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RoHS
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NTE7185
Integrated Circuit
Vertical Deflection Booster for Monitors and High Performance TVs

Description:

The NTE7185 was designed for use in monitors and high performance televisions. This device can handle flyback voltage up to 70V. More than this it is possible to have a flyback voltage which is more than the double of the supply (Pin2). This allows to decrease the power consumption or to decrease the flyback time for a given supply voltage.

Features:

- Power Amplifier
- Thermal Protection
- Output Current up to $3.0A_{PP}$
- Flyback Voltage up to 70V (On Pin5)
- Suitable for DC Coupling Application
- External Flyback Supply

Absolute Maximum Ratings:

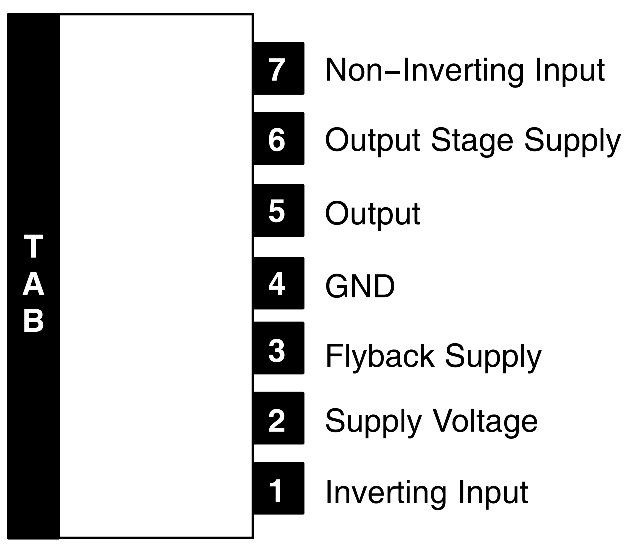
Supply Voltage (Pin2, Note 1), V_S 40V
Flyback Peak Voltage (Pin6, Note 1) 75V
Amplifier Input Voltage (Pin thru Pin7, Note 1) V_1, V_7 . . . . . $-0.3V + V_S$
Maximum Output Peak Current (Note 2), I_o 2.5A
Maximum Sink Current (t < 1ms), I_3 . . . . . 2.5A
Maximum Source Current (t < 1ms), I_3 . . . . . 2.5A
ESD Susceptibility, V_{ESD}
    Tool Model (Note 3) 300V
    Human Model (Note 4) 2kV
Voltage Difference between Flyback Supply and Supply Voltage, $V_3 - V_2$ 50V
Minimum Voltage (Note 1), V_3, V_5, V_6 . . . . . $-0.4V$
Operating Ambient Temperature Range, T_{oper} . . . . . $-20°$ to $+75°C$
Storage Temperature Range, T_{stg} . . . . . $-40°$ to $+150°C$
Junction Temperature, T_j . . . . . $+150°C$
Maximum Thermal Resistance, Junction–to–Case, R_{thJC} . . . . . 3°C/W
Temperature for Thermal Shutdown, T_t . . . . . 150°C
Hysteresis on T_t, ΔT_t . . . . . 10°C
Recommeneded Maximum Junction Temperature, T_{jr} . . . . . 120°C

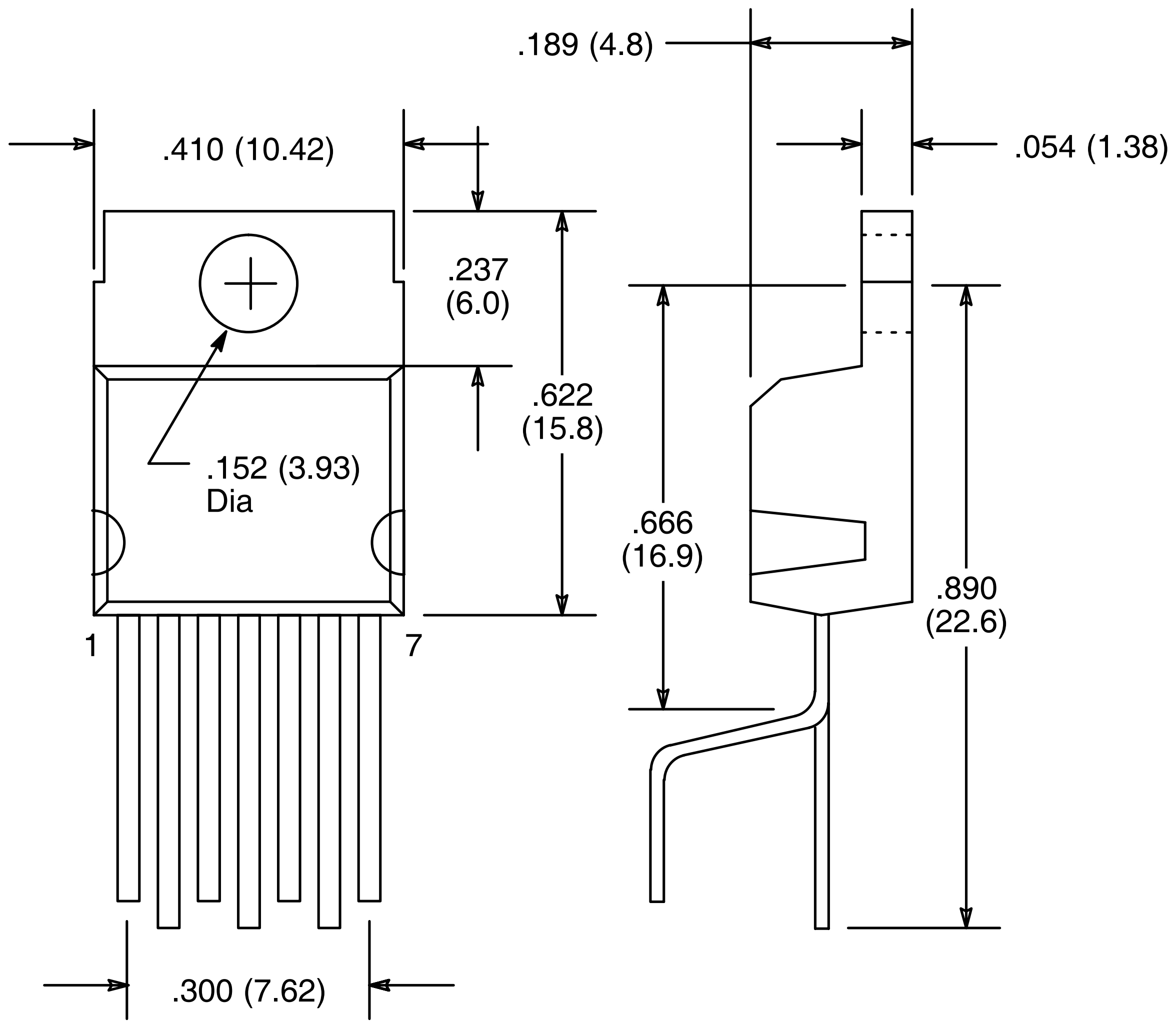
Note 1. Versus Pin4.
Note 2. The output current can reach 4A peak for 10μs (up to 120Hz).
Note 3. Equivalent to discharging a 200pF capacitor through a 0Ω series resistor.
Note 4. Equivalent to discharging a 150pF capacitor through a 1.5Ω series resistor.

Electrical Characteristics: (V_S = 35V, T_A = 25°C, unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Operating Supply Voltage Range	V_S		10	–	35	V
Operating Flyback Supply Voltage	V_{3M}		V_S	–	70	V
Quiescent Current (Pin2)	I_2	$I_3 = 0$, $I_5 = 0$	–	10	20	mA
Quiescent Current (Pin6)	I_6	$I_3 = 0$, $I_5 = 0$	–	25	35	mA
Max. Scanning Peak Output Current	I_o		–	–	1.5	A
Amplifier Bias Current	I_1	V_1 = 20V, V_7 = 21V	–	–0.4	–2	μA
Amplifier Bias Current	I_7	V_1 = 21V, V_7 = 20V	–	–0.4	–2	μA
Offset Voltage	V_{10}		–	0	7	mV
Offset Drift versus Temperature	$\Delta V_{10}/dt$		–	–10	–	μV/°C
Voltage Gain	GV		80	–	–	dB
Output Saturation Voltage to GND (Pin4)	V_{5L}	I_5 = 1.5A	–	1.0	2	V
Output Saturation Voltage to Supply (Pin6)	V_{5H}	I_5 = –1.5A	–	1.7	2.5	V
Diode Forward Voltage between Pin5 & Pin6	V_{D5-6}	I_5 = 1.5A	–	1.5	2.1	V
Diode Forward Voltage between Pin3 & Pin6	V_{D3-6}	I_3 = 1.5A	–	2.3	3	V
Voltage Drop between Pin3 & Pin6 (2nd part of flyback)	V_{3-6}	I_3 = –1.5A	–	4	5	V

Pin Connection Diagram
(Front View)

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.237
(6.0)
.622
(15.8)
.152 (3.93)
Dia
1
7
.300 (7.62)
.189 (4.8)
.054 (1.38)
.666
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.890
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