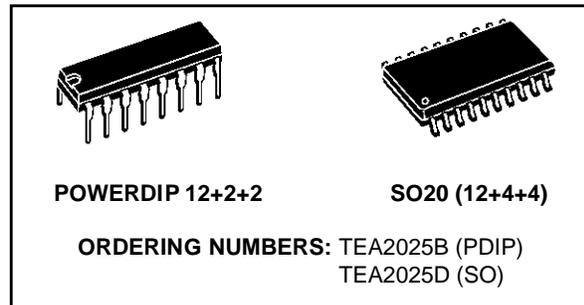


STEREO AUDIO AMPLIFIER

- DUAL OR BRIDGE CONNECTION MODES
- FEW EXTERNAL COMPONENTS
- SUPPLY VOLTAGE DOWN TO 3V
- HIGH CHANNEL SEPARATION
- VERY LOW SWITCH ON/OFF NOISE
- MAX GAIN OF 45dB WITH ADJUST EXTERNAL RESISTOR
- SOFT CLIPPING
- THERMAL PROTECTION
- $3V < V_{CC} < 15V$
- $P = 2 \cdot 1W, V_{CC} = 6V, R_L = 4\Omega$
- $P = 2 \cdot 2.3W, V_{CC} = 9V, R_L = 4\Omega$
- $P = 2 \cdot 0.1W, V_{CC} = 3V, R_L = 4\Omega$



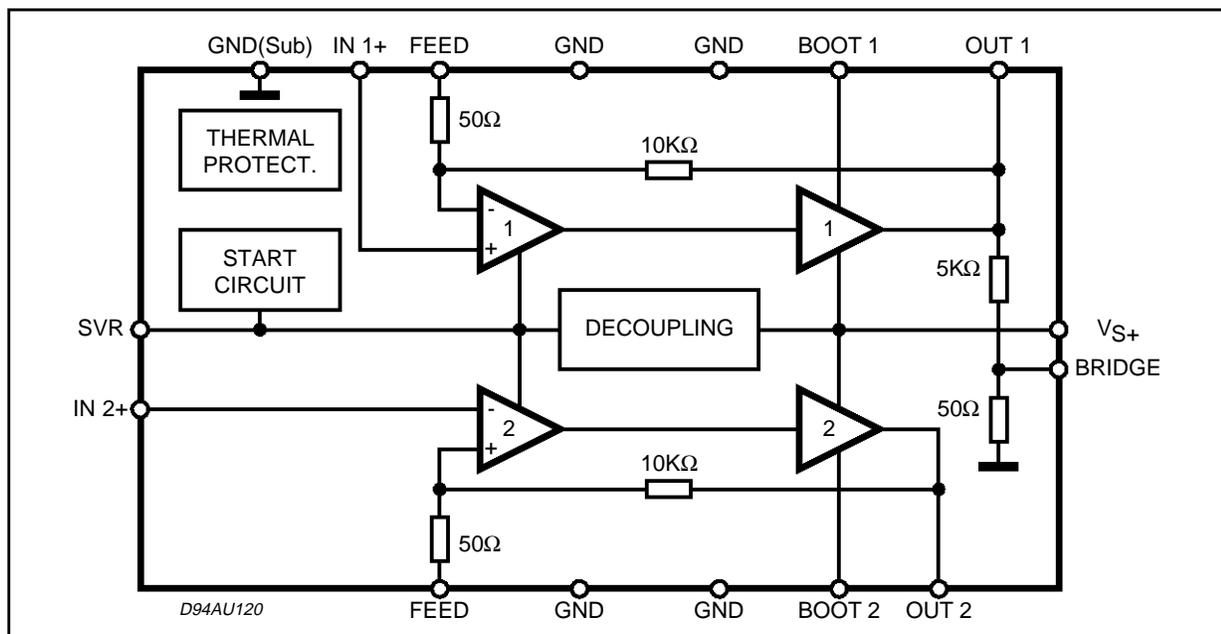
DESCRIPTION

The TEA2025B/D is a monolithic integrated circuit in 12+2+2 Powerdip and 12+4+4 SO, intended for use as dual or bridge power audio amplifier portable radio cassette players.

ABSOLUTE MAXIMUM RATINGS

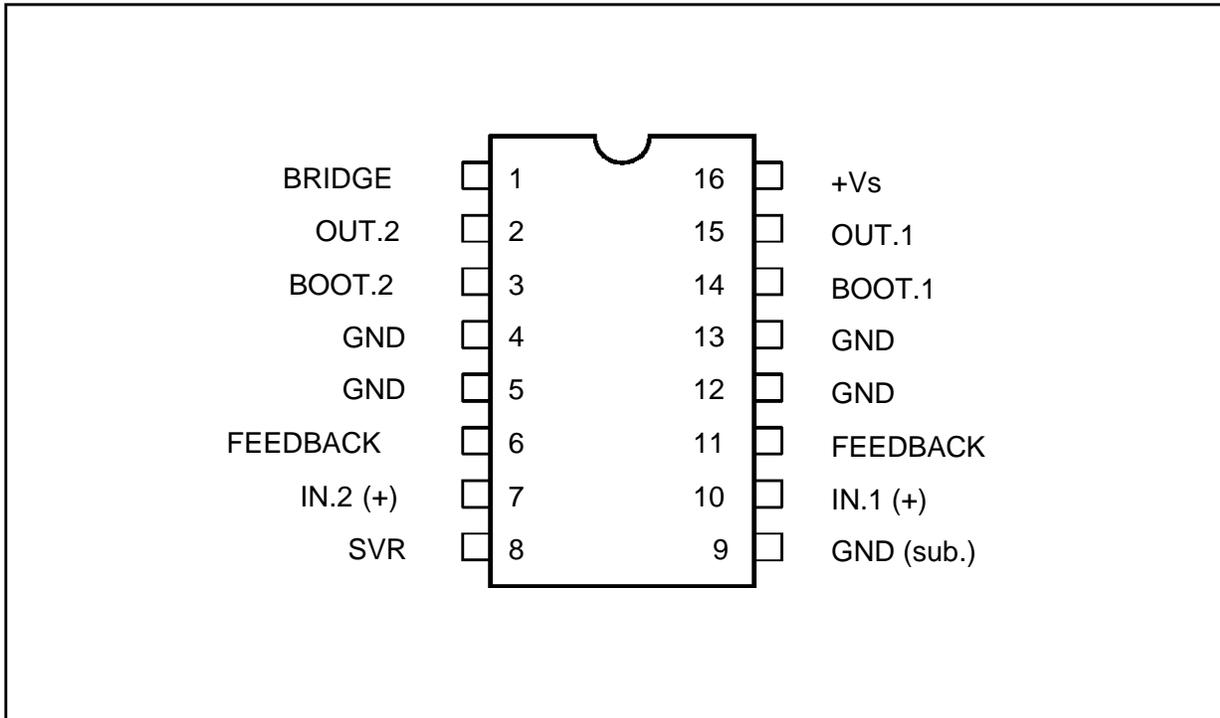
Symbol	Parameter	Test Conditions	Unit
V_s	Supply Voltage	15	V
I_o	Output Peak Current	1.5	A
T_j	Junction Temperature	150	°C
T_{stg}	Storage Temperature	150	°C

BLOCK DIAGRAM

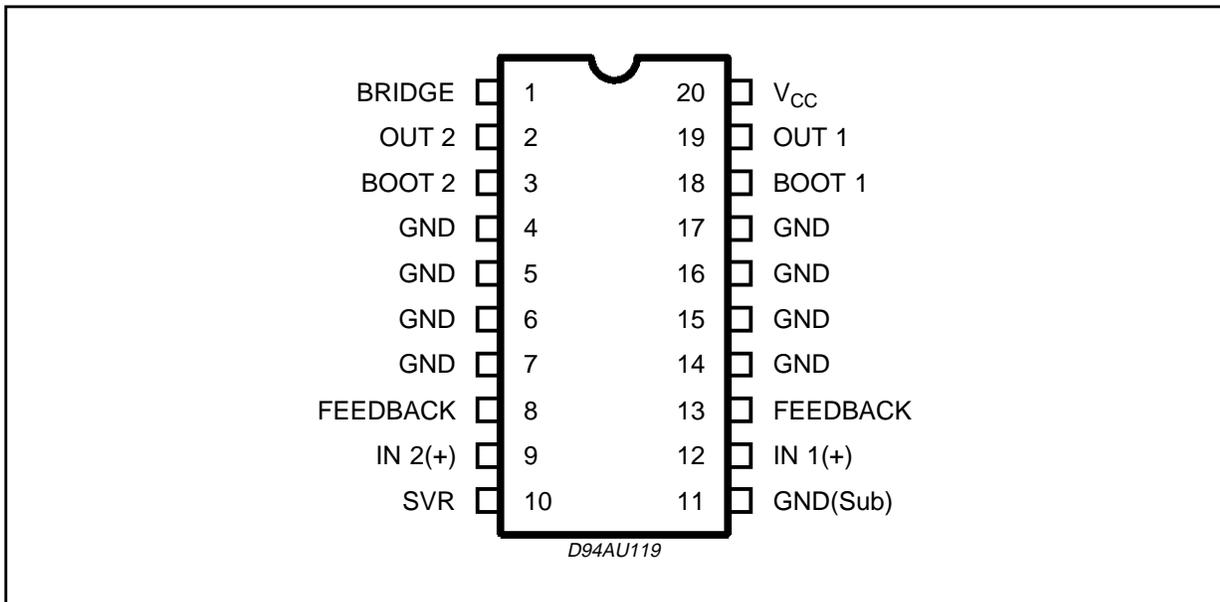


TEA2025B - TEA2025D

POWERDIP 12+2+2 PIN CONNECTION (Top view)



SO 12+4+4 PIN CONNECTION (Top view)



THERMAL DATA

Symbol	Description		SO 12+4+4 (*)	PDIP 12+2+2 (**)	Unit
$R_{th\ j-case}$	Thermal Resistance Junction-case	Max	15	15	°C/W
$R_{th\ j-amb}$	Thermal Resistance Junction-ambient	Max	65	60	°C/W

(*) The $R_{th\ j-amb}$ is measured with 4sq cm copper area heatsink

(**) The $R_{th\ j-amb}$ is measured on devices bonded on a 10 x 5 x 0.15cm glass-epoxy substrate with a 35µm thick copper surface of 5 cm².

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25^{\circ}C$, $V_{CC} = 9V$, Stereo unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_S	Supply Voltage		3		12	V
I_Q	Quiescent Current			35	50	mA
V_O	Quiescent Output Voltage			4.5		V
A_v	Voltage Gain	Stereo Bridge	43 49	45 51	47 53	dB
ΔA_v	Voltage Gain Difference				± 1	dB
R_j	Input Impedance			30		K Ω
PO	Output Power (d = 10%)	Stereo 8 (per channel)	9V 4 Ω	1.7	2.3	W
			9V 8 Ω	0.7	1.3	
			6V 4 Ω		1	
			6V 8 Ω	0.6		
			6V 16 Ω	0.25		
			6V 32 Ω	0.13		
			3V 4 Ω	0.1		
			3V 32 Ω	0.02		
		Bridge	9V 8 Ω		4.7	W
			6V 4 Ω		2.8	
			6V 8 Ω		1.5	
			3V 16 Ω		0.18	
			3V 32 Ω		0.06	
d	Distortion	$V_S = 9V$; $R_L = 4\Omega$ Stereo Bridge		0.3 0.5	1.5	%
SVR	Supply Voltage Rejection	$f = 100Hz$, $V_R = 0.5V$, $R_g = 0$	40	46		dB
$E_{N(IN)}$	Input Noise Voltage	$R_G = 0$ $R_G = 10\ 4\Omega$		1.5 3	3 6	mV
CT	Cross-Talk	$f = 1KHz$, $R_g = 10K\Omega$	40	52		dB

Term. N° (PDIP)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
DC VOLT (V)	0.04	4.5	8.9	0	0	0.6	0.04	8.5	0	0.04	0.6	0	0	8.9	4.5	9

Figure 1: Bridge Application (Powerdip)

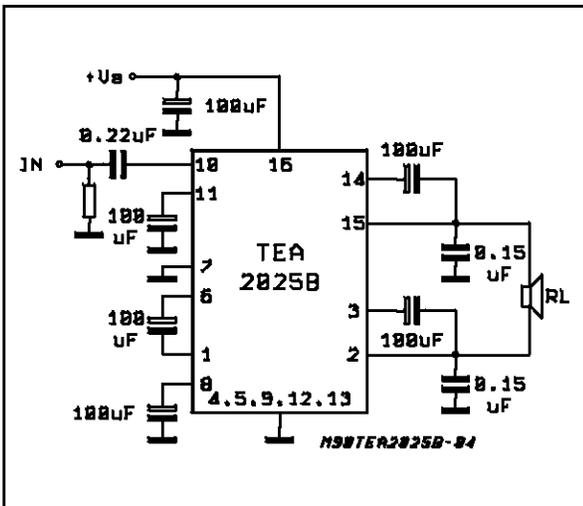


Figure 2: Stereo Application (Powerdip)

