

6W AUDIO POWER AMPLIFIER—CTC810

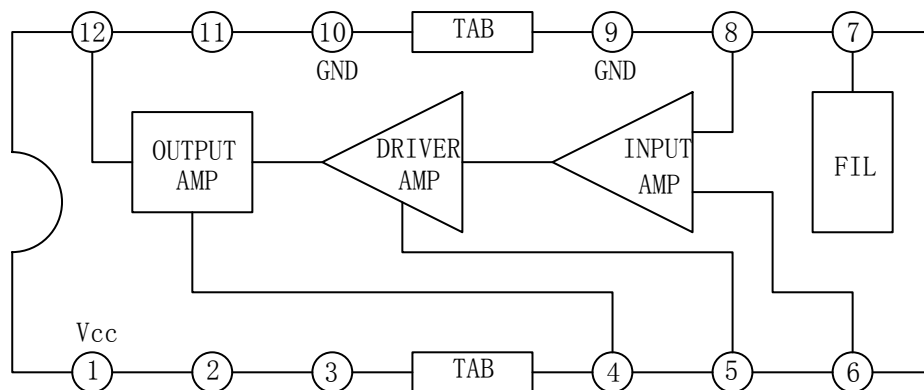
DESCRIPTION

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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ABSOLUTE MAXIMUM RATINGS (Tamb=25°C)

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

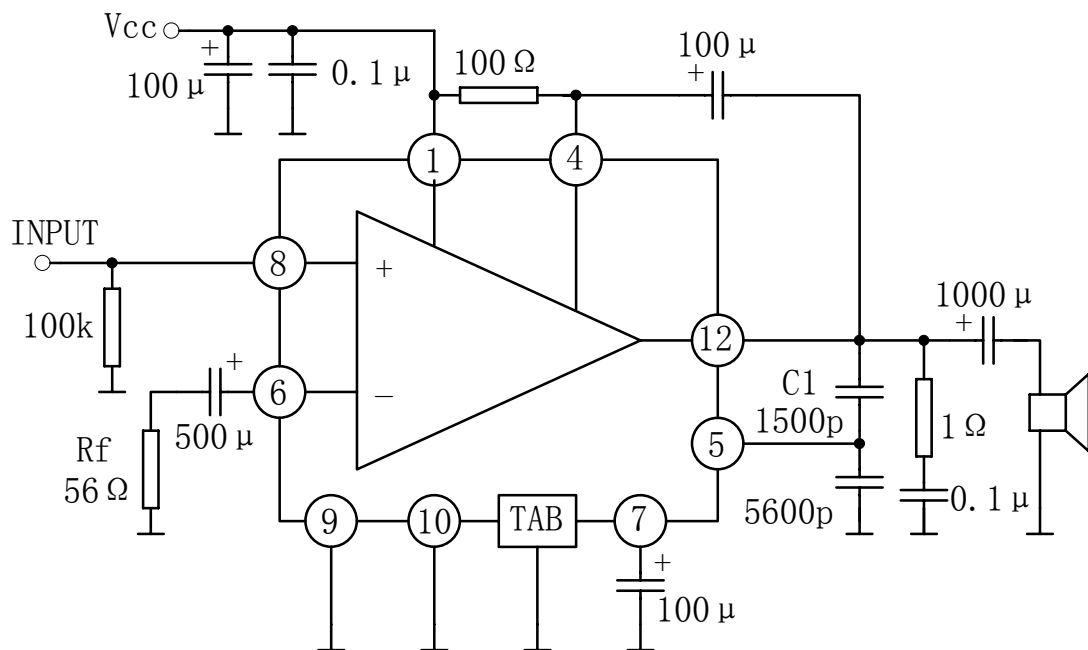
ELECTRICAL CHARACTERISTICS

(Tamb=25°C, Vcc=14.4V, R_L=4 Ω, f=1kHz, Unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Supply Voltage	V _{cc}		4		16	V
Quiescent Output Voltage	V _o	R _L =∞	6.4	7.2	8	V
Quiescent Drain Current	I _{ccq}	R _L =∞		12	20	mA
Output Power	P _o	THD=10%	V _{cc} =14.4V	4.6	6	W
			V _{cc} =9V		2.5	
			V _{cc} =6V		1	
Input Saturation Voltage	V _i				220	mV
Input Sensitivity	V _i	P _o =6W f=1kHz	R _f =56 Ω		80	mV
			R _f =22 Ω		35	
Input Resistance	R _i			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	Po=50mW to 3W		0.3		%
Open Loop Voltage Gain	Gv			80		dB
Closed Loop Voltage Gain	Gv		34	37	40	dB
Input Noise Voltage	e _N	R _g =0		2		μ V
Input Noise Current	i _N	BPF=20 Hz to 20kHz		0.1		nA
Efficiency	η	Po=5W		70		%
Supply Voltage Rejection	SVR	f _r =100Hz		48		dB
Thermal Shut-down Case Temperature		P _D =2.8W		120		°C

APPLICATION CIRCUIT



OUTLINE DRAWING

12-DIPH-300

