

**NTE836**  
**Linear Integrated Circuit**  
**TV Horizontal Processor**

**Description:**

The NTE836 is a TV Horizontal Processor in an 8-Lead DIP type package that includes a phase detector, oscillator and pre-driver. This device is designed for use in all types of television receivers that have negative flyback inputs.

**Features:**

- Internal Shunt Regulator
- Preset Hold Control Capability
- $\pm 300\text{Hz}$  Typical Pull-In
- Linear Balanced Phase Detector
- Variable Output Duty Cycle for Driving Tube or Transistor
- Low Thermal Frequency Drift
- Small Static Phase Error
- Adjustable DC Loop Gain
- Negative Flyback Inputs

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

Supply Current .....	40mA
Output Voltage .....	40V
Output Current .....	30mA
Sync Input Voltage (Pin3) .....	5.0V <sub>(p-p)</sub>
Flyback Input Voltage (Pin4) .....	5.0V <sub>(p-p)</sub>
Power Dissipation, $P_D$ .....	625mW
Derate above $T_A$ .....	5.0mW/ $^\circ\text{C}$
Operating Ambient Temperature Range, $T_{opr}$ .....	0° to +75°C
Storage Temperature Range, $T_{stg}$ .....	-65° to +150°C

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

Parameter	Test Conditions	Min	Typ	Max	Unit
Regulated Voltage (Pin6)		8.0	8.6	9.0	V
Supply Current (Pin6)		–	20	–	mA
Collector–Emitter Saturation Voltage	$I_C = 20\text{mA}$ , Pin1	–	0.15	0.25	V
Voltage (Pin4)		–	2.0	–	V
Oscillator Pull–In Range		–	$\pm 300$	–	Hz
Oscillator Hold–In Range		–	$\pm 900$	–	Hz
Static Phase Error	$\Delta f = 300\text{Hz}$	–	0.5	–	$\mu\text{s}$
Free–Running Frequency Supply Dependence	S1 in Position 2	–	$\pm 3.0$	–	Hz/V
Phase Detector Leakage (Pin5)	All Switches in Position 2	–	–	$\pm 1.0$	$\mu\text{A}$
Sync Input Voltage (Pin3)		2.0	–	5.0	$V_{P-P}$
Sawtooth Input Voltage (Pin4)		1.0	–	3.0	$V_{P-P}$

**Pin Connection Diagram**

