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NTE1791
Integrated Circuit
TV Remote Control Amplifier

Description:

The NTE1791 is a silicon monolithic integrated circuit in a 9–Lead SIP type package designed for remote control preamplification of infrared signals. A PIN photo diode can be directly connected to the input terminal.

This device contains a high gain amplifier, a peak detector, and an output waveform shaper which are necessary for a remote control preamplifier and has improved light interference–rejection characteristics by use of a two–stage tuning circuit.

The NTE1791 output polarity is active “LOW”.

Features:

- Good Immunity from Light Interference: Narrow Bandwidth ±1.3kHz Typ.
- Operation Voltage: 6V ±10%
- Low Power Consumption: 2.4mA Typ.
- High Input Sensitivity: 50μV_{P-P} Typ.
- Peak Detector: The Detector Level is Varied with the Input Signal Level.
- Output Terminal: Open Collector Output. Easy to Interface to Other Devices.

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

Supply Voltage, V_{CC} 8V
Output Terminal Voltage, V_{OUT} 15V
Power Dissipation, P_D 270mW
Operating Temperature range, T_{opr} . . . . . –20° to +75°C
Storage Temperature range, T_{stg} . . . . . –40° to +125°C

Recommended Operating Conditions:

Parameter	Symbol	Min	Typ	Max	Unit
Power Supply	V_{CC}	4.5	5.0	5.5	V
Input Frequency	f_{in}	30	–	60	kHz

Electrical Characteristics: (T_A = +25°C, V_{CC} = 5V, f_{in} = 40kHz unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Current	I_{CC}		1.6	2.4	3.5	mA
Input Terminal Voltage	$V_{in}1$		1.0	1.25	1.45	V
	$V_{in}2$	I_{in} = 30µA	2.0	2.35	2.5	V
1st Stage Voltage Gain	$A_{\upsilon L}$	#8 – #4, υ_{out} = 500mV_{P-P}	–	66	–	dB
Detector Input	υ_{in}		–	50	100	µV_{P-P}
Input Impedance	r_{in}		40	60	80	kΩ
Output Voltage	V_{OL}	I_{OL} = 0.5mA, υ_{in} = 1mV_{P-P}	–	–	0.5	V
Output Leakage Current	I_{OH}	V_{OH} = 14.4V	–	–	2	µA

Pin Connection Diagram
(Front View)