

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 $\pm 1.3\text{kHz}$ Typ.
- Operation Voltage: $6\text{V} \pm 10\%$
- Low Power Consumption: 2.4mA Typ.
- High Input Sensitivity: $50\mu\text{V}_{\text{P-P}}$ 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: ($T_A = +25^\circ\text{C}$ 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 $+75^\circ\text{C}$
Storage Temperature range, T_{stg}	-40° to $+125^\circ\text{C}$

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: ($T_A = +25^{\circ}\text{C}$, $V_{CC} = 5\text{V}$, $f_{in} = 40\text{kHz}$ 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_{in1}		1.0	1.25	1.45	V
	V_{in2}	$I_{in} = 30\mu\text{A}$	2.0	2.35	2.5	V
1 st Stage Voltage Gain	A_{vL}	#8 – #4, $v_{out} = 500\text{mV}_{P-P}$	–	66	–	dB
Detector Input	v_{in}		–	50	100	μV_{P-P}
Input Impedance	r_{in}		40	60	80	k Ω
Output Voltage	V_{OL}	$I_{OL} = 0.5\text{mA}$, $v_{in} = 1\text{mV}_{P-P}$	–	–	0.5	V
Output Leakage Current	I_{OH}	$V_{OH} = 14.4\text{V}$	–	–	2	μA

Pin Connection Diagram
(Front View)

