

STEREO AUDIO AMPLIFIER TEA2025

DESCRIPTION

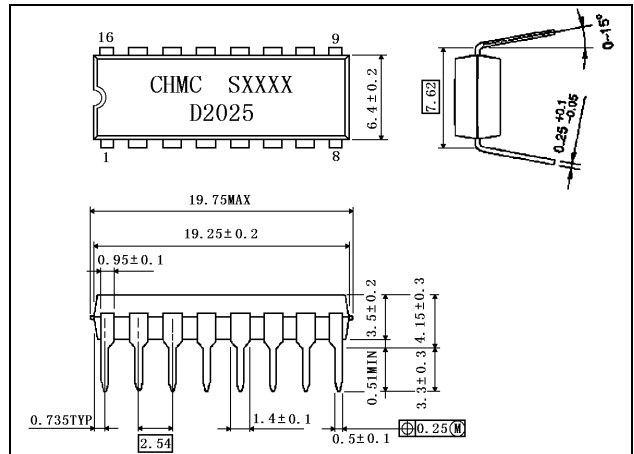
The D2025 is a monolithic integrated audio amplifier in a 16-pin plastic dual in line package. It is designed for portable cassette players and radios.

FEATURE

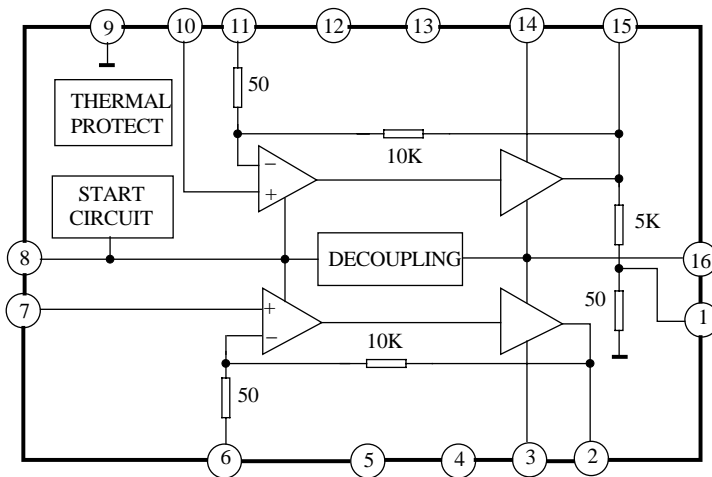
- Working Voltage down to 3V
- Few External components
- High Channel isolation
- Voltage gain up to 45dB(Adjustable with external resistor)
- Soft clipping
- Internal Thermal protection

Outline Drawing

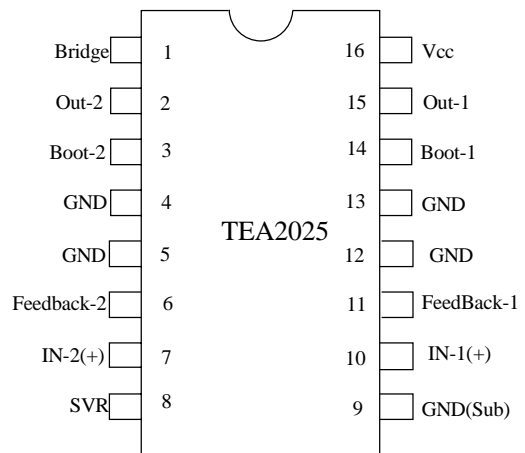
Unit:mm



BLOCK DIAGRAM



PIN CONNECTION



ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Characteristic	Symbol	Value	Unit
Supply Voltage	Vcc	16.5	V
Output Peak Current	Io	1.5	A
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-40~150	°C

ELECTRICAL CHARACTERISTICS

(Unless otherwise specified: Ta=25°C, Vcc=9V; Dual Mode)

Characteristics	Test conditions			Symbol	Min.	Typ.	Max.	Unit
Supply Voltage				Vcc	3		12	V
Quiescent Current				Iq		40	50	mA
Quiescent Output Current				Vo		4.5		V
Voltage Gain	Dual Mode			Gv	43	45	47	dB
	BTL Mode				49	51	53	
Voltage Gain Difference				ΔGv			±1	dB
Input Impedance				Ri		30		kΩ
Output Power (f=1kHz; d=10%)	Dual Mode per channel	Vcc=9V	RL=4Ω	Po	1.7	2.3		W
			RL=8Ω			1.3		
		Vcc=6V	RL=4Ω		0.7	1		
			RL=8Ω			0.6		
	Vcc=3V; RL=4Ω					0.1		
	BTL Mode	Vcc=9V; RL=8Ω					4.7	
Vcc=6V; RL=4Ω				2.8				
Distortion	Vcc=9V; RL=4Ω f=1kHz; Po=250mW	Dual Mode		d		0.3	1.5	%
		BTL Mode				0.5		
Supply Voltage Rejection	RG=0; Vripple=150mVrms Av=45dB; fripple=100Hz			SVR	40	46		dB
Input Noise Voltage	Av=200 Bandwidth 20Hz to 20kHz		RG=0	Vn		1.5	3	μV
			RG=10kΩ			3	6	
Cross-Talk	RG=10kΩ; f=1kHz; RL=4Ω; Po=1W			C.T.	40	55		dB

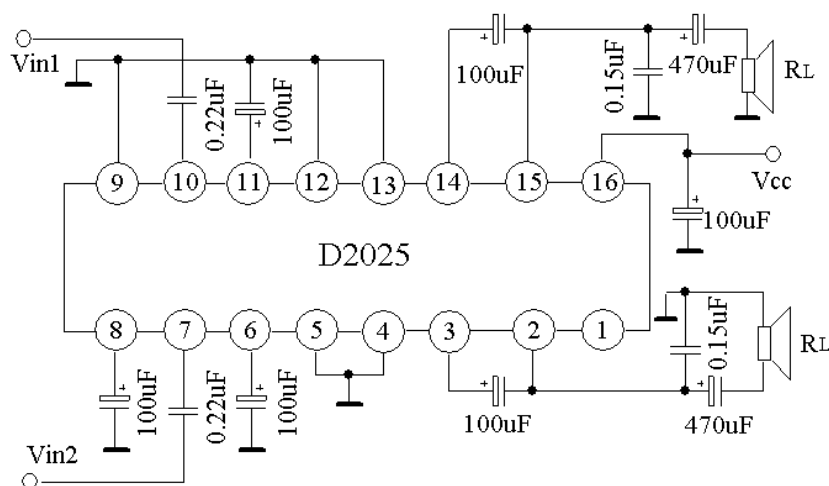
THERMAL CHARACTERISTICS

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

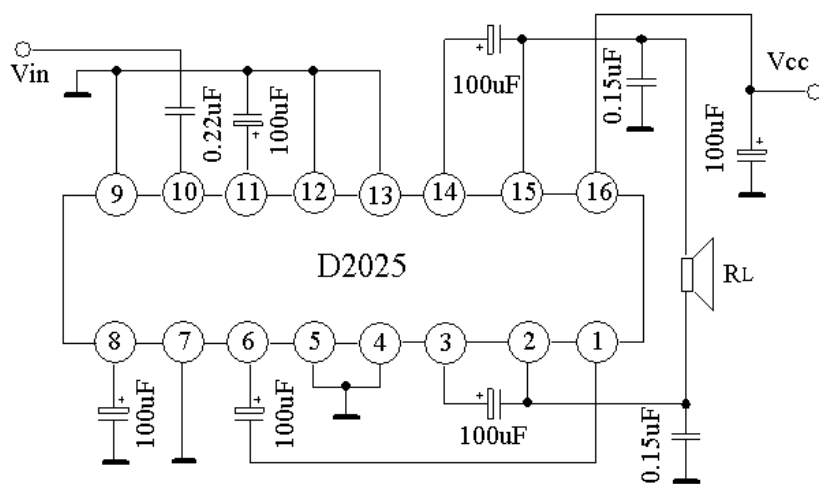
Note :The Rth(j-a) is measured on devices bonded on a 10×5×0.15 cm glass-epoxy substrate with a 35μm thick copper surface of 5cm²

TEST CIRCUIT

1. Dual Mode Circuit

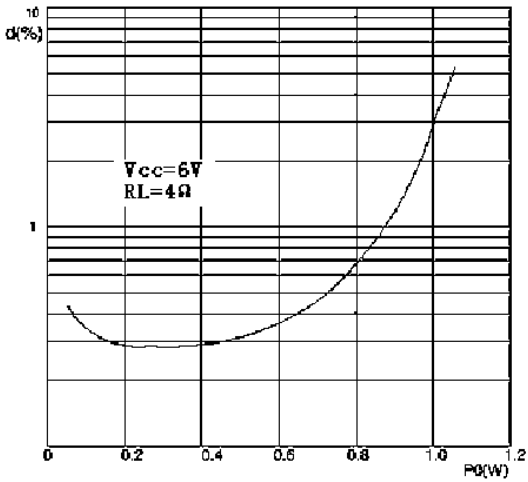


2. BTL Mode Circuit

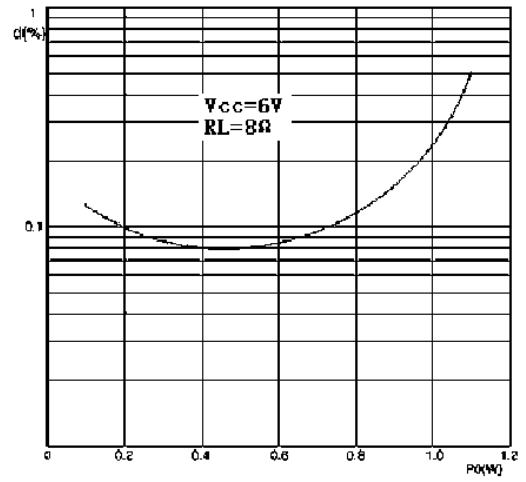


CHARACTERISTICS CURVES

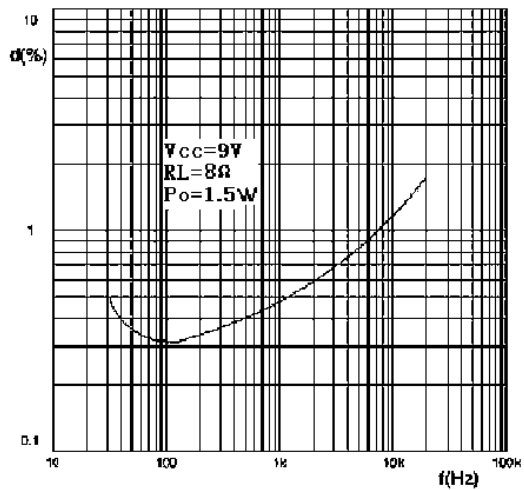
Distortion vs. output power 1



Distortion vs. output power 2



Distortion vs. output frequency



Output power vs. supply voltage

