

**NTE1394**  
**5.5W Dual Power Amplifier**  
**Car Radio, Car Stereo Output**  
**Audio Power Amplifier**

**Features:**

- Dual Mode or Bridge Connection Mode Type.
- Some Protection Circuits Included
- Thermal Protection, Over Voltage Protection, Current Limiter, BTL DC Short Protection.
- Wide Operating Voltage Range:  $V_{CC(opr)} = 8V$  to  $18V$
- A chassis mounting is easily designed using SIP (Single in Line Package) 12 Pins
- This Power IC Obtains High Output Power by Bridge Connection:  $P_{OUT} = 17W$  (Typ) at  $V_{CC} = 13.2V$ ,  $R_L = 4\Omega$ , THD = 10%
- Dual Mode: Minimum Load Impedance is 2 ohm  
 BTL Mode: Minimum Load Impedance is 4 ohm

**Absolute Maximum Ratings:** ( $T_A = +25^\circ C$  unless otherwise specified)

Peak Supply Voltage, $V_{CC}$ surge .....	45V
DC Supply Voltage (30 sec), $V_{CCDC}$ .....	25V
Operating Supply Voltage, $V_{CCopr}$ .....	18V
Output Current (Peak), $I_{O(peak)}$ .....	4.5A
Power Dissipation, $P_D$ .....	25W
Operating Temperature Range, $T_{opr}$ .....	$-30^\circ$ to $+75^\circ C$
Storage Temperature Range, $T_{stg}$ .....	$-55^\circ$ to $+150^\circ C$

**Electrical Characteristics:**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Current	$I_{CCQ}$		–	85	200	mA
Output Power Dual	$P_{OUT}$	THD = 10%	4.5	5.5	–	W
		THD = 10%, $R_L = 2\Omega$	–	8	–	W
		BTL THD = 10%	14	17	–	W
Maximum Output Power Dual	$P_{OM}$	$V_{IN} = 100mV_{rms}$	–	9	–	W
			BTL	–	30	–

### Electrical Characteristics (Cont'd):

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Harmonic Distortion Dual	THD	$P_{OUT} = 1W$	-	0.2	1.5	%
BTL			-	0.3	1.5	%
Voltage Gain	$G_V$	$V_{OUT} = 0dBm$	52.5	54.0	55.5	dB
Channel Balance	$\Delta G_V$	$V_{OUT} = 0dBm$	-	0	$\pm 1.0$	dB
Channel Separation	CT	$V_{OUT} = 0dBm$	-	0	$\pm 1.0$	dB
Ripple Rejection Dual	RR	$f = 100Hz$	-	-20	-	dB
BTL			-	-29	-	dB
Input Resistance	$R_{IN}$		20	35	50	k $\Omega$
Output Noise Voltage	$V_{NO}$	$R_g = 10k\Omega, BW = 50Hz \text{ to } 20kHz$	-	1	2	mV <sub>rms</sub>

**Pin Connection Diagram**  
(Front View)

