

3W MONO BRIDGE AMPLIFIER

PRODUCT PREVIEW

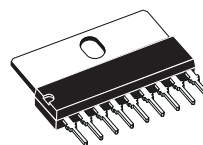
- NO EXTERNAL COMPONENTS
- NO POP AT TURN-ON/OFF
- LOW POWER CONSUMPTION
- SHORT CIRCUIT PROOF

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.

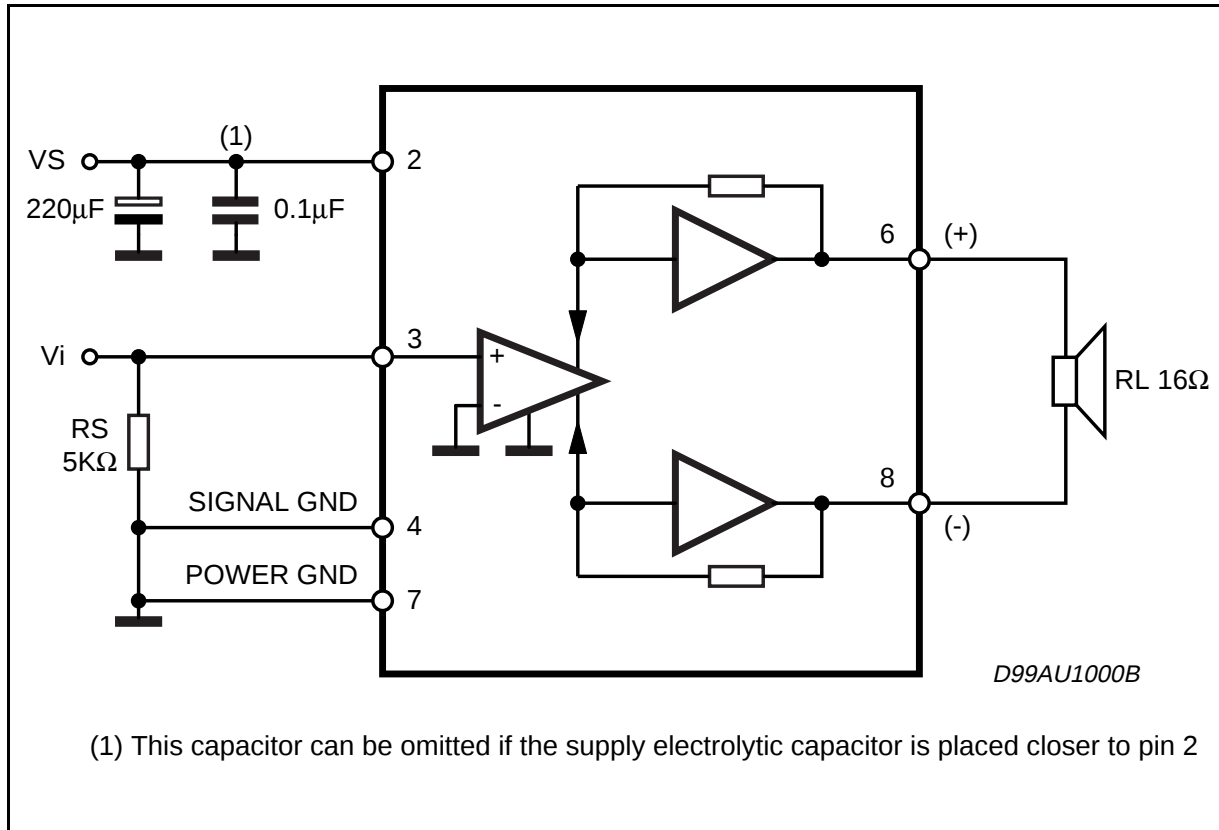
BI20II TECHNOLOGY



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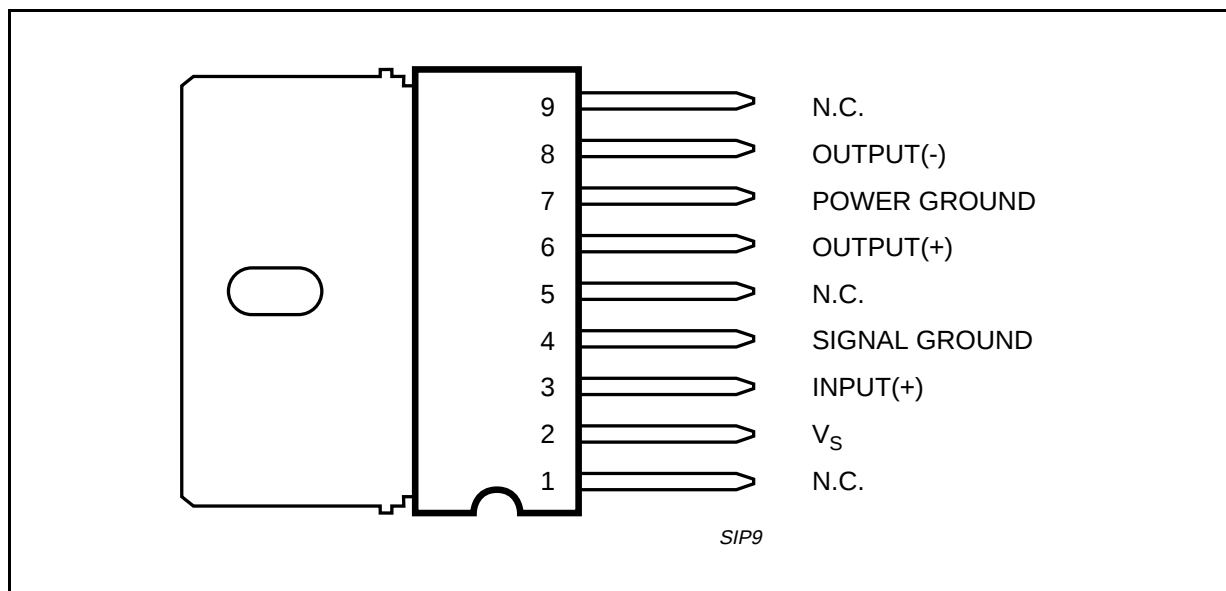
ORDERING NUMBER: STA7056

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

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

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

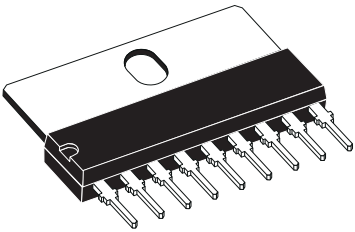
$$T_{\text{amb}} (\text{max}) = 150 - 50 \times 1.52 = 74^\circ\text{C}$$

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.)

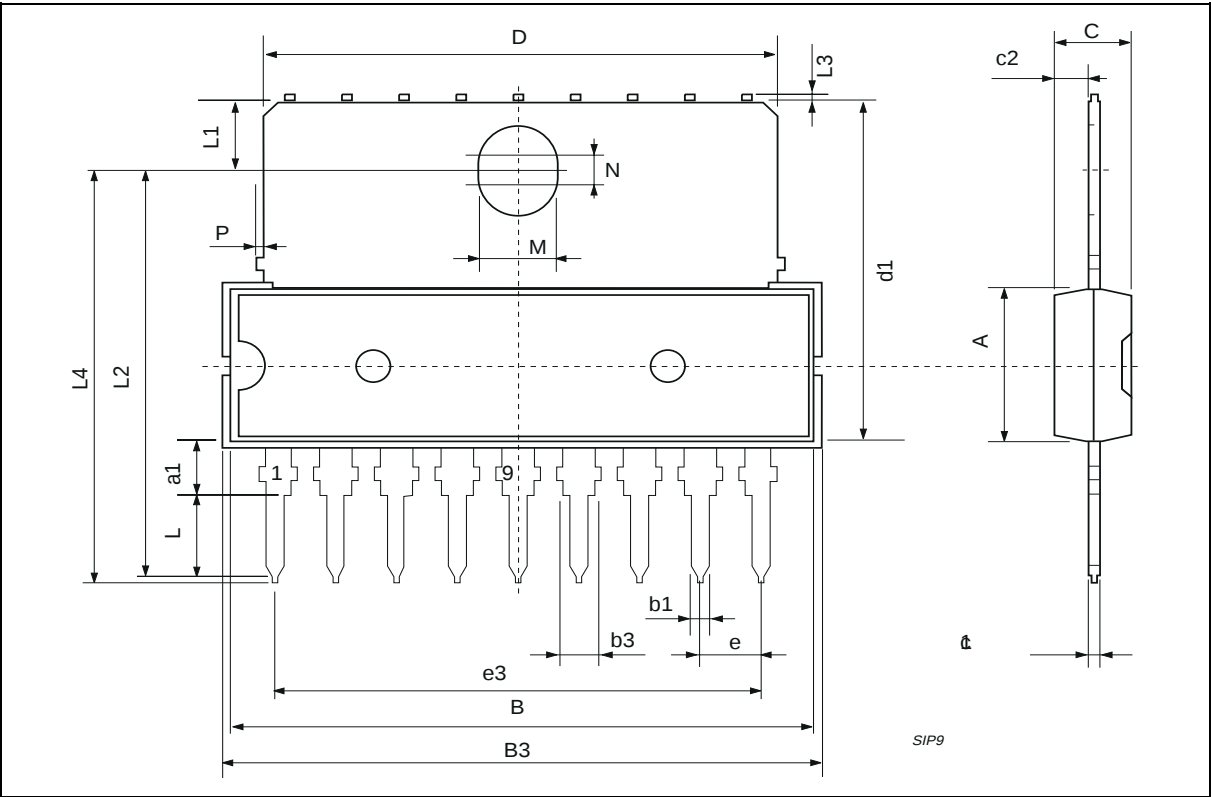
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
V_S	Supply Voltage		3		18	V
I_q	Total Quiescent Current	$R_L = \infty$		6	8	mA
		$R_L = 16\Omega$		10	20	mA
I_o	Repetitive Peak Output Current				0.9	A
P_o	Output Power	THD = 10%; $R_L = 16\Omega$	2.8	3.3		W
		THD = 10%; $R_L = 8\Omega$		4.5		W
THD	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



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