

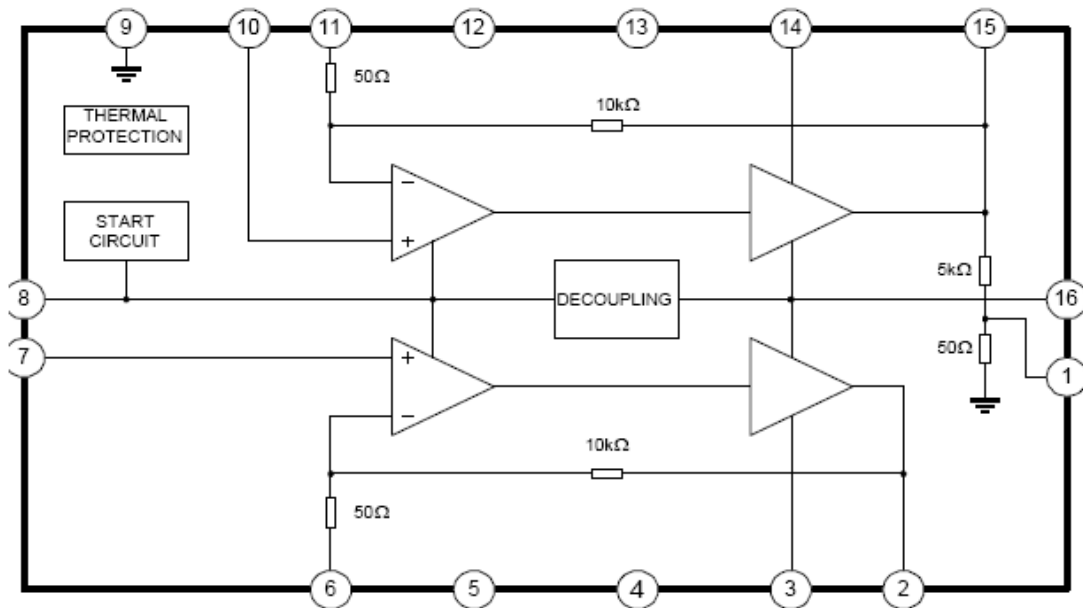
Description

The TEA2025 is a monolithic integrated audio amplifier in a 16-pin plastic dual in line package. It is designed for portable cassette players and radios. The IC features monolithic silicon chip.

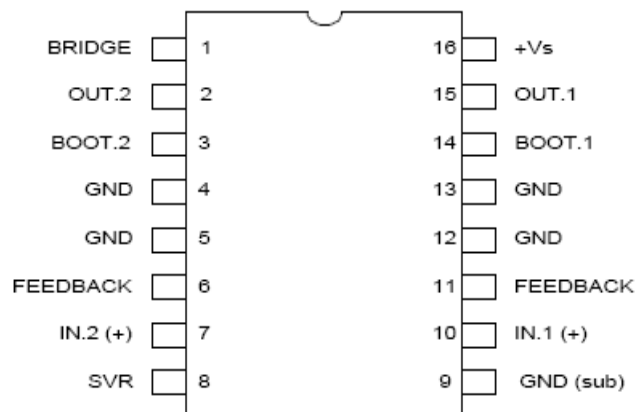
Features

- ◆ 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.

Functional Diagram



Pin Configurations



Absolute Maximum Ratings

PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	V_S	15	V
Output Peak Current	I_O	1.5	A
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-40 ~ +150	°C

Electrical Characteristics (Ta=25°C, VCC=9V, Stereo, Unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Supply Voltage	V_S		3		12	V
Quiescent Current	I_Q			40	50	mA
Quiescent output voltage	V_O			4.5		V
Voltage gain	A_V	Stereo	43	45	47	dB
		Bridge	49	51	53	
Voltage gain difference	ΔA_V				± 1	dB
Input impedance	R_i			30		k Ω
Output Power	P_O	f=1kHz; d=10% Stereo per channel $V_{CC}=9V; R_L=4\Omega$ $R_L=8\Omega$	1.7	2.3 1.3		
		$V_{CC}=6V; R_L=4\Omega$ $R_L=8\Omega$	0.7	1 0.6		W
		$V_{CC}=3V; R_L=4\Omega$		0.1		
		Bridge $V_{CC}=9V; R_L=8\Omega$		4.7		
		$V_{CC}=6V; R_L=4\Omega$		2.8		
Distortion	d	$V_{CC}=9V; R_L=4\Omega$ f=1kHz; $P_O=250mW$ Stereo		0.3	1.5	%
		Bridge		0.5		
Supply voltage Rejection	SVR	$R_G=0; A_V=45dB$ Vripple=150mVRMS Frippl=100Hz	40	46		dB
Input noise Voltage	V_n	$A_V=200$ Bandwidth: 20Hz to 20kHz $R_G=0$ $R_G=10k\Omega$		1.5 3	3 6	μV
Cross-Talk	C.T.	$R_G=10k\Omega;$ f=1kHz; $R_L=4\Omega$ $P_O=1W$	40	55		dB

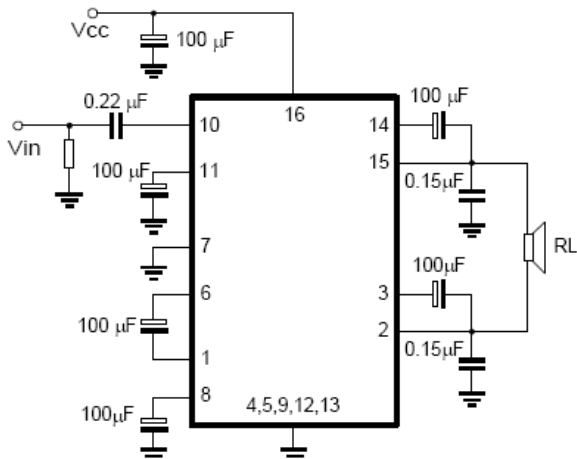
Thermal Resistance

$R_{th(j-c)}$: Junction to case thermal resistance $15^{\circ}\text{C}/\text{W}$

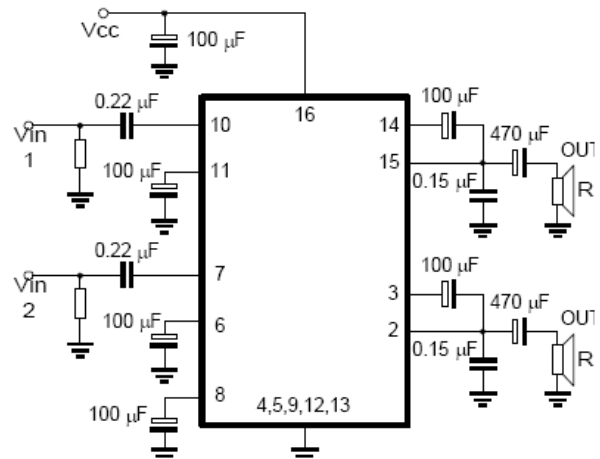
$R_{th(j-a)}$: Junction to ambient thermal resistance $60^{\circ}\text{C}/\text{W}$

Application Circuit

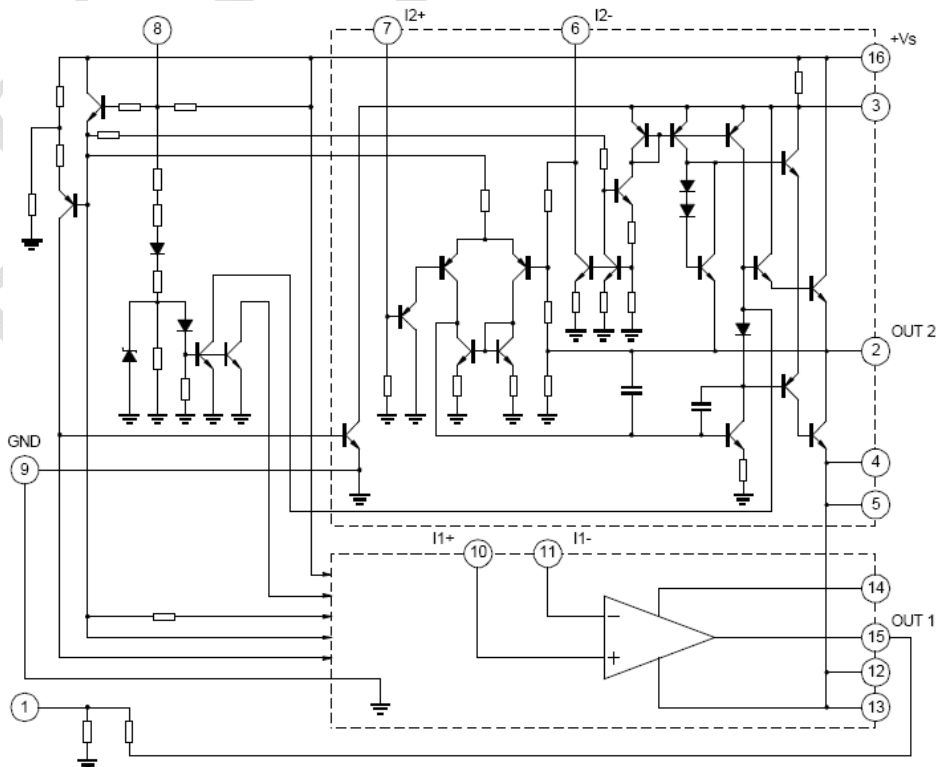
Bridge Application:



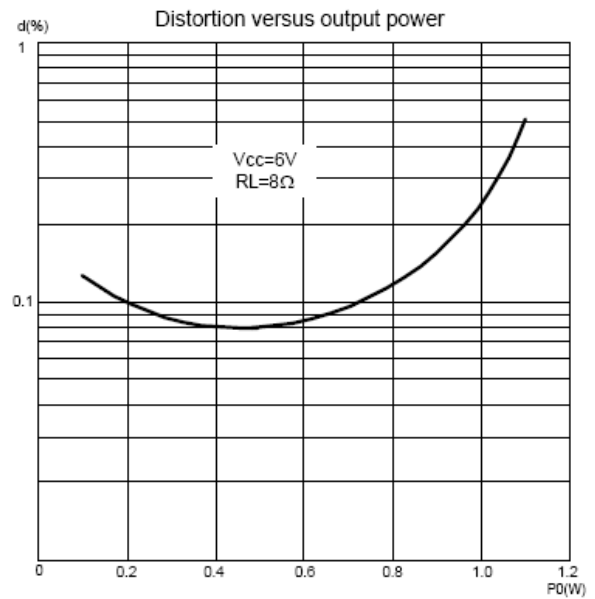
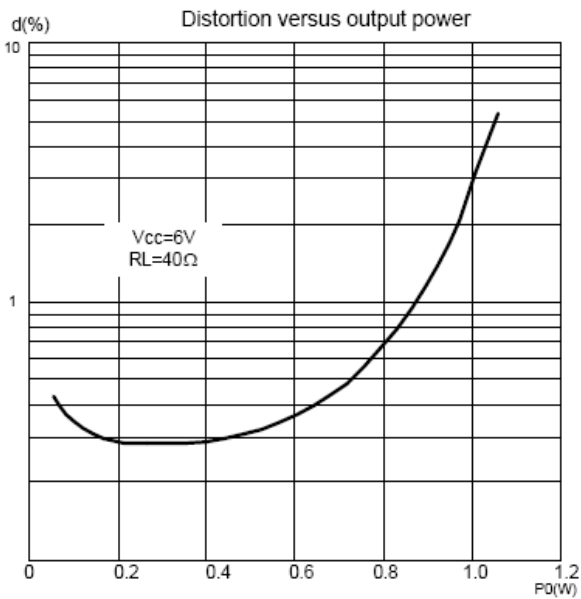
Stereo Application:



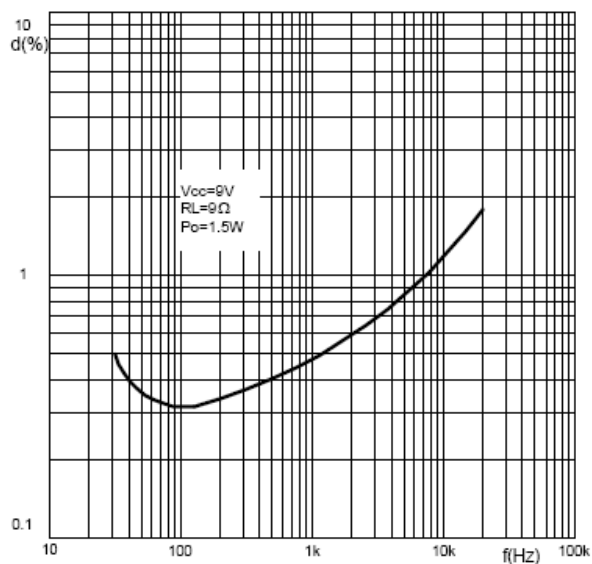
Schematic Diagram



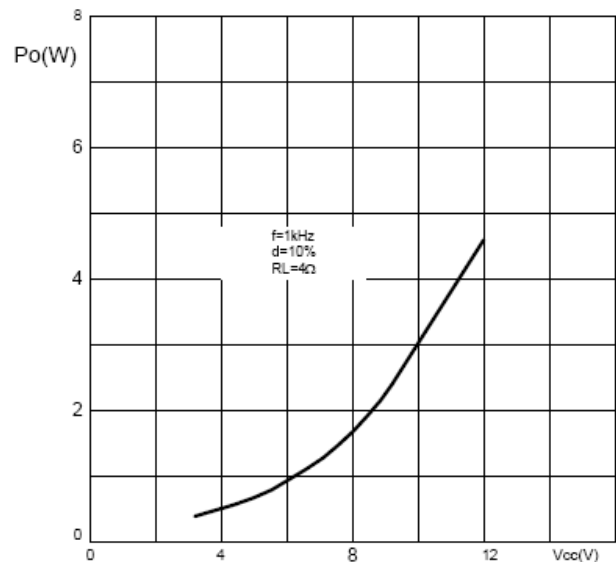
Typical Performance Characteristics



Distortion versus output Frequency

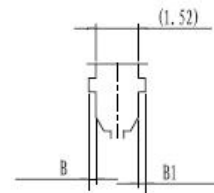
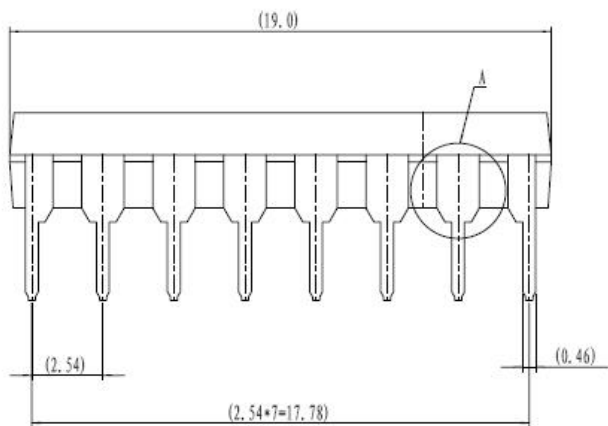
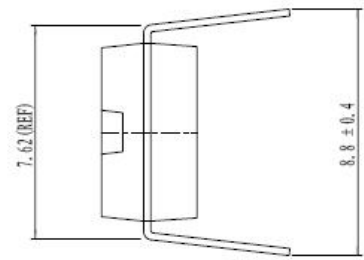
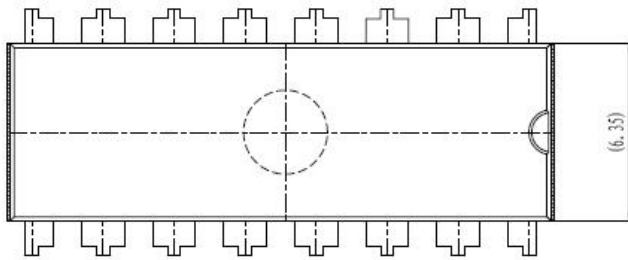


Output power/versus supply voltage



Package Description

DIP16 PACKAGE OUTLINE DIMENSIONS



$0 < B, B1 < 0.25$

DETAIL A

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