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## NTE1855 Integrated Circuit Vertical Deflection Output Circuit w/Driver Circuit for TV Monitor

**Description:**

The NTE1855 is an integrated circuit in a 13-Lead SIP type package that contains the vertical deflection output circuit with a driver for small-aperture (maximum deflection current  $1.8A_{p-p}$ ) color/B & W TV, monitor/display use. This device has such features as greatly reduced number of external parts and low power dissipation. Since both DC feedback and AC feedback can be provided inside the IC, it is easy to design the vertical deflection circuit.

**Features:**

- Low Power Dissipation due to On-Chip Pump-Up Circuit
- On-Chip 50/60Hz Vertical Size Control Circuit
- On-Chip Driver Circuit
- Vertical Output Circuit
- On-Chip Thermal Protection Circuit
- Minimum Number of External Parts Required

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

Driver Power Supply Voltage, $+V_{CC1max}$ .....	15V
Pump-Up Power Supply Voltage, $+V_{CC7max}$ .....	30V
Output Power Supply Voltage, $+V_{CC12max}$ .....	62V
Deflection Output Current, $I_{DEF}$ .....	$-1.5$ to $+1.5A_{P-O}$
Allowable Power Dissipation (With Infinite Heat Sink), $P_{Dmax}$ .....	8W
Operating Temperature Range, $T_{opr}$ .....	$-20^\circ$ to $+85^\circ C$
Storage Temperature Range, $T_{stg}$ .....	$-40^\circ$ to $+150^\circ C$
Thermal Resistance, Junction-to-Case, $R_{tnJC}$ .....	$4^\circ C/W$

**Operating Supply Voltage Conditions:** ( $T_A = +25^\circ C$  unless otherwise specified)

Driver Supply Voltage, $+V_{CC1}$ .....	8V to 14V
Pump-Up Supply Voltage, $+V_{CC7}$ .....	10V to 27V

**Recommended Operating Conditions:** ( $T_A = +25^\circ C$  unless otherwise specified)

Driver Supply Voltage, $+V_{CC1}$ .....	12V
Pump-Up Supply Voltage $+V_{CC7}$ .....	24V
Deflection Output Current, $I_{11p-p}$ .....	up to $1.8A_{P-P}$

**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$ ,  $+V_{CC1} = 12\text{V}$ ,  $+V_{CC7} = 24\text{V}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Driver Power Supply Quiescent Current	$I_{CC1}$		1.8	2.8	3.8	mA
Trigger Input Threshold Voltage	$V_2$		2.8	3.1	3.4	V
Vertical Size Control Pin Voltage	$V_3$		5.9	6.1	6.3	V
Ramp Waveform Shape Start Voltage	$V_{\text{Ramp}}$		4.7	5.0	5.3	V
Pump-Up Charge Saturation Voltage	$V_{S8-10}$		–	–	1.5	V
Pump-Up Discharge Saturation Voltage	$V_{S7-8}$	$I = 900\text{mA}$	–	–	3.0	V
Deflection Output Saturation Voltage, Lower	$V_{S11-10}$	$I = 900\text{mA}$	–	–	1.2	V
Deflection Output Saturation Voltage, Upper	$V_{S12-11}$	$I = 900\text{mA}$	–	–	3.2	V
Idling Current			8	18	32	mA
Voltage Gain	$G_{VO}$	$f = 1\text{kHz}$	–	59	–	dB

**Pin Connection Diagram**  
(Front View)



