

## 6W AUDIO POWER AMPLIFIER—CTC810

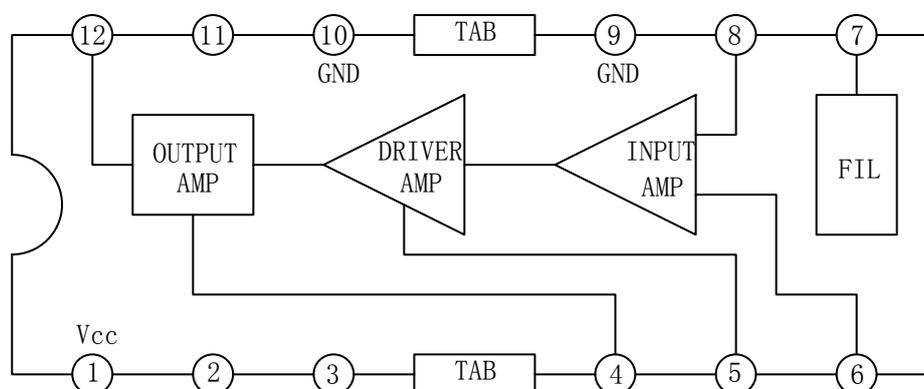
### DESCRIPTION

The CTC810 is a monolithic integrated circuit in a 12-lead quad in-line plastic package, intended for use as a low frequency class B amplifier.

### FEATURES

- \*A wide range of supply voltages (4 to 20V)
- \*High output current (up to 2.5A)
- \*High efficiency (75% at 6W output)
- \*Very low harmonic and cross-over distortion
- \*Built-in thermal shut down protection circuit

### BLOCK DIAGRAM



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# YOU DA INTEGRATED CIRCUIT

# CTC810

## ABSOLUTE MAXIMUM RATINGS (Tamb=25°C)

PARAMETER		SYMBOL	VALUE	UNIT
Supply Voltage		V <sub>CC</sub>	20	V
Output Peak Current	non-repetitive	I <sub>o</sub>	3.5	A
	repetitive		2.5	
Power Dissipation	$\theta_{c-a}=10\text{ }^{\circ}\text{C/W}$	P <sub>D</sub>	5	W
	No Heat Sink		1.7	
Ambient operating temperature		T <sub>opr</sub>	-20~+75	°C
Storage Temperature		T <sub>stg</sub>	-40~+150	°C

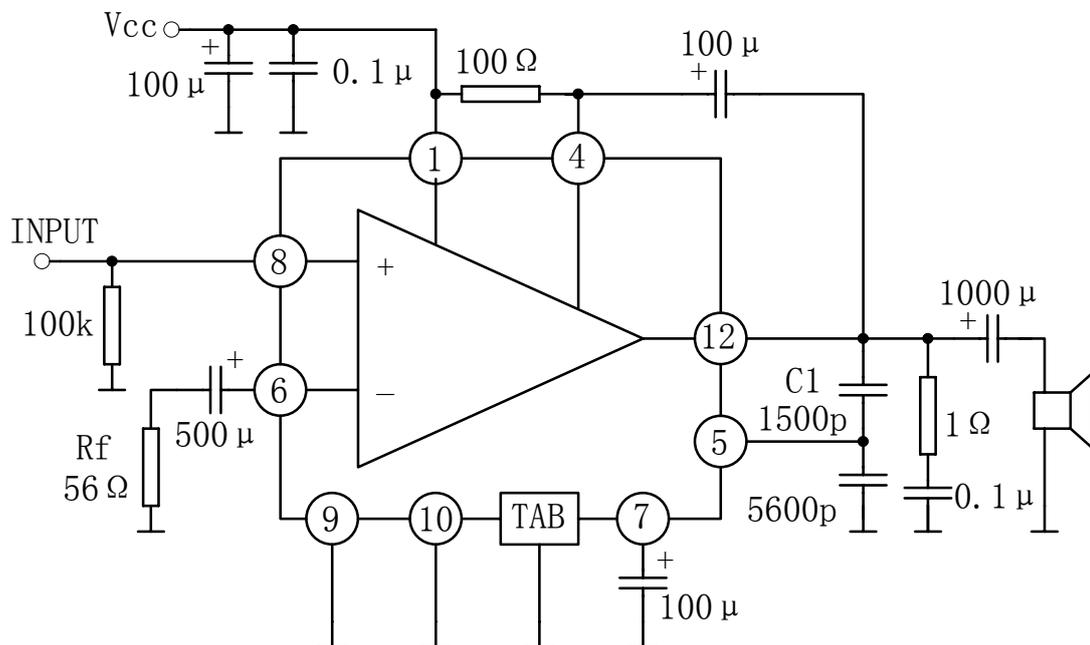
## ELECTRICAL CHARACTERISTICS

(Tamb=25°C, Vcc=14.4V, R<sub>L</sub>=4 Ω, f=1kHz, Unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Supply Voltage	V <sub>cc</sub>		4		16	V
Quiescent Output Voltage	V <sub>o</sub>	R <sub>L</sub> =∞	6.4	7.2	8	V
Quiescent Drain Current	I <sub>ccq</sub>	R <sub>L</sub> =∞		12	20	mA
Output Power	P <sub>o</sub>	THD=10%	V <sub>cc</sub> =14.4V	4.6	6	W
			V <sub>cc</sub> =9V		2.5	
			V <sub>cc</sub> =6V		1	
Input Saturation Voltage	V <sub>i</sub>				220	mV
Input Sensitivity	V <sub>i</sub>	P <sub>o</sub> =6W f=1kHz	R <sub>f</sub> =56 Ω		80	mV
			R <sub>f</sub> =22 Ω		35	
Input Resistance	R <sub>i</sub>			5		M Ω
Frequency Response (-3dB)	WB	C1=820pF	40		20000	Hz
		C1=1500pF	40		10000	

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Total Harmonic Distortion	THD	P <sub>o</sub> =50mW to 3W		0.3		%
Open Loop Voltage Gain	G <sub>v</sub>			80		dB
Closed Loop Voltage Gain	G <sub>v</sub>		34	37	40	dB
Input Noise Voltage	e <sub>N</sub>	R <sub>g</sub> =0		2		μV
Input Noise Current	i <sub>N</sub>	BPF=20 Hz to 20kHz		0.1		nA
Efficiency	η	P <sub>o</sub> =5W		70		%
Supply Voltage Rejection	SVR	f <sub>r</sub> =100Hz		48		dB
Thermal Shut-down Case Temperature		P <sub>D</sub> =2.8W		120		°C

## APPLICATION CIRCUIT



OUTLINE DRAWING

12-DIPH-300

