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## NTE7030 Integrated Circuit Module, AF PO, 50W, Dual Power Supply

**Features:**

- Small-Sized Package Allows Audio Sets to be made Slimmer
- Facilitates Thermal Design of Slim Stereo Sets
- Constant-Current Circuit Minimizes Pop Noise During Power ON/OFF
- Possible to Design Electronic Supplementary Circuits:
  - Pop Noise Muting During Power ON/OFF
  - Load Short-Circuit Protector
  - Thermal Shutdown

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

Maximum Supply Voltage, $V_{CCmax}$ .....	±52V
Junction Temperature, $T_J$ .....	+150°C
Operating Case Temperature, $T_C$ .....	+125°C
Storage Temperature Range, $T_{stg}$ .....	-30° to +125°C
Thermal Resistance, Junction-to-Case, $R_{thJC}$ .....	1.8°C/W
Available Time for Load Shorted ( $V_{CC} = \pm 35V$ , $R_L = 8\Omega$ , $f = 50\text{Hz}$ , $P_O = 50W$ ), $t_s$ .....	2sec

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

Recommended Supply Voltage, $V_{CC}$ .....	±35V
Load Resistance, $R_L$ .....	8Ω

**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$ ,  $V_{CC} = \pm 35V$ ,  $R_L = 8\Omega$  (Non-Inductive Load),  $R_g = 600\Omega$ ,  $V_G = 40\text{dB}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Current	$I_{CCO}$	$V_{CC} = \pm 42V$	10	20	50	mA
Output Power	$P_O$	THD = 0.4%, $f = 20\text{Hz}$ to $20\text{kHz}$	50	-	-	W
		$V_{CC} = \pm 31V$ , THD = 1%, $R_L = 4\Omega$ , $f = 1\text{kHz}$	55	-	-	W
Total Harmonic Distortion	THD	$P_O = 1W$ , $f = 1\text{kHz}$	-	-	0.3	%
Frequency Response	$f_L, f_H$	$P_O = 1W$ +0dB, -3dB	20 to 50k			Hz
Input Resistance	$r_i$	$P_O = 1W$ , $f = 1\text{kHz}$	-	55	-	kΩ
Output Noise Voltage	$V_{NO}$	$V_{CC} = \pm 42V$ , $R_g = 10\text{k}\Omega$ , Note 2	-	-	1.2	mV <sub>rms</sub>
Middle-Point Voltage	$V_N$	$V_{CC} = \pm 42V$	-70	0	+70	mV

Note 1. For power supply at the time of test, use a constant-voltage power supply unless otherwise specified.

Note 2. The output noise voltage represents the peak value on the RMS scale ( $V_{TMV}$ ) of average value indicating type. The noise voltage waveform includes no flicker noise.

**Pin Connection Diagram**  
(Front View)

15	Bootstrap
14	(+) V <sub>CC</sub>
13	Output
12	(-) V <sub>CC</sub>
11	Compensation
10	I Adjust
9	Emitter Bypass
8	Compensation
7	I Adjust
6	Test Point
5	Bypass
4	Bias
3	Substrate
2	NFB
1	Input

