

## NTE1685 Integrated Circuit Dual AF Power Amp, 3.5W

### **Features:**

- High Output: 3.5W typ. x 2
- Soft Clip, Causing Little Harmonic Disturbance to Radios
- Small Pop Noise at the Time of Power Switch ON/OFF
- Built-in Protector Against Abnormal Modes (Thermal Shutdown, Overvoltage)

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

Maximum Supply Voltage, $V_{CC\text{max}}$	25V
Maximum Output Current, $I_{O\text{peak}}$	2.0A
Allowable Power Dissipation, $P_{d\text{max}}$	7.5W
Operating Temperature Range, $T_{opr}$	$-20^\circ$ to $+75^\circ\text{C}$
Storage Temperature Range, $T_{stg}$	$-40^\circ$ to $+150^\circ\text{C}$

### **Recommended Operating Conditions:** ( $T_A = +25^\circ\text{C}$ unless otherwise specified)

Recommended Supply Voltage, $V_{CC}$	16V
Operating Supply Voltage Range, $V_{CC}$	9V to 24V
Recommended Load Resistance, $R_L$	$8\Omega$

### **Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$ , $V_{CC} = 16\text{V}$ , $R_L = 8\Omega$ , $f = 1\text{kHz}$ , $R_g = 600\Omega$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Current	$I_{CCO}$		—	46	62	mA
Voltage Gain	$V_G$		48	50	52	dB
Output Power	$P_O$	THD = 10%	3.0	3.5	—	W
Total Harmonic Distortion	THD	$P_O = 0.5\text{W}$	—	0.3	1.0	%
Output Noise Voltage	$V_{NO}$	$R_g = 10\text{k}\Omega$ , BW = 20Hz to 20kHz	—	0.65	1.5	mW
Ripple Rejection Ratio	$R_r$	$R_g = 0$ , $V_r = 500\text{mV}$	40	50	—	dB
Crosstalk	CT	$R_g = 10\text{k}\Omega$ , BW = 20Hz to 20kHz	40	55	—	dB
Channel Balance	$\Delta\text{VG}$		—	—	1.5	dB

**Pin Connection Diagram**  
(Front View)

