

## 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:  $2.4\text{mA}$  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, $V_{\text{CC}}$ .....	8V
Output Terminal Voltage, $V_{\text{OUT}}$ .....	15V
Power Dissipation, $P_D$ .....	270mW
Operating Temperature range, $T_{\text{opr}}$ .....	$-20^\circ$ to $+75^\circ\text{C}$
Storage Temperature range, $T_{\text{stg}}$ .....	$-40^\circ$ to $+125^\circ\text{C}$

**Recommended Operating Conditions:**

Parameter	Symbol	Min	Typ	Max	Unit
Power Supply	$V_{\text{CC}}$	4.5	5.0	5.5	V
Input Frequency	$f_{\text{in}}$	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 <sup>st</sup> Stage Voltage Gain	$A_{vL}$	#8 – #4, $v_{out} = 500\text{mV}_{P-P}$	–	66	–	dB
Detector Input	$v_{in}$		–	50	100	$\mu\text{V}_{P-P}$
Input Impedance	$r_{in}$		40	60	80	k $\Omega$
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	$\mu\text{A}$

**Pin Connection Diagram**  
(Front View)

