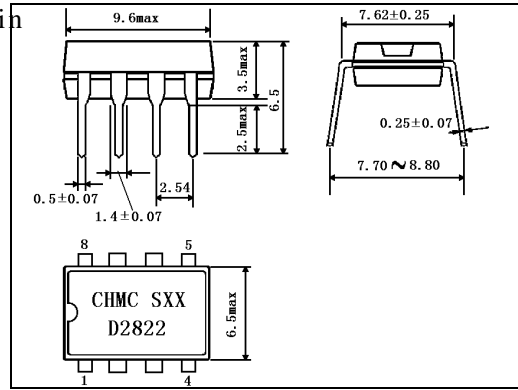


**DUAL POWER AMPLIFIER TDA2822**

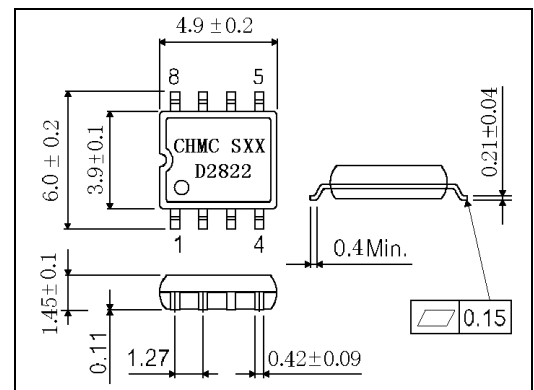
**GENERAL DESCRIPTION**

The TDA2822 is a monolithic integrated circuit in 8 lead Minidip package. It is intended for use as dual audio power amplifier in portable cassette tape players and radios.

Outline Drawing



DIP8

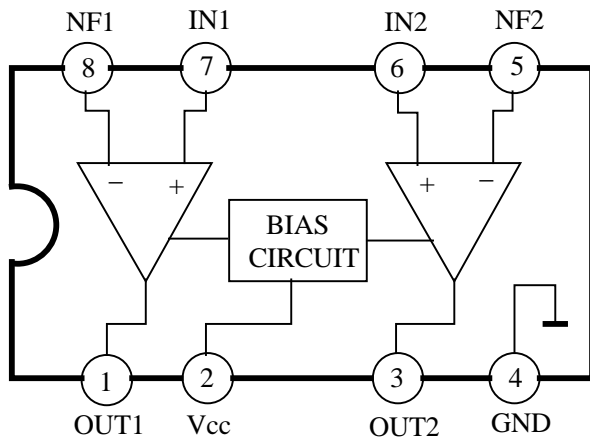


SOP8

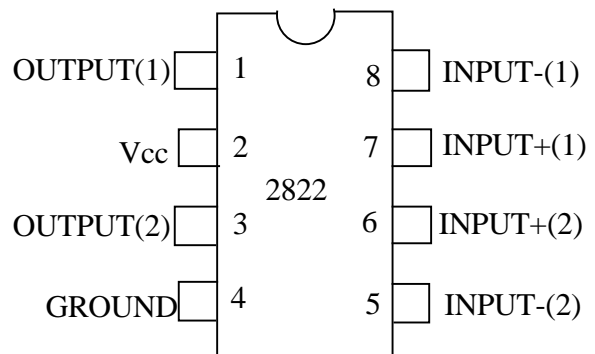
**FEATURES**

- Dual Low-voltage power amplifier
- Supply voltage down to 1.8V
- Low crossover distortion
- Low quiescent current
- Bridge or stereo configuration

**BLOCK DIAGRAM**



**PINNING**



## MAXIMUM RATINGS

Characteristics	Symbol	Value	Unit
Supply Voltage	V <sub>CC</sub>	15	V
Output Peak Current	I <sub>pk</sub>	1	A
Total Power Dissipation(at T <sub>amb</sub> =50°C)	P <sub>D</sub>	1	W
Total Power Dissipation(at T <sub>case</sub> =50°C)	P <sub>D</sub>	1.4	W
Operating Ambient Temperature Range	T <sub>a</sub>	-20~70	°C
Storage Temperature Range	T <sub>stg</sub>	-40~150	°C

## ELECTRICAL CHARACTERISTICS

### 1. Stereo Test Circuit(Unless otherwise specified V<sub>CC</sub>=6V,T<sub>amb</sub>=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Supply Voltage	V <sub>CC</sub>		1.8		15	V
Quiescent Output Voltage	V <sub>o</sub>			2.7		V
		V <sub>CC</sub> =3V		1.2		V
Quiescent Drain Current	I <sub>d</sub>			6	9	mA
Input Bias Current	I <sub>BA</sub>			100		nA
Output Power (Each Channel)	P <sub>o</sub>	d=10% f=1kHz V <sub>CC</sub> =3V R <sub>L</sub> =4		110		mW
		V <sub>CC</sub> =3V R <sub>L</sub> =32		20		
		d=10% f=1kHz V <sub>CC</sub> =9V R <sub>L</sub> =8	0.4	1		W
		V <sub>CC</sub> =6V R <sub>L</sub> =4 V <sub>CC</sub> =4.5V R <sub>L</sub> =4		0.65 0.32		
Distortion	THD	P <sub>o</sub> =0.5W R <sub>L</sub> =8 f=1kHz V <sub>CC</sub> =9V		0.3		%
Closed Loop Voltage Gain	A <sub>vf</sub>	f=1kHz		40		dB
Channel Balance	ΔA <sub>vf</sub>				± 1	dB
Input Resistance	R <sub>i</sub>	f=1kHz	100			k
Total Input Noise	V <sub>NI</sub>	R <sub>s</sub> =10k B=Cure A		2		μV
		R <sub>s</sub> =10k B=22Hz to22kHz		3		
Supply Voltage rejection	SVR	f=100Hz C1=C2=100 μF	24	30		dB
Channel Separation	CSR	f=1kHz		50		dB

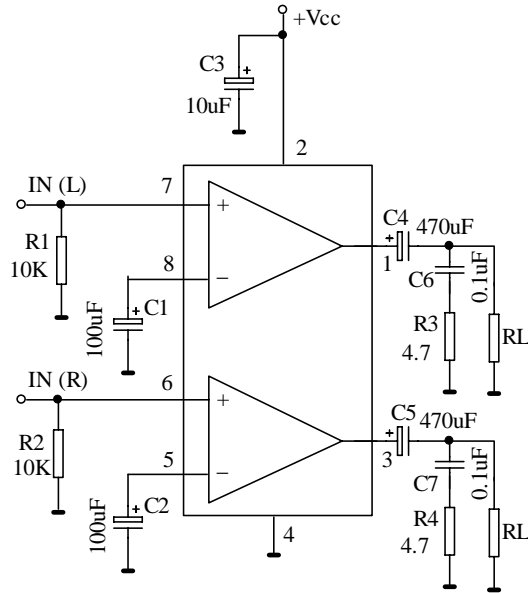
**2. Bridge Test Circuit** (Unless otherwise specified  $V_{cc}=6V, T_{amb}=25^{\circ}C$ )

Characteristic	Sym-bol	Test Condition	Min.	Typ.	Max.	Unit
Supply Voltage	$V_{cc}$		1.8		15	V
Quiescent Drain Current	$I_d$	$R_L=\infty$		6	9	mA
Output Offset Voltage (Between the Outputs)	$V_{os}$	$R_L=8$			$\pm 50$	mV
Input Bias Current	$I_b$			100		nA
Output Power	$P_o$	$d=10\%$ $f=1kHz$ $V_{cc}=9V$ $R_L=16$ $V_{cc}=6V$ $R_L=8$ $V_{cc}=4.5V$ $R_L=8$ $V_{cc}=4.5V$ $R_L=4$		2 1.35 0.7 1		W
		$V_{cc}=3V$ $R_L=4$ $V_{cc}=2V$ $R_L=4$	200	350 80		mW
Distortion	THD	$P_o=0.5W$ $R_L=8$ $f=1kHz$		0.2		%
Closed Loop Voltage Gain	$A_{vf}$	$f=1kHz$		40		dB
Input Resistance	$R_i$	$f=1kHz$	100			k
Total Input Noise	$V_{NI}$	$R_s=10k$ Curve A		2.5		$\mu V$
		$R_s=10k$ B=22Hz to 22kHz		3		
Supply Voltage Rejection	SVR	$f=100Hz$		40		dB
Power Bandwidth (-3dB)	B	$R_L=8$ $P_o=1W$		120		kHz

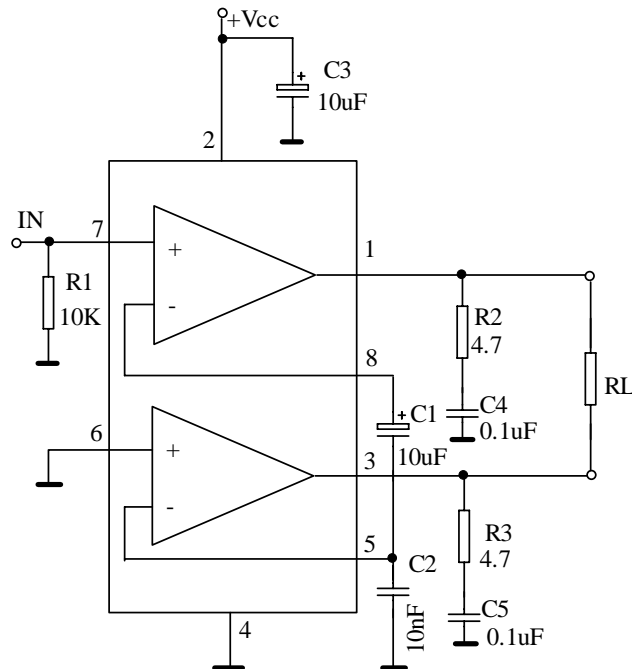
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## TEST CIRCUIT

### 1. STEREO TEST CIRCUIT

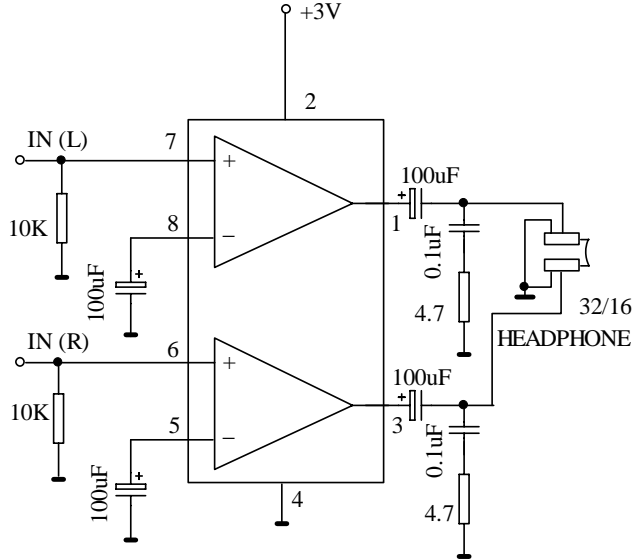


### 2. BRIDGE TEST CIRCUIT

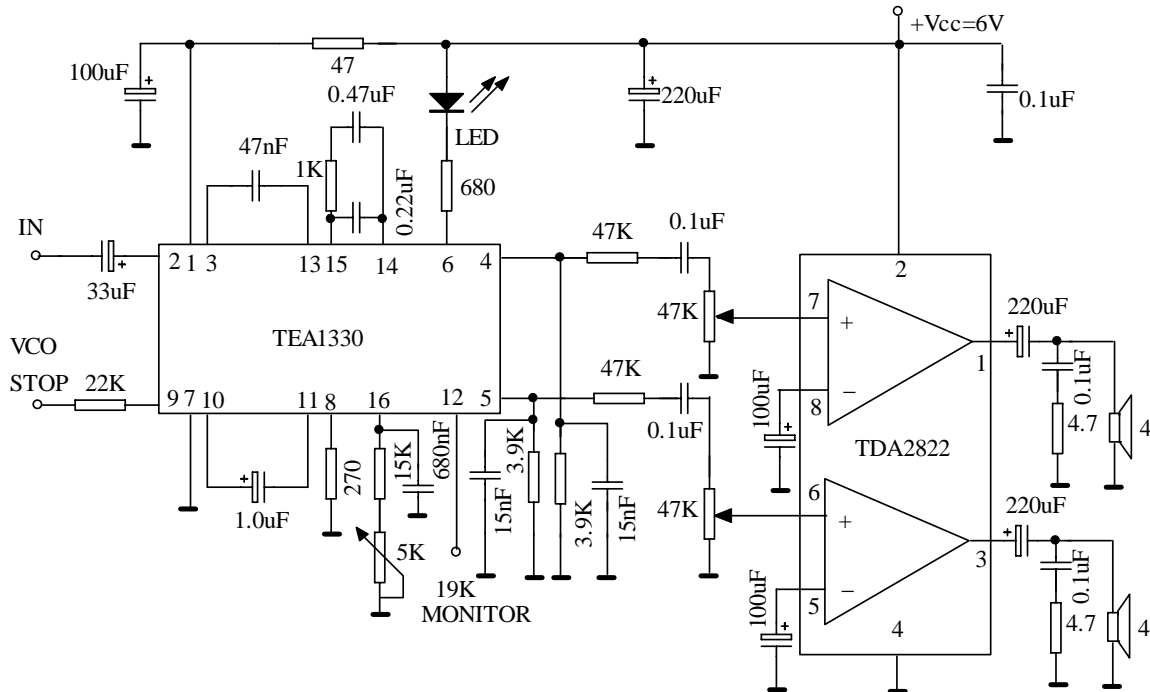


# APPLICATION CIRCUIT

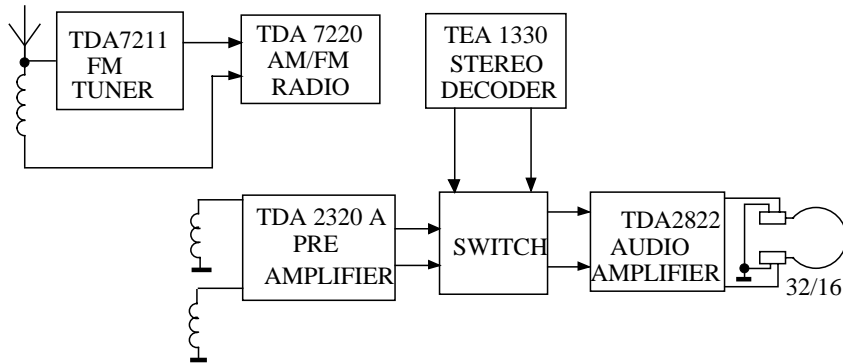
## 1. Typical application in portable players



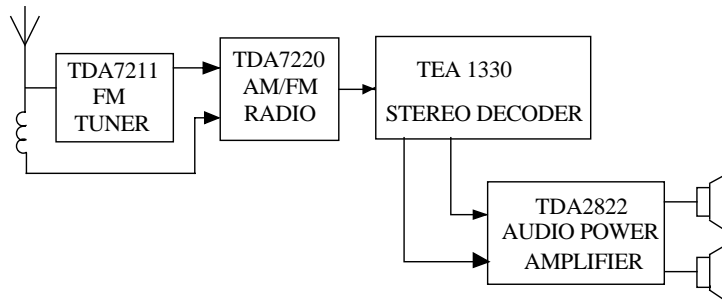
## 2. Application circuit for portable radio receivers



### 3. Portable radio cassette players

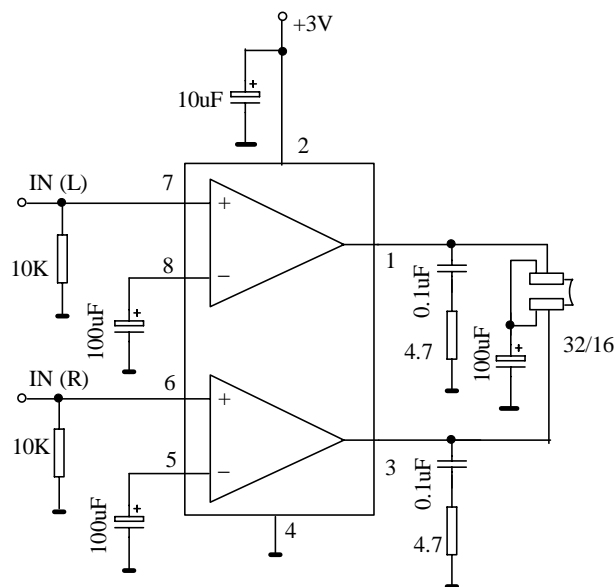


### 4. Portable stereo radios



### 5. Low cost application for portables

(using only one 100 $\mu$ F output capacitor)



## CHARACTERISTICS CURVES

Fig. 4 - Quiescent current vs. supply voltage

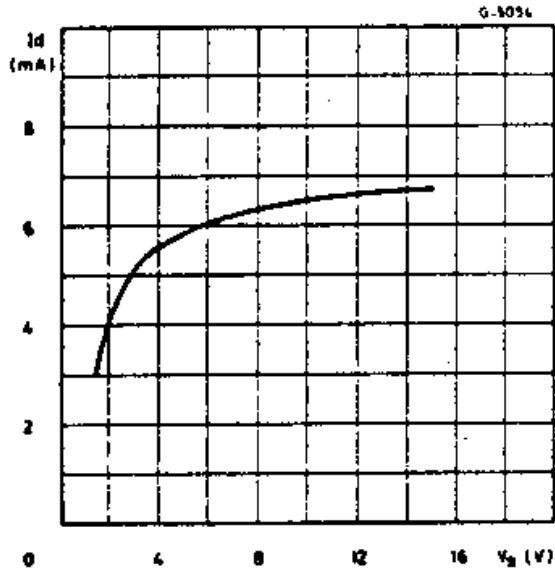


Fig. 5 - Supply voltage rejection vs. frequency (stereo)

