



STEREO AUDIO AMPLIFIER TEA2025

DESCRIPTION

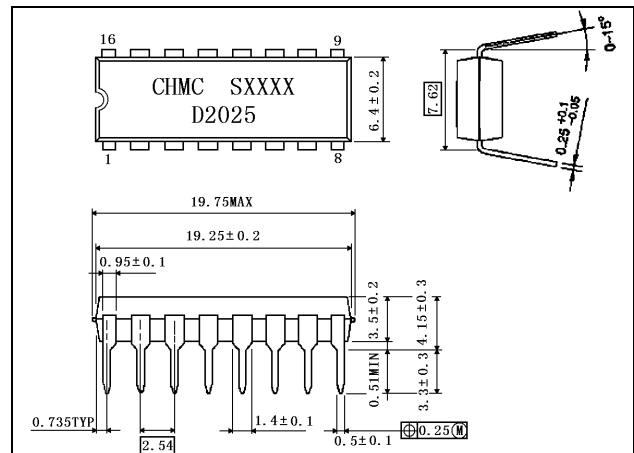
The D2025 is a monolithic integrated audio amplifier in a 16-pin plastic dual in line package. It is designed for portable cassette players and radios.

FEATURE

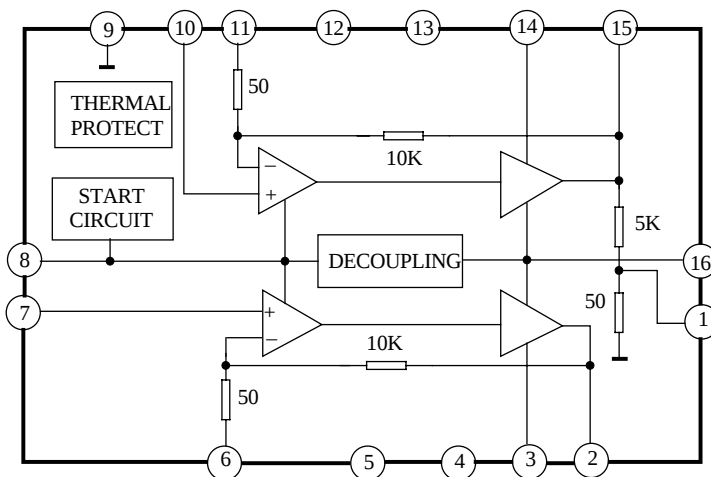
- Working Voltage down to 3V
- Few External components
- High Channel isolation
- Voltage gain up to 45dB(Adjustable with external resistor)
- Soft clipping
- Internal Thermal protection

Outline Drawing

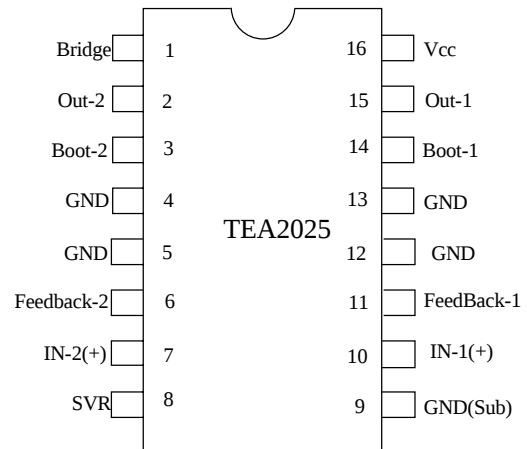
Unit:mm



BLOCK DIAGRAM



PIN CONNECTION



ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Characteristic	Symbol	Value	Unit
Supply Voltage	V _{CC}	16.5	V
Output Peak Current	I _O	1.5	A
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-40~150	°C

ELECTRICAL CHARACTERISTICS

(Unless otherwise specified: Ta=25°C, V_{CC}=9V; Dual Mode)

Characteristics	Test conditions			Symbol	Min.	Typ.	Max.	Unit
Supply Voltage				V _{CC}	3		12	V
Quiescent Current				I _Q		40	50	mA
Quiescent Output Current				V _O		4.5		V
Voltage Gain	Dual Mode			G _v	43	45	47	dB
	BTL Mode				49	51	53	
Voltage Gain Difference				ΔG _v			±1	dB
Input Impedance				R _i		30		kΩ
Output Power (f=1kHz; d=10%)	Dual Mode per channel	V _{CC} =9V	R _L =4Ω	P _O	1.7	2.3		W
			R _L =8Ω			1.3		
		V _{CC} =6V	R _L =4Ω		0.7	1		
			R _L =8Ω			0.6		
	BTL Mode	V _{CC} =3V; R _L =4Ω				0.1		
		V _{CC} =9V; R _L =8Ω				4.7		
		V _{CC} =6V; R _L =4Ω				2.8		
Distortion	V _{CC} =9V; R _L =4Ω f=1kHz; P _O =250mW		Dual Mode	d		0.3	1.5	%
			BTL Mode			0.5		
Supply Voltage Rejection	R _G =0; V _{ripple} =150mV _{rms} A _v =45dB; fripple=100Hz			SVR	40	46		dB
Input Noise Voltage	A _v =200 Bandwidth 20Hz to 20kHz		R _G =0	V _n		1.5	3	μV
			R _G =10kΩ			3	6	
Cross-Talk	R _G =10kΩ; f=1kHz; R _L =4Ω; P _O =1W			C.T.	40	55		dB

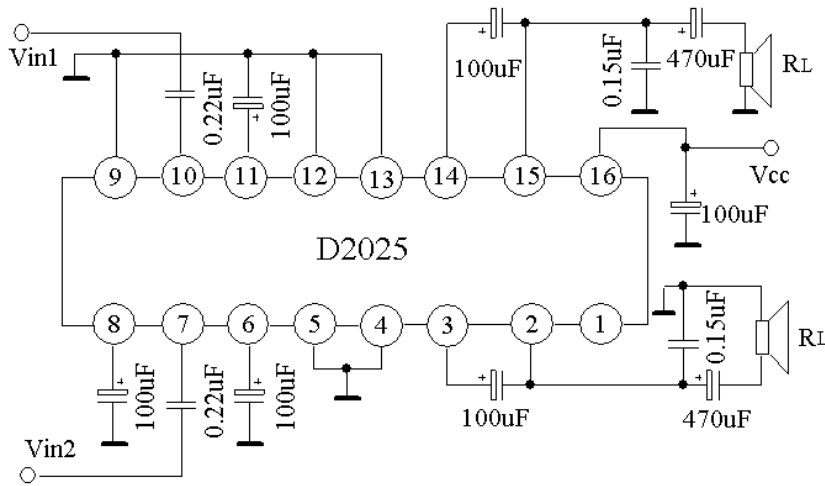
THERMAL CHARACTERISTICS

Characteristic	Symbol	Value	Unit
Junction-case thermal resistance	Rth(j-c)	15	°C/W
Junction-ambient thermal resistance(see Note)	Rth(j-a)	60	°C/W

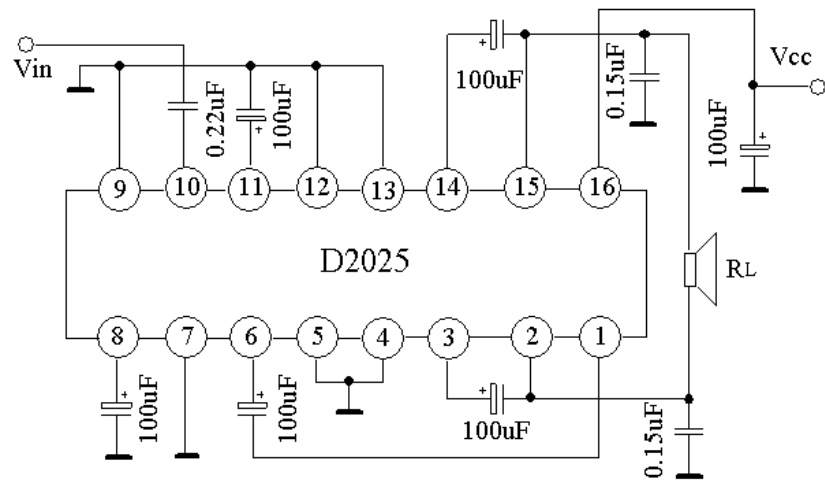
Note : The Rth(j-a) is measured on devices bonded on a 10×5×0.15 cm glass-epoxy substrate with a 35μm thick copper surface of 5cm²

TEST CIRCUIT

1. Dual Mode Circuit

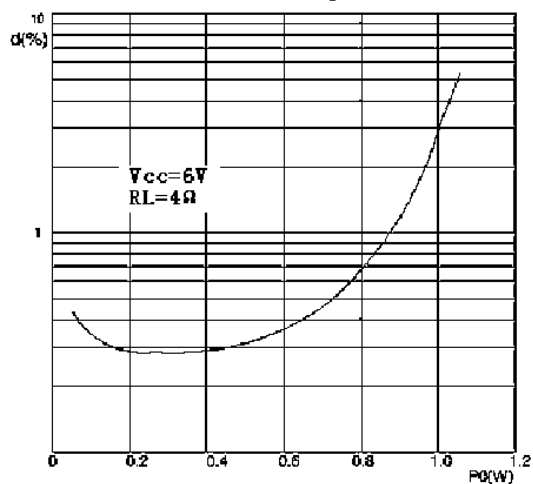


2. BTL Mode Circuit

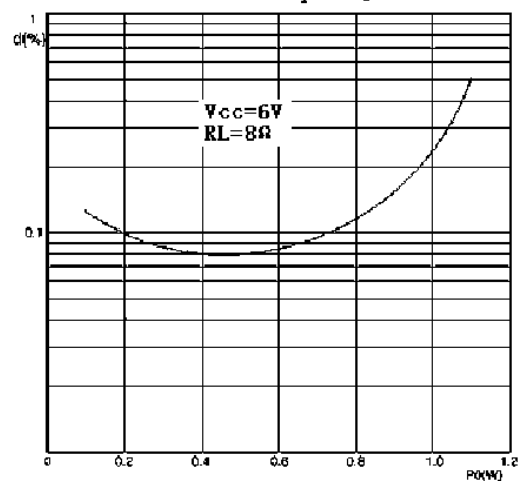


CHARACTERISTICS CURVES

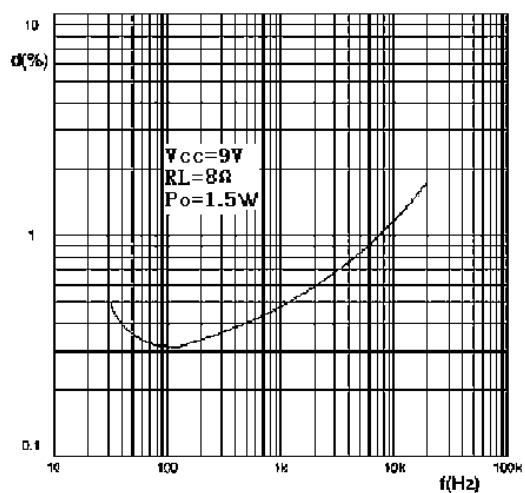
Distortion vs. output power 1



Distortion vs. output power 2



Distortion vs. output frequency



Output power vs. supply voltage

