	°C
Storage temperature range		T <sub>stg</sub>	–55	+ 150	°C