

NTE783 Integrated Circuit Automatic Fine-Tuning Detector

Description:

Specifically intended for use in the automatic fine tuning (AFT) system of color television receivers, the NTE783 AFT Detector provides all of the required circuitry except the tuning component. The device embodies a high-gain input amplifier and automatic gain control (AGC) circuitry to provide excellent sensitivity in TV AFT systems employing low level IF amplifiers.

Features:

- Cascade-Cascode Amplifier
- Internal Voltage Regulator
- Internal AGC
- $\pm 25\text{kHz}$ Frequency Deviation
- 14-Pin Dual In-Line Plastic Package

Thermal Characteristics:

Operating Temperature Range, T_A -40° to $+85^\circ\text{C}$
Storage Temperature Range, T_S -65° to $+150^\circ\text{C}$

Electrical Characteristics: ($T_A = +25^\circ\text{C}$, $V_{CC} = +30\text{V}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Total Device Dissipation	P_D		130	140	150	mW
Supply Current	I_{CC}	$V_1 = +10.5\text{V}$	4.0	6.5	9.5	mA
Amplifier Current	I_3		1.0	2.0	4.0	mA
Regulator Voltage	V_{REG}		10.9	11.8	12.8	V
AFT Output Voltage	$V_{5,8}$		5.0	6.6	8.0	V
Output Offset Voltage	V_{5-8}		—	0	± 1.0	V
Dynamic Characteristics						
Input Admittance	γ_{11}		—	$0.4 + j1$	—	mmho
Reverse Transfer Admittance	γ_{12}		—	$0 + j 3.4$	—	mmho
Forward Transfer Admittance	γ_{21}		—	$110 + j140$	—	mmho
Output Admittance	γ_{22}	Pin3	—	$0.02 + j1$	—	mmho

Pin Connection Diagram

V (+) Reg	1	14	GND
Detector A Input	2	13	N.C.
IF Output	3	12	IF Input
Detector B Input	4	11	N.C.
AFT Output	5	10	N.C.
N.C.	6	9	Decouple
N.C.	7	8	AFT Output

