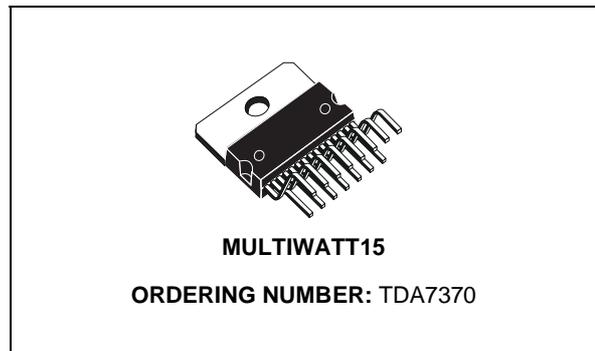


QUAD POWER AMPLIFIER FOR CAR RADIO

- MINIMUM EXTERNAL COMPONENT COUNT
- HIGH CURRENT CAPABILITY
- NO BOOTSTRAP CAPACITORS
- NO BOUCHEROT CELLS
- CLIP DETECTOR OUTPUT
- HIGH OUTPUT POWER
- HIGH APPLICATION FLEXIBILITY
- FIXED GAIN
- VERY LOW STAND-BY CURRENT (1µA typ)
- NO SWITCH ON/OFF NOISE



PROTECTIONS:

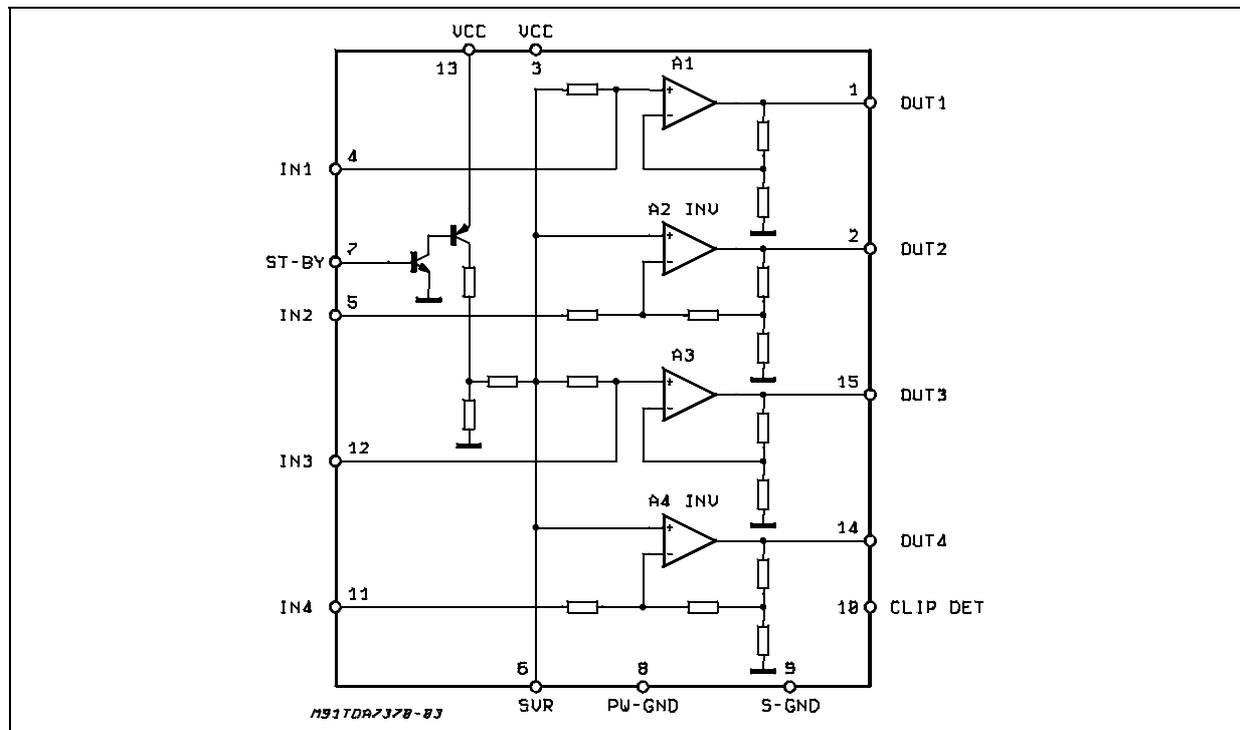
- OUTPUT AC/DC SHORT CIRCUIT TO GND AND TO V_S
- VERY INDUCTIVE LOADS
- OVERRATING CHIP TEMPERATURE
- LOAD DUMP VOLTAGE
- FORTUITOUS OPEN GND
- REVERSE BATTERY
- ESD

DESCRIPTION

The TDA7370 is a new technology class AB quad channels Audio Power Amplifier in Multiwatt package designed for car radio applications.

Thanks to the fully complementary PNP/NPN output configuration the high power performances of the TDA7370 are obtained without bootstrap capacitors.

BLOCK DIAGRAM



ELECTRICAL CHARACTERISTICS (Refer to the test circuit; $V_S = 14.4V$; $R_L = 4\Omega$, $T_{amb} = 25^\circ C$, $f = 1kHz$, unless otherwise specified)

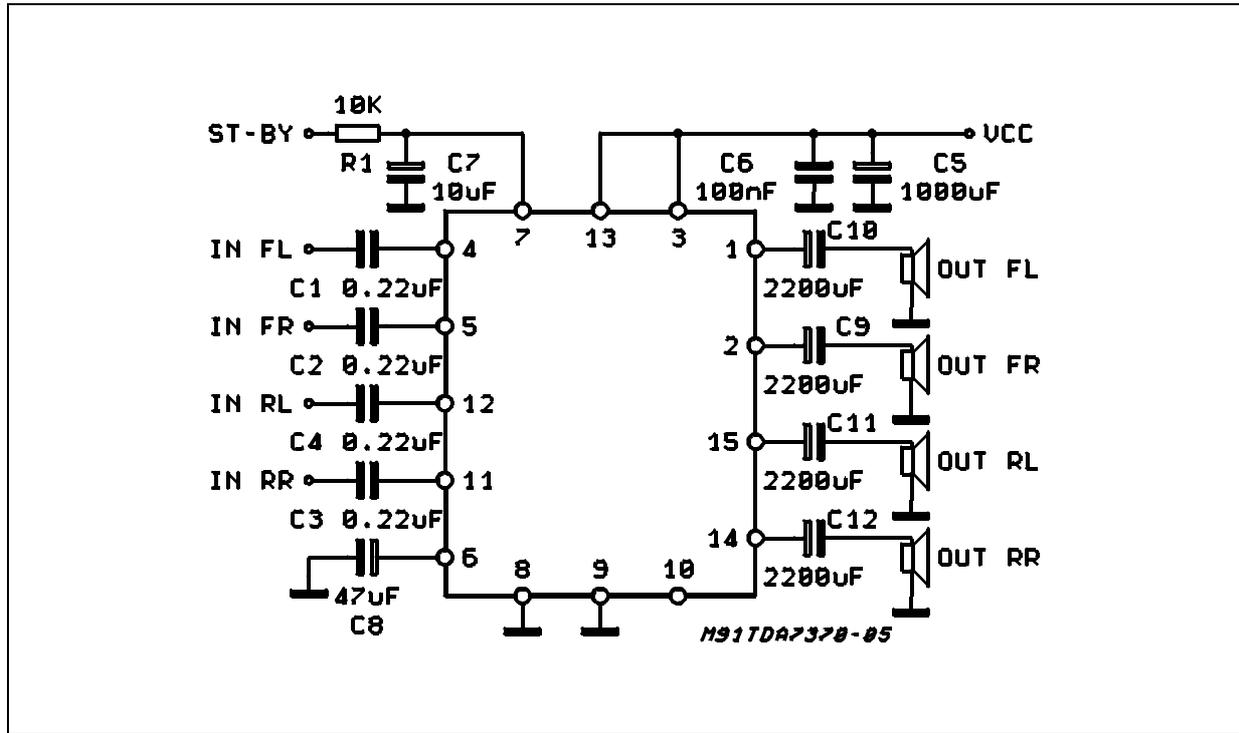
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
V_S	Supply Range		8		18	V
I_d	Total Quiescent Drain Current	$R_L = \infty$			150	mA
P_O	Output Power	$R_L = 4\Omega$; THD = 10% Single Ended Bridge	5.5	6.5 20		W W
d	Distortion	$R_L = 4\Omega$; Single Ended, $P_O = 0.1$ to 4W Bridge, $P_O = 0.1$ to 10W		0.03	0.5	% %
CT	Cross Talk	$f = 1kHz$ Bridge $f = 10kHz$ Bridge $f = 1kHz$ Single Ended $f = 10kHz$ Single Ended		65 55 60 50		dB dB dB dB
R_{IN}	Input Impedance	Single Ended Bridge	20	15		K Ω K Ω
G_V	Voltage Gain	Single Ended Bridge		20 26		dB dB
G_V	Voltage Gain Match.				1	dB
E_{IN}	Input Noise Voltage (*)	SINGLE ENDED Non Inv. Ch., $R_g = 10k\Omega$ Inv. Ch., $R_g = 10k\Omega$ BRIDGE ($R_g = 0$ to $10k\Omega$)		3.0 5 3.5		μV μV μV
SVR	Supply Voltage Rejection	$R_g = 0$; $f = 100Hz$ to $10kHz$		50		dB
ASB	Stand-by Attenuation		60			dB
I_{SB}	ST-BY Current			1		μA
$V_{SB ON}$	ST-BY On Threshold Voltage				1.5	V
$V_{SB OFF}$	ST-BY Off Threshold Voltage		3.5			V
V_{OS}	Output Offset Voltage				200	mV
$I_{CD OFF}$	Clipping Detector "OFF" Output Average Current	THD = 1% (**)		100		μA
$I_{CD ON}$	Clipping Detector "ON" Output Average Current	THD = 10% (**)		190		μA

(*) Weighted A

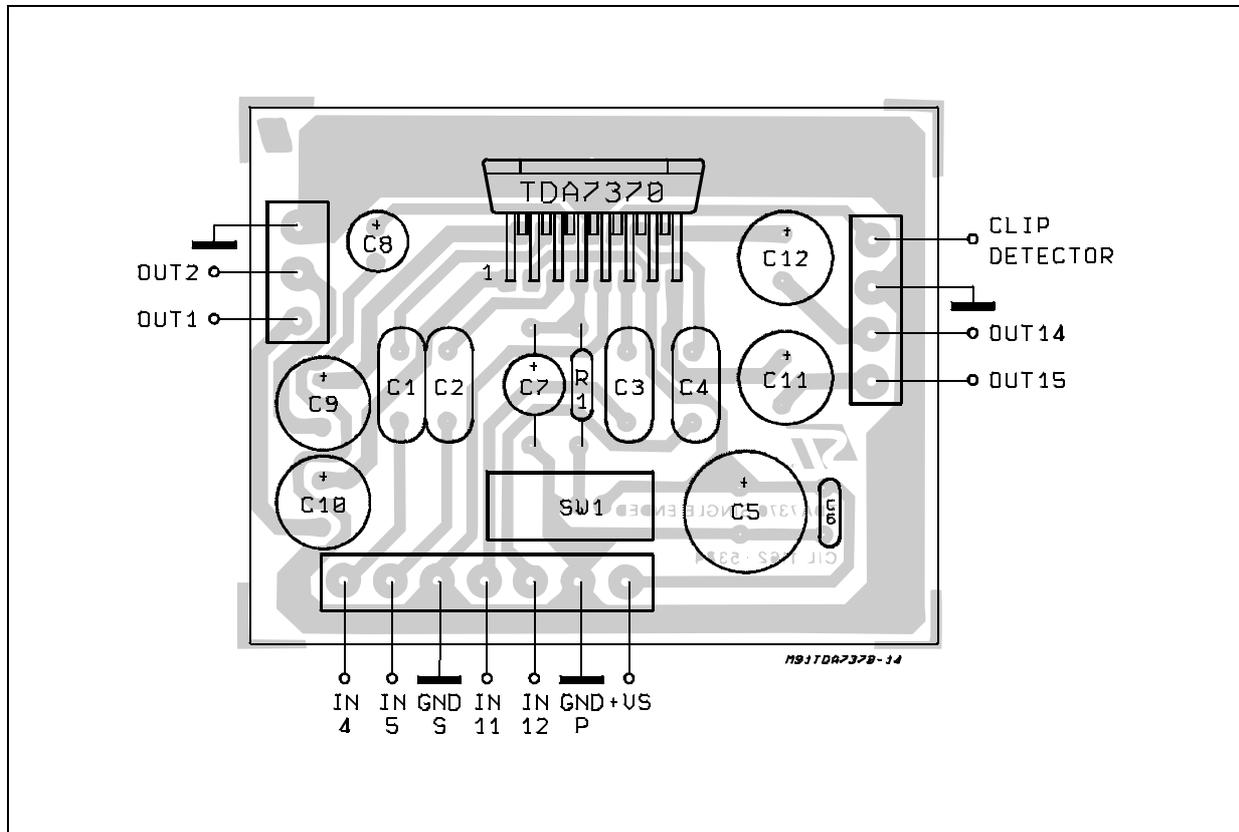
(**) Pin 10 Pulled-up to 5V with $10k\Omega$;

TDA7370

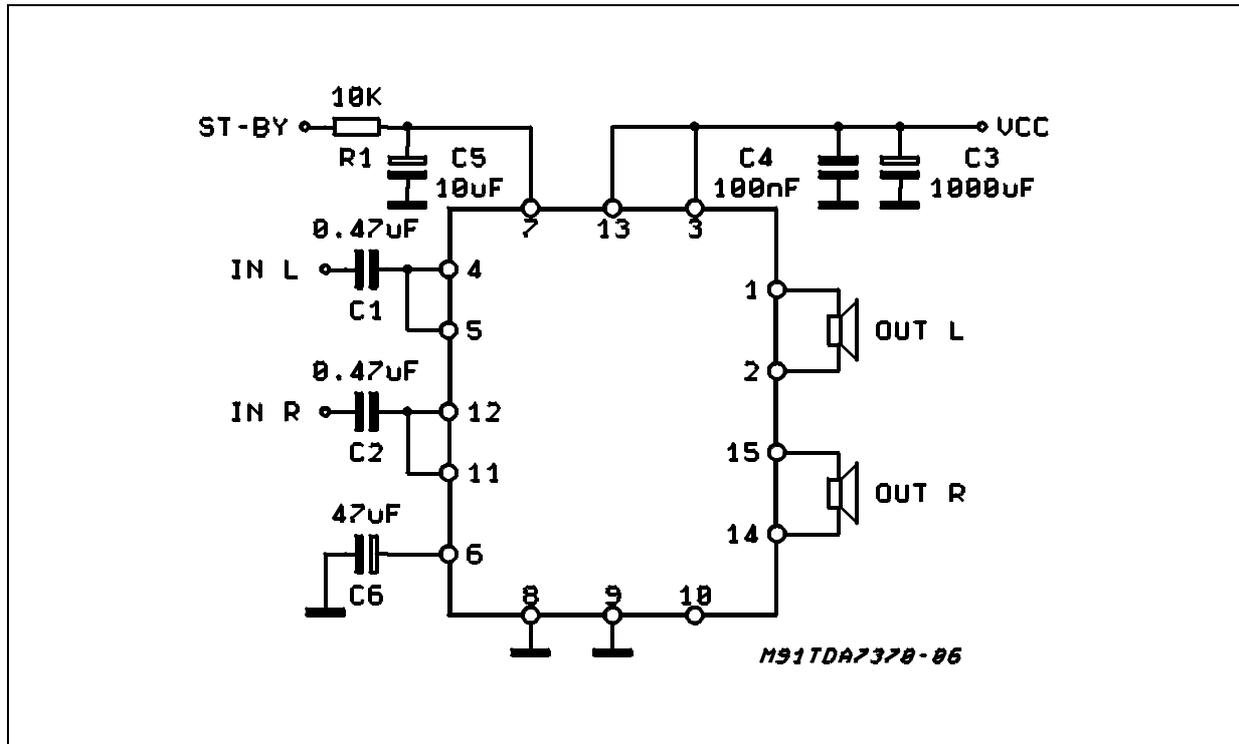
APPLICATION CIRCUIT (QUAD STEREO)



QUAD STEREO P.C. BOARD AND COMPONENT LAYOUT (1:1 SCALE)



APPLICATION CIRCUIT (DOUBLE BRIDGE)



DOUBLE BRIDGE P.C. BOARD AND COMPONENT LAYOUT (1:1 SCALE)

