



**ELECTRONICS, INC.**  
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## NTE7085 Integrated Circuit Vertical Deflection Output Circuit w/Drive Circuit for Monitor

**Description:**

The NTE7085 is an integrated circuit in a 13-Lead SIP type package that contains a vertical deflection output circuit with a driver for color, B/W TV sets, monitors, and display units with a large aperture (maximum current  $2.2A_{P-P}$ ).

The NTE7085 can be used in conjunction with the NTE1863 (NTSC) to provide all the functions required for color TV signal processing.

**Features:**

- Low Power Dissipation due to On-Chip Pump-Up Circuit
- On-Chip 50/60Hz Vertical Size Control Circuit
- On-Chip Ramp Generator
- 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 Circuit Supply Voltage, $+V_{CC1max}$ .....	15V
Pump-Up Circuit Supply Voltage, $+V_{CC7max}$ .....	30V
Output Circuit 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, $R_{thJC}$ .....	$+4^\circ C/W$

**Operating Supply Voltage Conditions:**

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

**Recommended Operating Conditions:**

Driver Circuit Supply Voltage, $+V_{CC1}$ .....	12V
Pump-Up Circuit Supply Voltage, $+V_{CC7}$ .....	24V
Maximum Deflection Output Current, $I_{11P-P}$ .....	$2.2A_{P-P}$

**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
Quiescent Current in Driver Power Supply	$I_{CC1}$		1.8	2.8	3.8	mA
Trigger Input Threshold Voltage	$V_2$		2.8	3.1	3.4	V
Voltage on Vertical Size Control Pin	$V_3$		5.9	6.1	6.3	V
Ramp Waveform Shape Start Voltage	$V_{RAMP}$		4.7	5.0	5.3	V
Pump-Up Charge Saturation Voltage	$V_{S8-10}$		–	–	1.5	V
Pump-Up Discharge Saturation Voltage	$V_{S8-10}$	$I = 1.1\text{A}$	–	–	3.2	V
Deflection Output Saturation Voltage		$I = 1.1\text{A}$	–	–	1.5	V
Upper	$V_{S12-11}$	$I = 1.1\text{A}$	–	–	3.5	V
Idling Current			16	22	32	mA
Voltage gain	$G_{VO}$	$f = 1\text{kHz}$	–	59	–	dB

**Pin Connection Diagram**  
(Front View)



