

ILA1519B

2 x 6 Watt Stereo Power Amplifier

The ILA1519B 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
- Thermally protected
- High output power
- Reverse polarity safe
- Fixed gain
- Compatible with TDA1517 (except gain)
- Good ripple rejection
- No switch-on/switch-off plop
- Mute/stand-by switch
- Protected against electrostatic discharge
- Load dump protection
- AC and DC short-circuit-safe to ground and V_p
- Capability to handle high energy on outputs ($V_p = 0\text{ V}$)

QUICK REFERENCE DATA

PARAMETER	SYMBOL	CONDITIONS	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	mA
Switch-on current	I_{sw}				40	mA
Input impedance	$ Z_i $		50			k Ω
Output power		THD= 0,5%;4 Ω		5		W
		THD=10%;4 Ω		6		W
Channel separation	α		40			dB
Noise output voltage	$V_{no(rms)}$				150	μ V
Supply voltage ripple rejection	SVRR	f=100Hz	40			dB
	SVRR	f=1kHz to 10 kHz	48			dB
Crystal temperature	T_c				150	$^{\circ}$ C

PACKAGE OUTLINE: 9-lead SIL-bent-to-DIL; plastic (SOT110B).

PAD DESCRIPTION

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_p	supply voltage
8	M/SS	mute/stand-by switch
9	INV2	non-inverting input 2

DC ELECTRICAL CHARACTERISTICS (note 1)V_p = 14,4 V; T_{amb} = 25 °C; unless otherwise specified

PARAMETER	CONDITIONS	SYMBOL	MIN	TYP.	MAX.	UNIT
Supply						
Supply voltage range	note 2	V _p	6,0	14,4 40 6,95	18,0	V
Quiescent current		I _P	-		80	mA
DC output voltage	note 3	V _O	-		-	V
Mute/stand-by switch						
Switch-on voltage level	see Fig.3	V _{ON}	8,5	-	-	V
Mute condition						
Output signal in mute position	V _I = 1 V (max.); f = 20 Hz to 15 kHz	V _{mute} V _O	3,3 -	- -	6,4 20	V mV
Stand-by condition						
DC current in stand-by condition		V _{sb} I _{sb}	0 -	12 -	2 100 40	V μA
Switch-on current		I _{sw}	-			μA

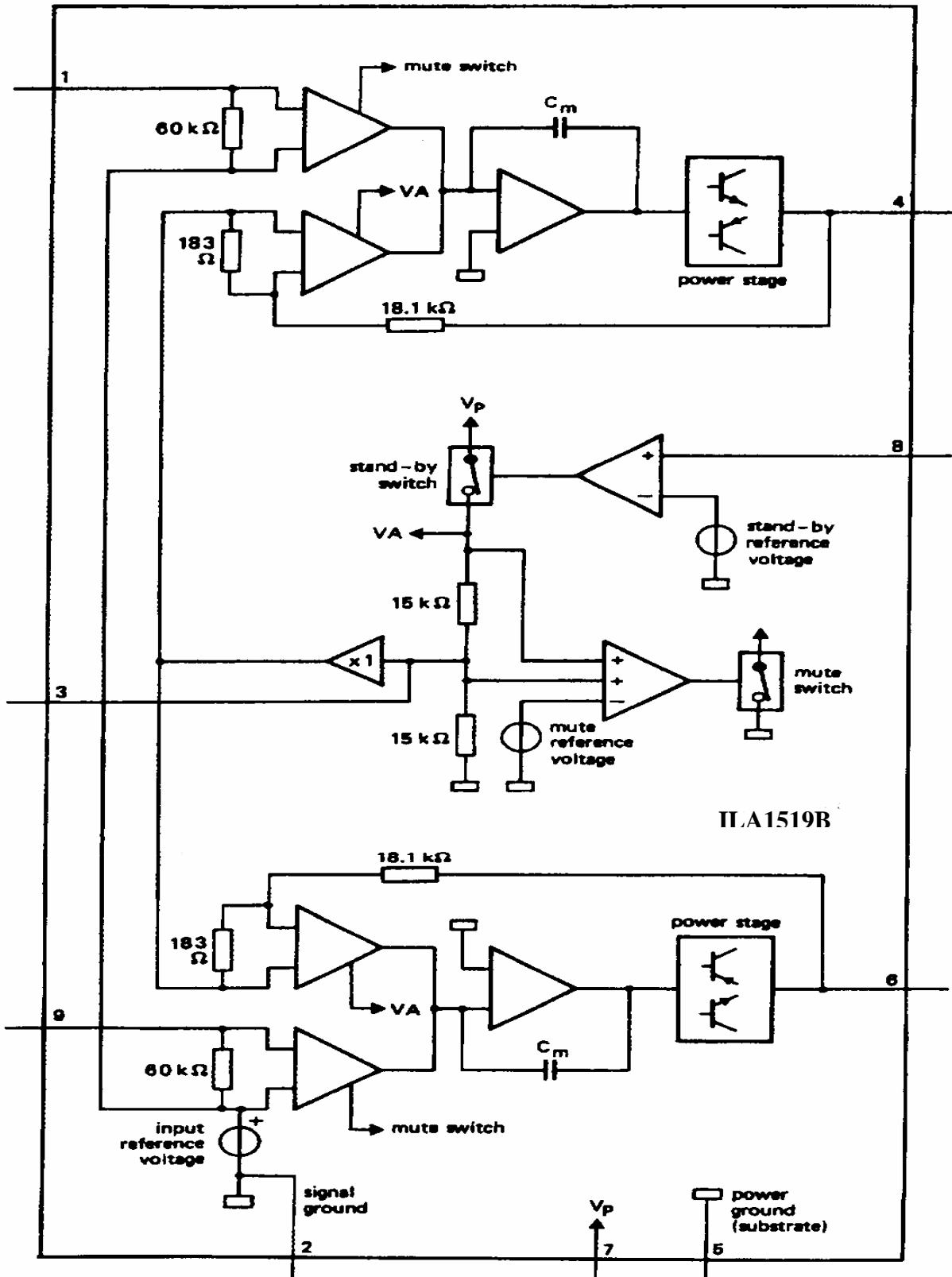
AC CHARACTERISTICS (note 1)V_p=14,4V; R_L=4Ω; f=1kHz; T_{amb}=25°C unless otherwise specified

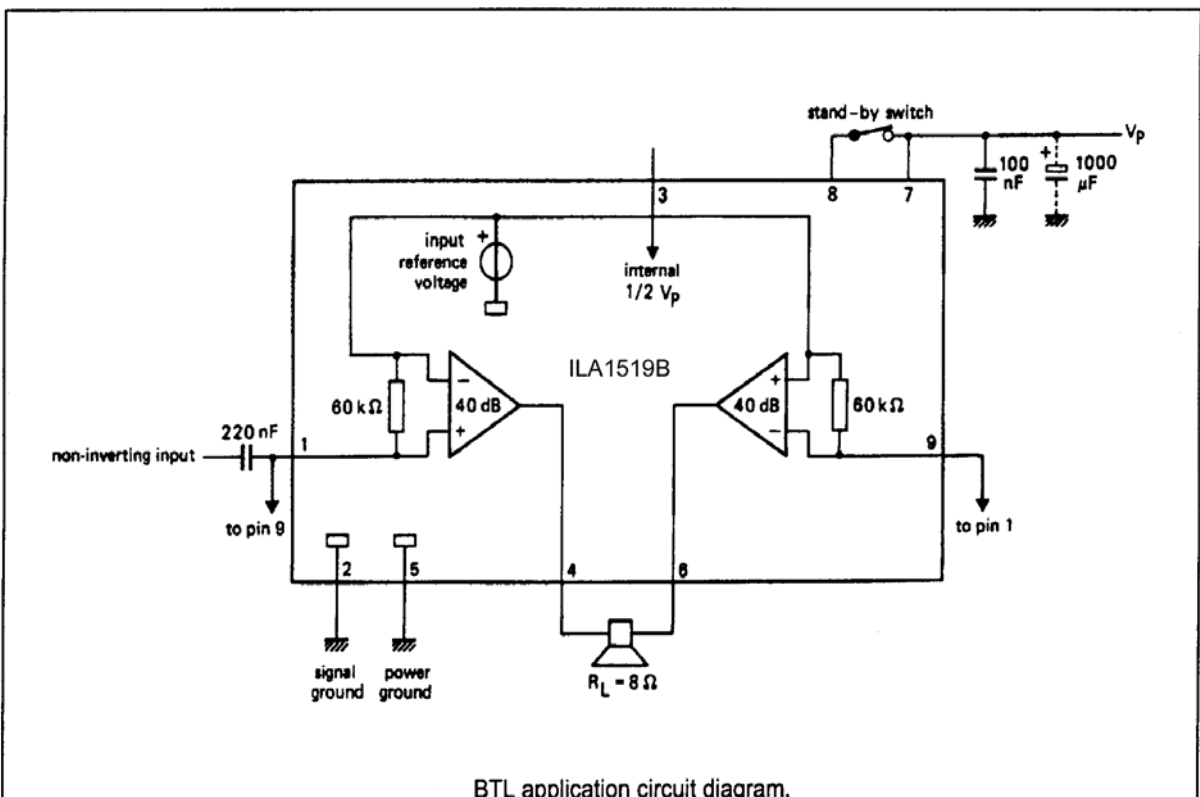
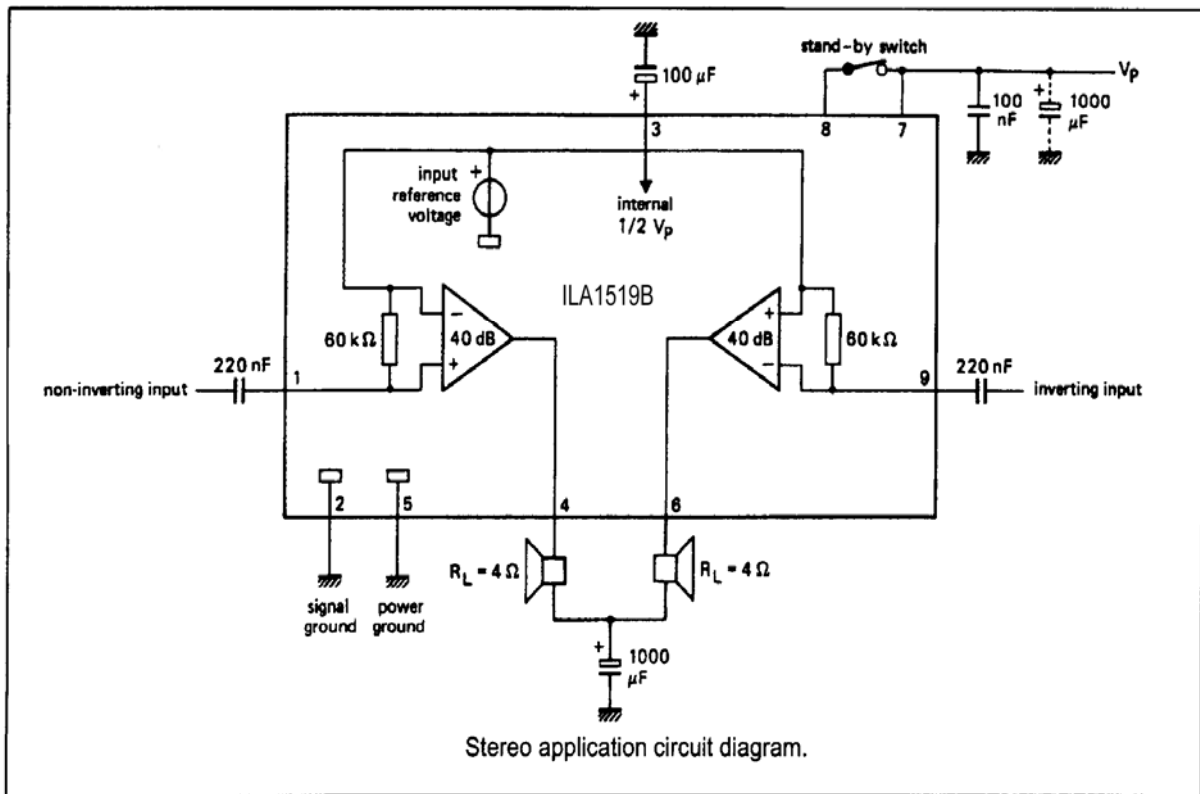
PARAMETER	CONDITIONS	SYMBOL	MIN.	TYP.	MAX.	UNIT
Output power	note 4; THD = 0,5% THD = 10%	P _O P _O	4 5,5	5 6,0 0,1	- -	W W
Total harmonic distortion	P _O =1W	THD	-		-	%
Low frequency roll-off	note 5; -3 dB	f _L	-	45	-	Hz
High frequency roll-off	-1 dB	f _H	20	40	-	kHz
Closed loop voltage gain		G _V	39		41	dB
Supply voltage ripple rejection	note 6					
ON				-		
ON	f= 100 Hz	SVRR	40	-	-	dB
	f= 10 Hz to 10 kHz	SVRR	48	-	-	dB
mute		SVRR	48	-	-	dB
stand-by		SVRR	80	60	-	dB
Input impedance		Z _{il}	50		75	kΩ
Noise output voltage	note 7;			150		
ON	R _S =0Ω	V _{no(rms)}	-	250	-	mV
ON	R _S = 10 kΩ	V _{no(rms)}	-	120	500	mV
mute	note 8	V _{no(rms) a}	-	-	-	mV
Channel separation	R _S = 10 kΩ	IDGvl	40	0,1	-	dB
Channel balance			-		1	dB

Notes to the characteristics

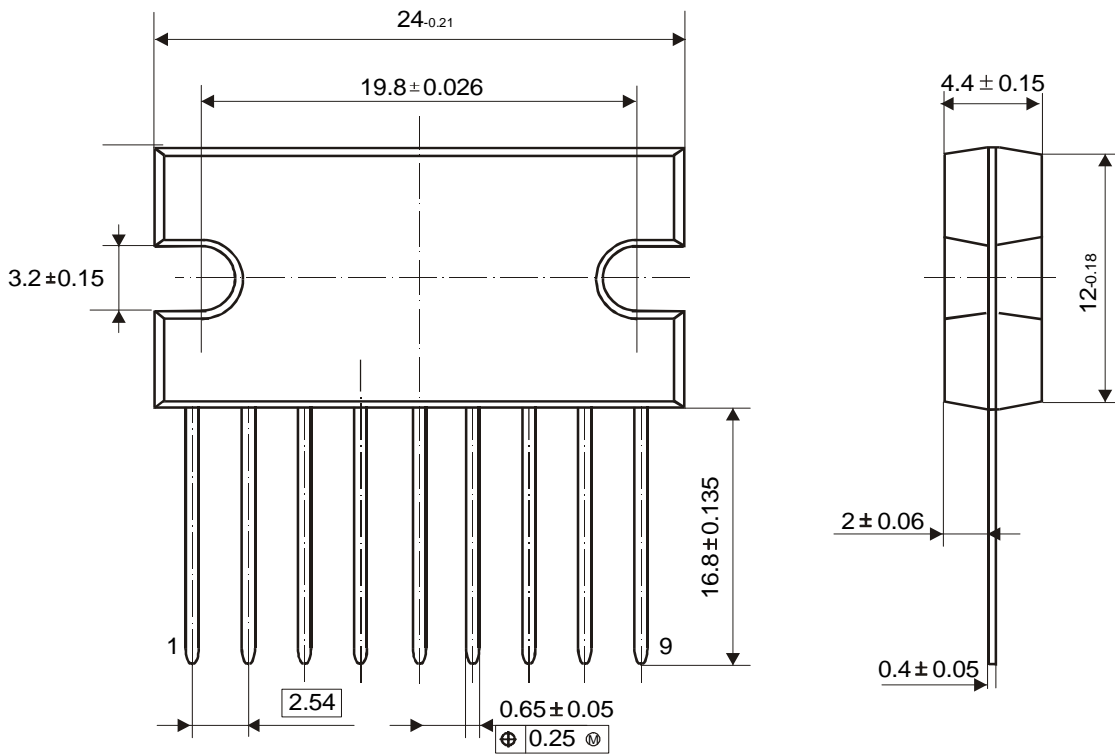
- All characteristics are measured using the circuit shown in Fig. 4.
- The circuit is DC adjusted at V_p= 6V to 18V and AC operating at V_p= 8,5V to 18 V.
- At 18 V < V_p< 30 V the DC output voltage < V_p/2.
- Output power is measured directly at the output pins of the IC.
- Frequency response externally fixed.
- Ripple rejection measured at the output with a source impedance of 0 Ω (maximum ripple amplitude of 2 V) and a frequency between 100 Hz and 10 kHz.
- Noise voltage measured in a bandwidth of 20 Hz to 20 kHz.
- Noise output voltage independent of R[^] (V_j = 0 V).

BLOCK DIAGRAM

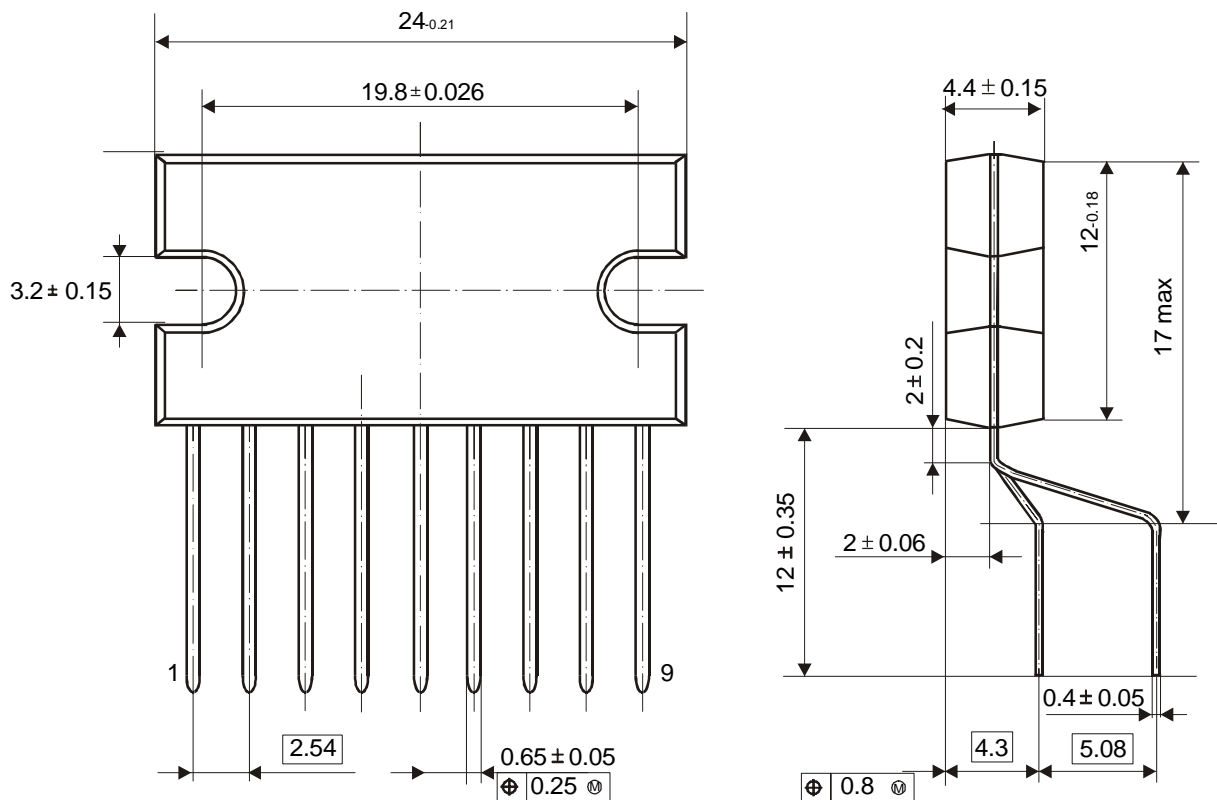




● 9-Pin Plastic Power Single-in-Line (SIL-9MPF, SOT 131-2)



● 9-Pin Plas (SIL-9P, SOT 157-2)



• 9-Pin Plastic Power Single-in-Line (SIL-9MPF, SOT 110-1)

