

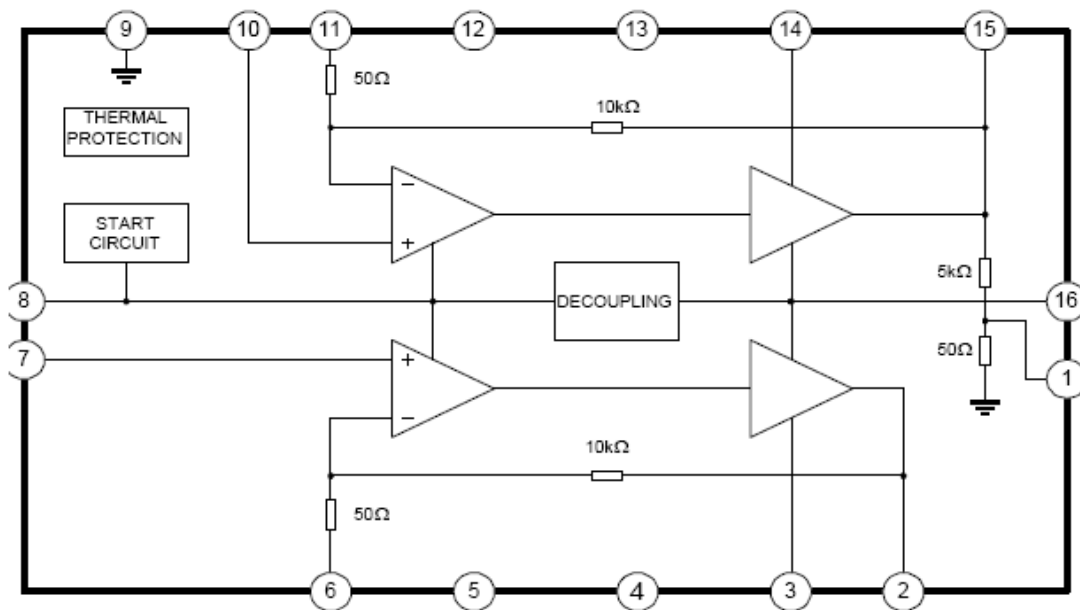
**Description**

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.

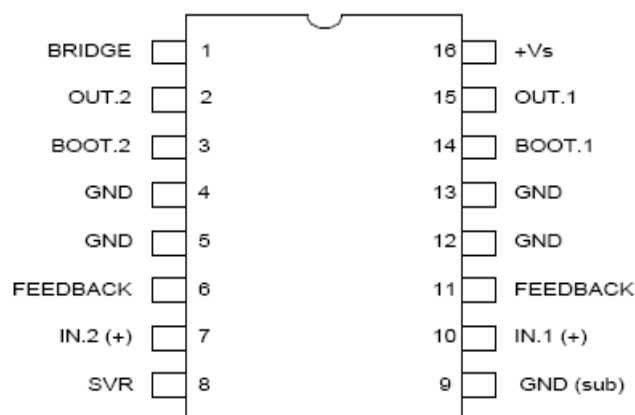
**Features**

- ◆ 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** ( $T_a=25^{\circ}\text{C}$ ,  $V_{CC}=9\text{V}$ , 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	$\Delta A_V$				$\pm 1$	dB
Input impedance	$R_i$			30		k $\Omega$
Output Power	$P_O$	f=1kHz; d=10% Stereo per channel $V_{CC}=9\text{V}; R_L=4\Omega$ $R_L=8\Omega$	1.7	2.3 1.3		
		$V_{CC}=6\text{V}; R_L=4\Omega$ $R_L=8\Omega$	0.7	1 0.6		W
		$V_{CC}=3\text{V}; R_L=4\Omega$		0.1		
		Bridge $V_{CC}=9\text{V}; R_L=8\Omega$		4.7		
		$V_{CC}=6\text{V}; R_L=4\Omega$		2.8		
Distortion	d	$V_{CC}=9\text{V}; R_L=4\Omega$ f=1kHz; $P_O=250\text{mW}$ Stereo		0.3	1.5	%
		Bridge		0.5		
Supply voltage Rejection	SVR	$R_G=0; A_V=45\text{dB}$ Vripple=150mVRMS Frippl=100Hz	40	46		dB
Input noise Voltage	$V_n$	$A_V=200$ Bandwidth: 20Hz to 20kHz $R_G=0$ $R_G=10\text{k}\Omega$		1.5 3	3 6	$\mu\text{V}$
Cross-Talk	C.T.	$R_G=10\text{k}\Omega$ ; f=1kHz; $R_L=4\Omega$ $P_O=1\text{W}$	40	55		dB

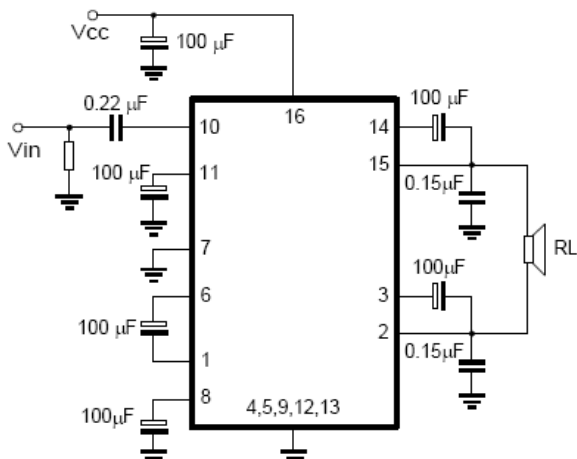
**Thermal Resistance**

Rth(j-c):Junction to case thermal resistance 15°C/W

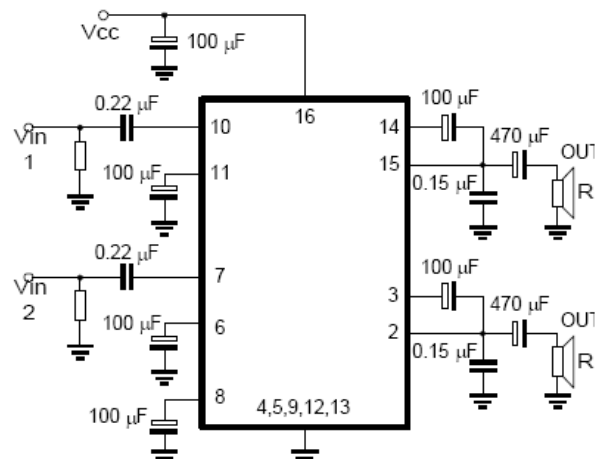
Rth(j-a):Junction to ambient thermal resistance 60°C/W

**Application Circuit**

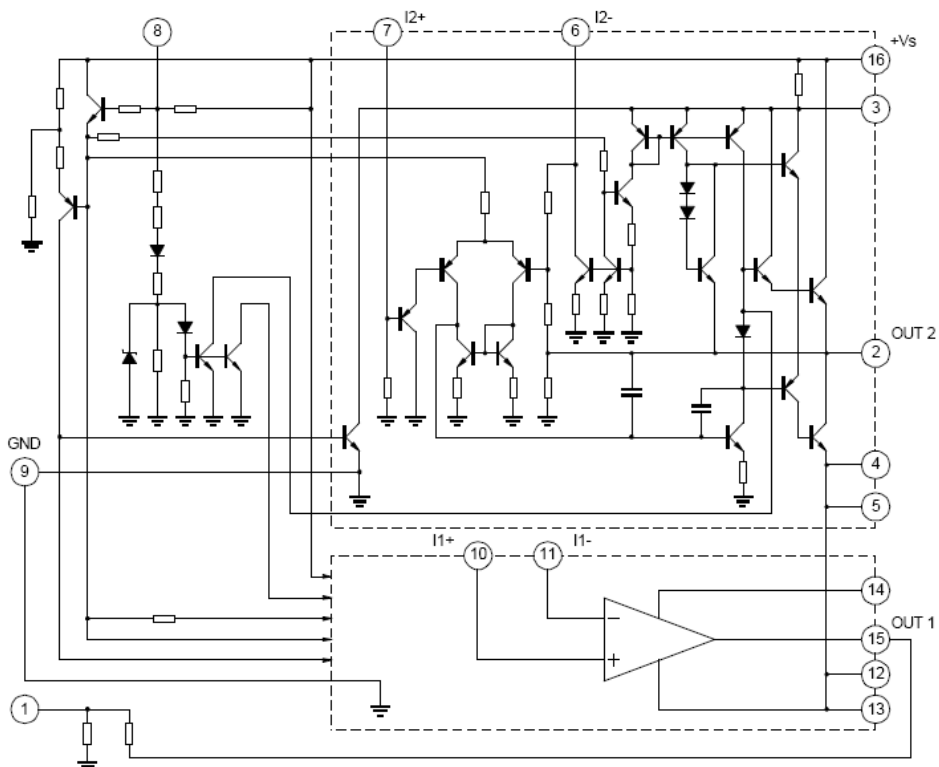
Bridge Application:



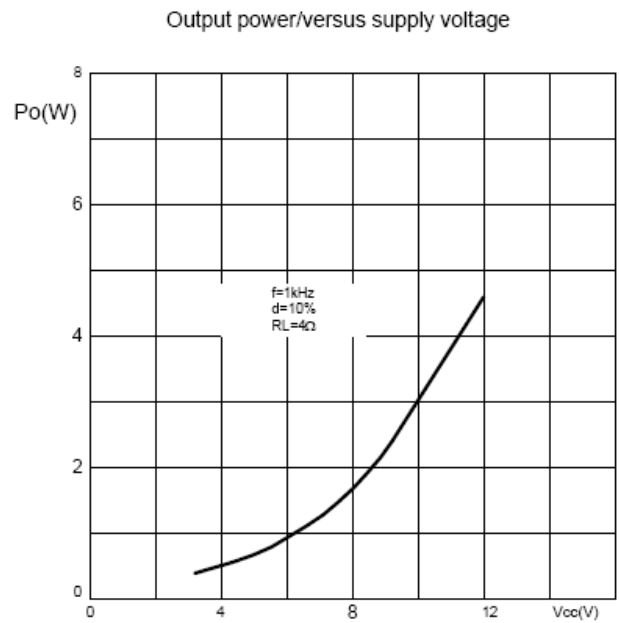
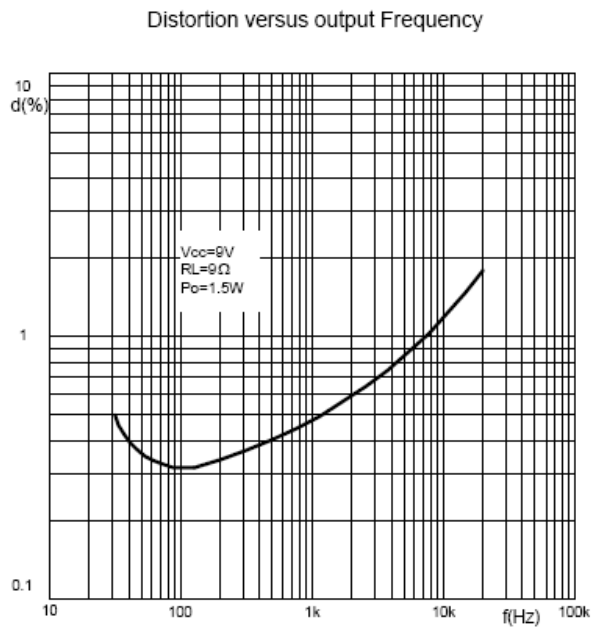
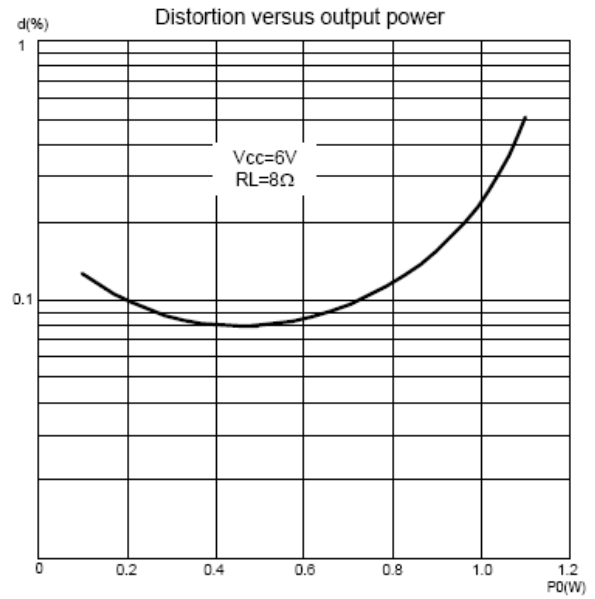
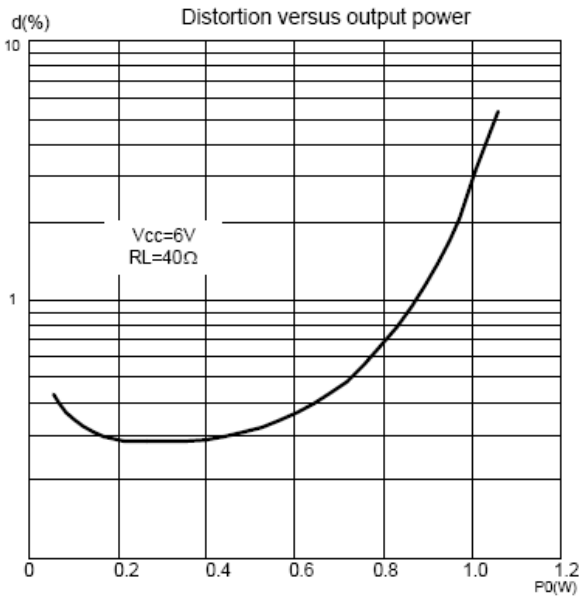
Stereo Application:



**Schematic Diagram**

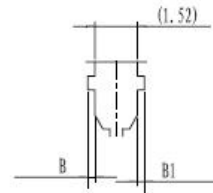
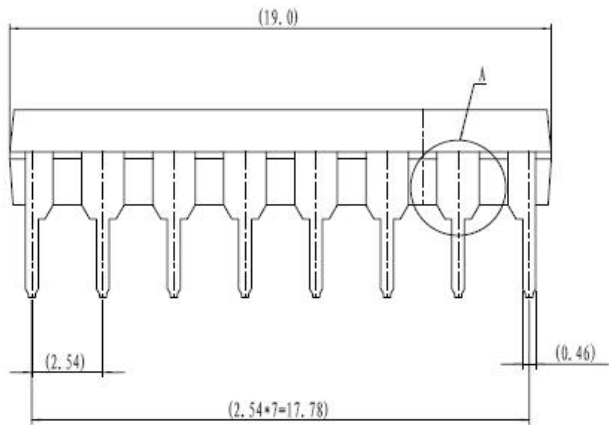
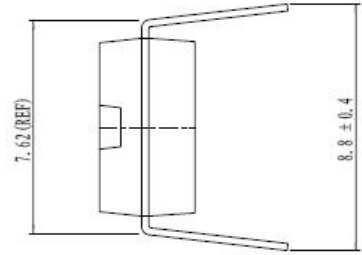
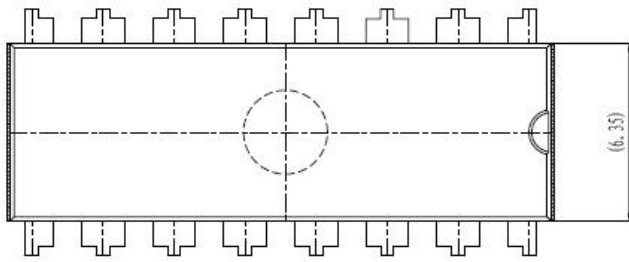


**Typical Performance Characteristics**



Package Description

DIP16 PACKAGE OUTLINE DIMENSIONS



$0 < B, B1 < 0.25$

DETAIL A

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