



STA7056

3W MONO BRIDGE AMPLIFIER

PRODUCT PREVIEW

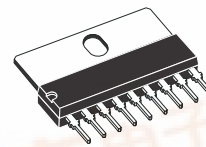
- NO EXTERNAL COMPONENTS
- NO POP AT TURN-ON/OFF
- LOW POWER CONSUMPTION
- SHORT CIRCUIT PROOF

DESCRIPTION

The STA7056 is a mono Bridge Amplifier assembled in single in line 9 pins package.

The STA7056 is specially designed for battery fed portable recorders, radios and TV receivers.

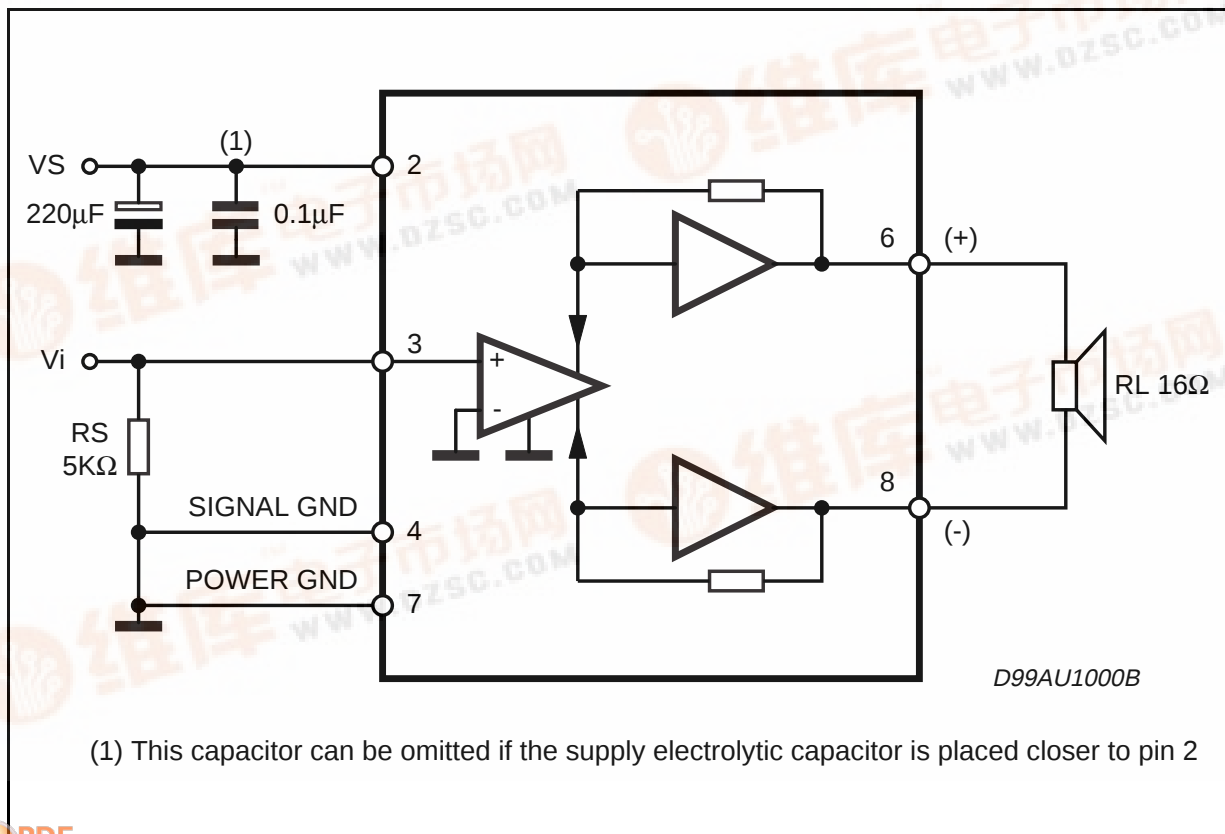
BI20II TECHNOLOGY



SIP9

ORDERING NUMBER: STA7056

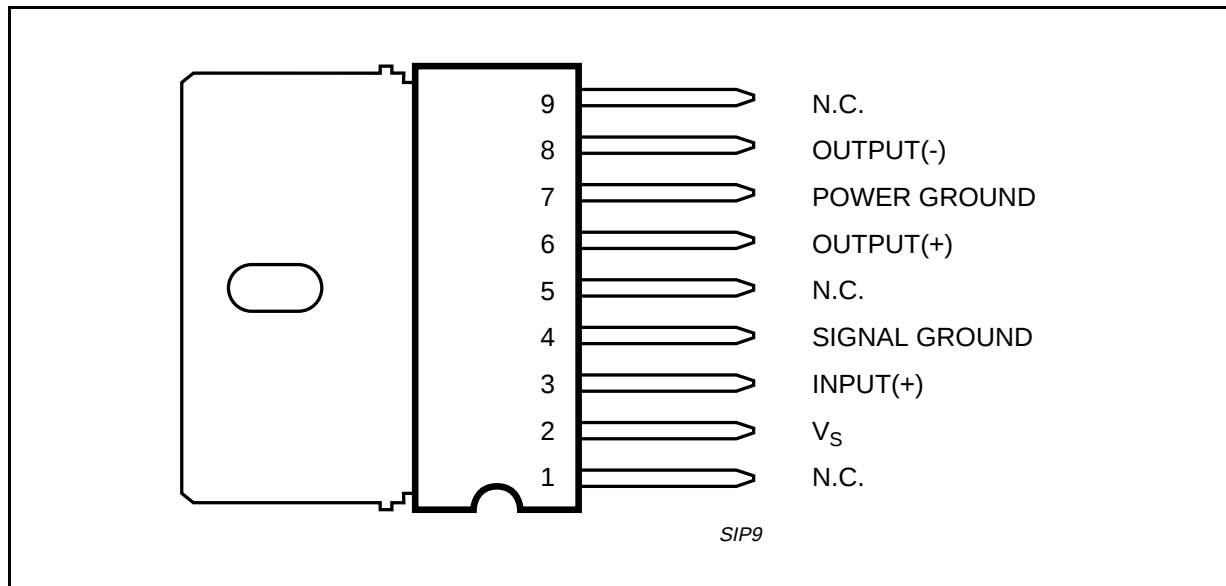
BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V _S	Supply Voltage	20	V
I _O	Output Peak current (repetitive f ≥ 20Hz)	1	A
I _O	Output Peak current (non repetitive t = 100μs)	1.5	A
P _{tot}	Total Power Dissipation (T _{case} < 70°C)	10	W
T _J , T _{stg}	Storage and Function Temperature	-40 to 150	°C
T _{sc}	Short Circuit Time (the load can be short circuited to all input conditions)	1	hr

PIN CONNECTION



THERMAL DATA

Symbol	Parameter	Value	Unit
R _{th j-case}	Thermal Resistance Junction-case	8	°C/W
R _{th j-amb}	Thermal Resistance Junction-ambient	50	°C/W

Power Dissipation

Assume: V_S = 11V; R_L = 16Ω

$$\text{The minimum sine-wave dissipation is } P_d \text{ max} = \frac{V_S^2}{\pi^2 \cdot R_{L/2}} = 1.52\text{W}$$

The R_{th j - amb} of the package is 50°C/W.

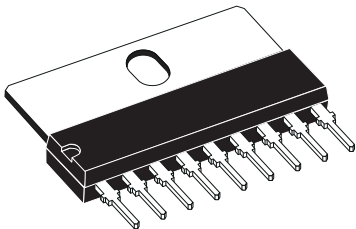
$$T_{\text{amb}} (\text{max}) = 150 - 50 \times 1.52 = 74^\circ\text{C}$$

ELECTRICAL CHARACTERISTICS (Refer to the test circuit, $V_s = 12V$; $R_L = 16\Omega$; $R_s = 50\Omega$; $f = 1KHz$, $T_{amb} = 25^\circ C$ unless otherwise specified.)

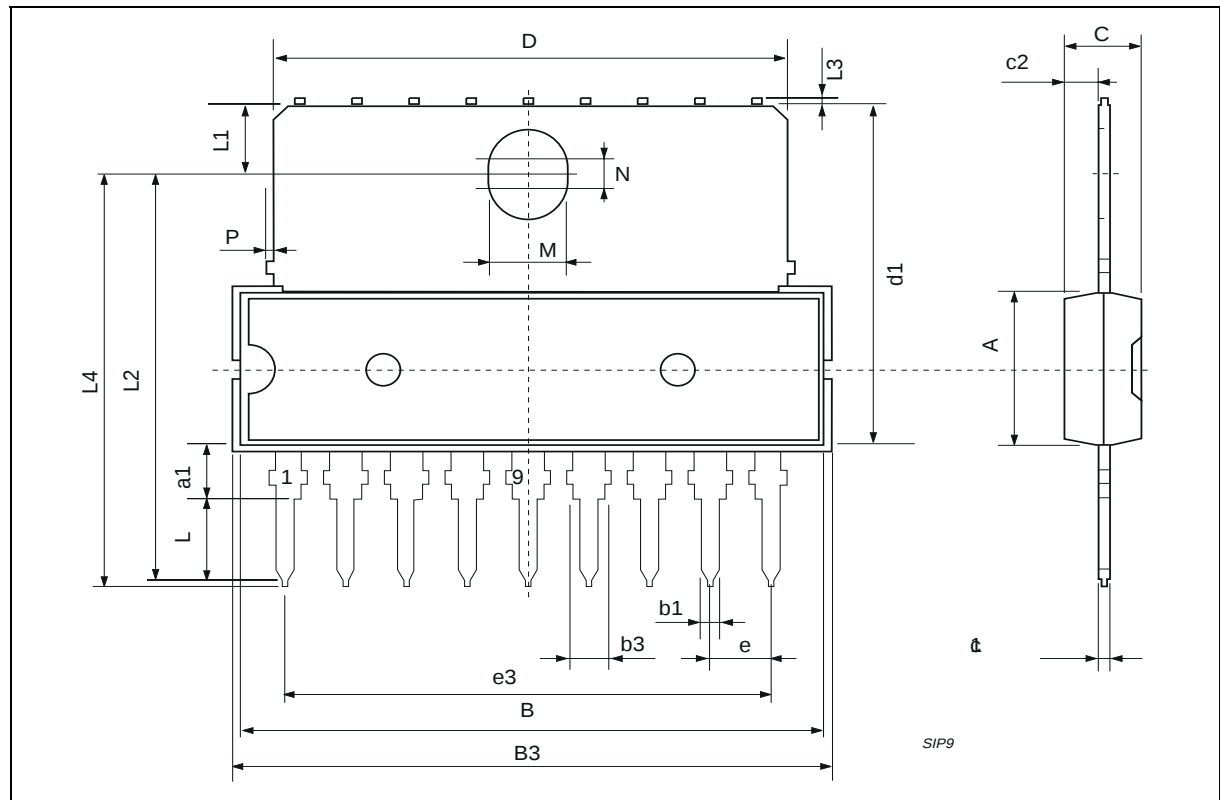
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
V_s	Supply Voltage		3		18	V
I_q	Total Quiescent Current	$R_L = \infty$		6	8	mA
		$R_L = 16\Omega$		10	20	mA
I_o	Repetitive Peak Output Current				0.9	A
P_o	Output Power	THD = 10%; $R_L = 16\Omega$	2.8	3.3		W
		THD = 10%; $R_L = 8\Omega$		4.5		W
THD	Total Harmonic Distortion	$P_o = 0.5W$		0.25	1	%
G_v	Voltage Gain		39	40.5	42	dB
$ Z_{in} $	Input Impedance			100		$K\Omega$
I_i	Input Bias Current			100	300	nA
ΔV_o	DC Output Offset Voltage	$R_s = 5K\Omega$			250	mV
SVR	Supply Voltage Rejection	$R_s = 0\Omega$; $f = 100Hz$ to $10 KHz$; $V_r = 0.2V$	36	50		dB
V_{no}	Noise Output Voltage	$R_s = 5K\Omega$; $f = 20Hz$ to $20 KHz$;		180	300	μV

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A			7.1			0.280
a1	2.7		3	0.106		0.118
B			23			0.90
B3			24.8			0.976
b1		0.5			0.020	
b3	0.85		1.6	0.033		0.063
C		3.3			0.130	
c1		0.43			0.017	
c2		1.32			0.052	
D			21.2			0.835
d1		14.5			0.571	
e		2.54			0.100	
e3		20.32			0.800	
L	3.1			0.122		
L1		3			0.118	
L2		17.6			0.693	
L3			0.25			0.010
L4	17.4		17.85	0.685		0.702
M		3.2			0.126	
N		1			0.039	
P			0.15			0.006

OUTLINE AND
MECHANICAL DATA



SIP9



Information furnished is believed to be accurate and reliable. However, STMicroelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of STMicroelectronics. Specification mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. STMicroelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of STMicroelectronics.

The ST logo is a registered trademark of STMicroelectronics

© 2000 STMicroelectronics – Printed in Italy – All Rights Reserved

STMicroelectronics GROUP OF COMPANIES

Australia - Brazil - China - Finland - France - Germany - Hong Kong - India - Italy - Japan - Malaysia - Malta - Morocco -
Singapore - Spain - Sweden - Switzerland - United Kingdom - U.S.A.

<http://www.st.com>