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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<sub>P-P</sub>).

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<sub>A</sub> = +25°C unless otherwise specified)

Driver Circuit Supply Voltage, +V <sub>CC1max</sub> .....	15V
Pump-Up Circuit Supply Voltage, +V <sub>CC7max</sub> .....	30V
Output Circuit Supply Voltage, +V <sub>CC12max</sub> .....	62V
Deflection Output Current, I <sub>DEF</sub> .....	-1.5 to +1.5A <sub>P-O</sub>
Allowable Power Dissipation (With Infinite Heat Sink), P <sub>dmax</sub> .....	8W
Operating Temperature Range, T <sub>opr</sub> .....	-20° to +85°C
Storage Temperature Range, T <sub>stg</sub> .....	-40° to +150°C
Thermal Resistance, Junction-to-Case, R <sub>thJC</sub> .....	+4°C/W

### **Operating Supply Voltage Conditions:**

Driver Circuit Supply Voltage, +V <sub>CC1</sub> .....	8 to 14V
Pump-Up Circuit Supply Voltage, +V <sub>CC7</sub> .....	10 to 27V

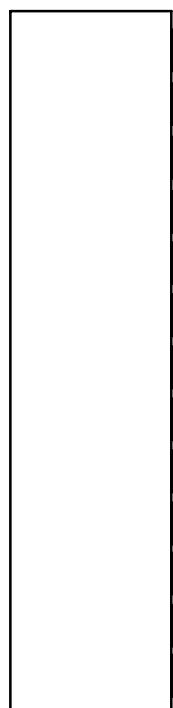
### **Recommended Operating Conditions:**

Driver Circuit Supply Voltage, +V <sub>CC1</sub> .....	12V
Pump-Up Circuit Supply Voltage, +V <sub>CC7</sub> .....	24V
Maximum Deflection Output Current, I <sub>11P-P</sub> .....	2.2A <sub>P-P</sub>

**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 Lower	$V_{S11-10}$	$I = 1.1\text{A}$	—	—	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)



- 13** Ripple Filter
- 12** Power Supply for Vertical Output
- 11** Vertical Output
- 10** GND
- 9** OSC Blocking
- 8** Pump–Up Output
- 7**  $V_{CC7}$
- 6** AC/DC Feedback Input to Vertical Output Section
- 5** Ramp Waveform Generator
- 4** 50/60Hz Vertical Size Control Signal Input
- 3** Vertical Height Control
- 2** Vertical Trigger Input
- 1**  $V_{CC1}$

