



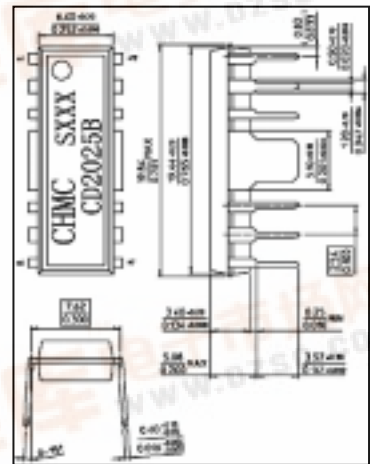
Silicore

2.3W DUAL AUDION POWER AMP CD2025B

DESCRIPTION

The CD2025B is a monolithic integrated circuit consisting of a 2-channel power amplifier. It is suitable for stereo and bridge amplifier application of radio cassette tape recorder.

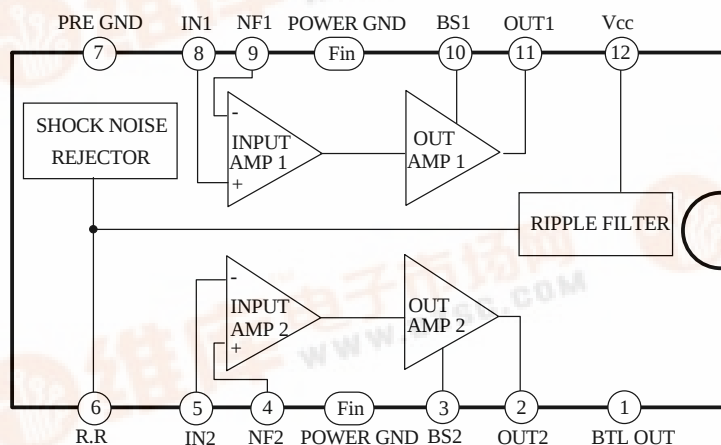
Outline Drawing



FEATURES

- High output power
Stereo: $P_o=2.3W$ (Typ) at $V_{cc}=9V$, $R_L=4\Omega$
Bridge: $P_o=4.7W$ (Typ) at $V_{cc}=9V$, $R_L=8\Omega$
- Low switching distortion at high frequency.
- Small shock noise at the time of power on/off due to a built-in muting circuit
- Good ripple rejection due to a built-in ripple filter.
- Good channel separation.
- Soft tone at the time of output saturation.
- Closed loop voltage gain fixed 45dB (Bridge: 51dB) but availability with external resistor added.
- Minimum number of external parts required.
- Easy to design radiator fin.

BLOCK DIAGRAM AND PIN CONNECTION



ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Characteristic	Symbol	Value	Unit
Supply Voltage	V _{CC}	15	V
Power Dissipation	P _D	4*	W
Operating Temperature	T _{opr}	-20~70	°C
Storage Temperature	T _{stg}	-40~150	°C

*Fin is soldering on the PCB

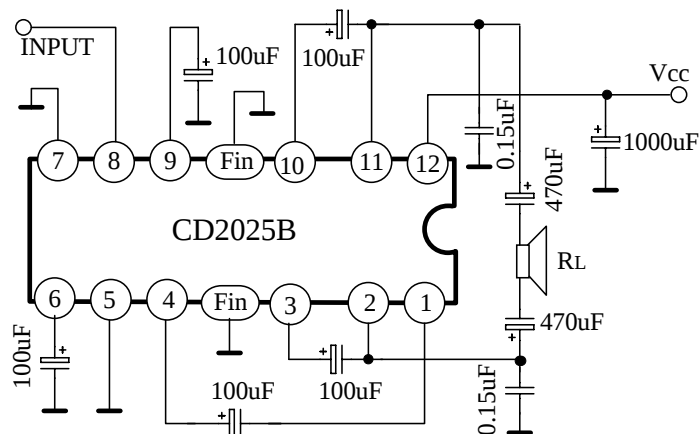
ELECTRICAL CHARACTERISTICS

(unless otherwise specified: Ta=25°C, V_{CC}=9V; R_g=600Ω, f=1kHz)

Characteristics	Test conditions		Symbol	Min.	Typ.	Max.	Unit
Operating Supply Voltage			V _{CC}		9	11	V
Quiescent circuit current	Vi=0V, Stereo		I _{CCQ}		40	55	mA
Closed loop Voltage Gain	Stereo	Vi=-45dBm	G _{vc}	43	45	47	dB
	Bridge			49	51	53	dB
Channel Balance	Stereo		CB	-1	0	+1	dB
Output Power	Stereo	THD=10%, R _L =4Ω	P _o	1.7	2.3		W
		THD=10%, R _L =8Ω			1.3		
	Bridge	THD=10%, R _L =8Ω			4.7		
Total Harmonic Distortion	Stereo	P _o =250mW R _L =4Ω	THD		0.3	1.5	%
	Bridge				0.5		
Input Resistance			R _i	21	30		kΩ
Ripple Rejection Ratio	Stereo, R _g =0Ω, Vi=150mW f=100Hz		RR	40	46		dB
Output Noise Voltage	Stereo R _g =0Ω		V _{NO}		0.3	1.0	mV
	Stereo R _g =10kΩ				0.5	2.0	
Cross Talk	Stereo R _g =10kΩ Vo=0dBm		CT	40	55		dB

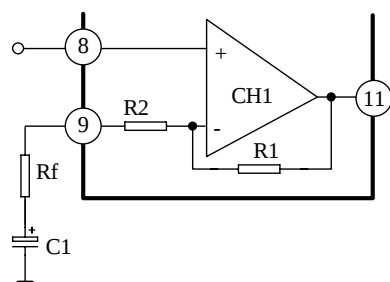


BRIDGE AMPLIFIER TEST AND APPLICATION CIRCUIT



APPLICATION INFORMATION

1. Stereo application



(1) Fixed Voltage gain

(Pin 9 connected to GND directly)

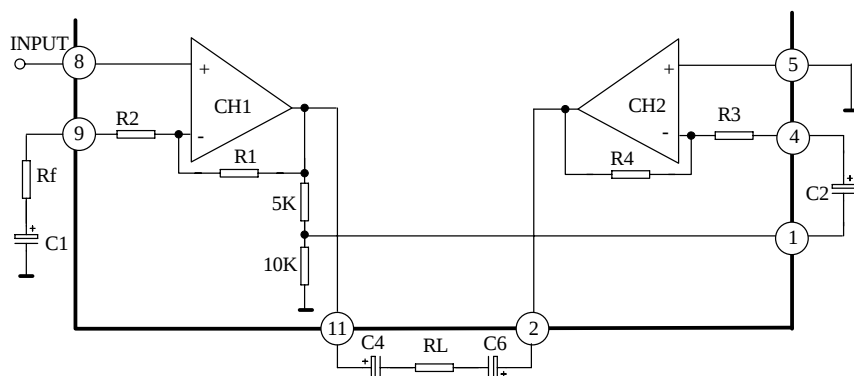
$$G_v = 20 \log (R_1 / R_2)$$

(2) Variable voltage gain

(Rf and C, Connected with pin 9)

$$G_v = 20 \log (R_1 / (R_2 + R_f))$$

2. Bridge application



(1) Fixed voltage gain (pin 9 connected to GND directly)

$$G_v = 20 \log (R_1 / R_2)$$

(2) Variable voltage gain Rf and C1 connected with pin 9

$$G_v = 20 \log (R_1 / (R_2 + R_f))$$