



ELECTRONICS, INC.

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## NTE1732 Integrated Circuit Module, Hybrid, TV Voltage Regulator w/4W Audio Output

**Features:**

- Series Regulator and Audio Output Amp Incorporated into a Single Package
- Low Power Dissipation, Low Distortion, High Gain
- Excellent Heat Radiation and Thermal Stability

**Functions:**

- Line Operated Series Regulator
- Line Operated Audio Output Amp

**Applications:**

- NTSC System Color Television Sets

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

Maximum Input Voltage (Between Pin1 and Pin4), $V_{inmax}$ .....	200V
Maximum Supply Voltage (Between Pin8 and Pin11), $V_{CCmax}$ .....	160V
Maximum Output Current (Pin6), $I_{Omax}$ .....	1A
Maximum Collector Output Current (TR5, TR6), $I_{Cmax}$ .....	1A
Operating Case Temperature, $T_C$ .....	+105°C
Operating Junction Temperature, $T_J$ .....	+150°C
Storage Temperature Range, $T_{stg}$ .....	-30° to +105°C
Thermal Resistance, Junction-to-Case (TR1), $R_{thJC1}$ .....	1.8°C/W
Thermal Resistance, Junction-to-Case (TR5, TR6), $R_{thJC2}$ .....	12.5°C/W
Allowable Load Shorting Time ( $V_{indc} = 158V$ , $R_L = 8\Omega$ , $P_O = 1W$ , $f = 50Hz$ ), $t_s$ .....	2sec

**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
<b>Power Supply Block</b>						
Output Voltage	$V_O$	$V_{\text{indc}} = 158\text{V}$ , $I_O = 0.5\text{A}$ , Note 1	134.2	135.2	136.2	V
Output Voltage Fluctuation Against Input Voltage		$V_{\text{indc}} = 151\text{V}$ to $174\text{V}$ , $I_O = 0.5\text{A}$	-1	-	+1	V
		$V_{\text{indc}} = 158\text{V}$ , $I_O = 0.2\text{A}$ to $0.5\text{A}$	-	-	0.5	V
Output Voltage Temperature Factor		$V_{\text{indc}} = 158\text{V}$ , $I_O = 0.5\text{A}$	-	7	-	mV/ $^\circ\text{C}$
Ripple Compression Rate		$V_{\text{ac}} = 120\text{V}$ , $I_O = 0.5\text{A}$	-	37	-	dB
Withstanding Voltage Between Input and Output Pins		TR1, $I_{\text{CEO}} = 10\text{mA}$	-	200	-	V
Saturation Voltage Between Input and Output Pins		TR1, $I_B = 10\text{mA}$ , $I_C = 1\text{A}$	-	-	0.2	V
DC Current Gain	$h_{\text{FE}}$	TR1, $V_{\text{CE}} = 5\text{V}$ , $I_C = 1\text{A}$	1500	-	6500	
<b>Audio Output</b> ( $V_{\text{indc}} = 158\text{V}$ , $I_O = 200\text{mA}$ , $R_g = 600\Omega$ , $R_{L2} = 440\Omega$ unless otherwise specified)						
Quiescent Current	$I_{\text{CCO}}$	$V_{\text{indc}} = 135\text{V}$ , Pin6	3	5	10	mA
Output Power	$P_O$	THD = 10%, $f = 1\text{kHz}$	4.0	5.0	-	W
Total Harmonic Distortion	THD	$P_O = 0.1\text{W}$ , $f = 1\text{kHz}$	-	-	2	%
Voltage Gain	$V_G$	$P_O = 0.1\text{W}$ , $f = 1\text{kHz}$	47	49	51	dB
Frequency Response	$f_L, f_H$	$P_O = 0.1\text{W}$ , $\pm 6\text{dB}$	70 to 10k			Hz
Output Noise Voltage	$V_{\text{NO}}$	$R_g = 0\Omega$	-	-	2.0	mV
Middle-Point Voltage	$V_N$	Pin9	66.5	68.5	70.5	V

Note 1. Measure within 5 min. after switch is on.

Note 2. Unless otherwise specified, voltage regulated power supply is used.

**Pin Connection Diagram**  
(Front View)



