



T8172

LINEAR INTEGRATED CIRCUIT

VERTICAL DEFLECTION OUTPUT CIRCUIT

DESCRIPTION

The UTC **T8172** is a monolithic integrated circuit and designed for Color and B/W TV, Monitors and Displays application. The IC is a differential input, single ended output amplifier with a flyback generator. It is intended to directly drive vertical windings of deflection coils with high efficiency.

FEATURES

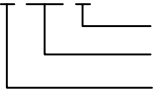
- * Power Amplifier
- * Thermal Protection Circuit
- * Flyback Generator
- * Low cross-over distortion

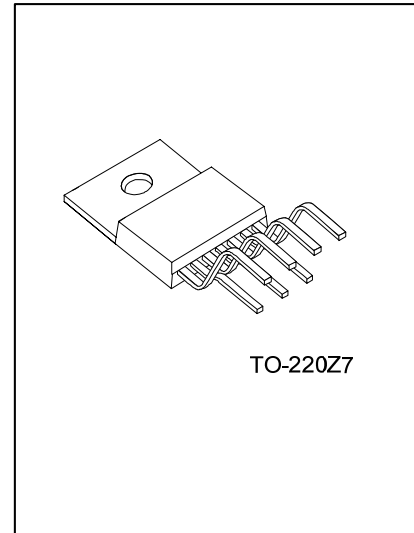
APPLICATIONS

- * Vertical deflection for monitors and TVs

ORDERING INFORMATION

Order Number		Package	Packing
Normal	Lead Free Plating		
T8172-TB7-T	T8172L-TB7-T	TO-220Z7	Tube

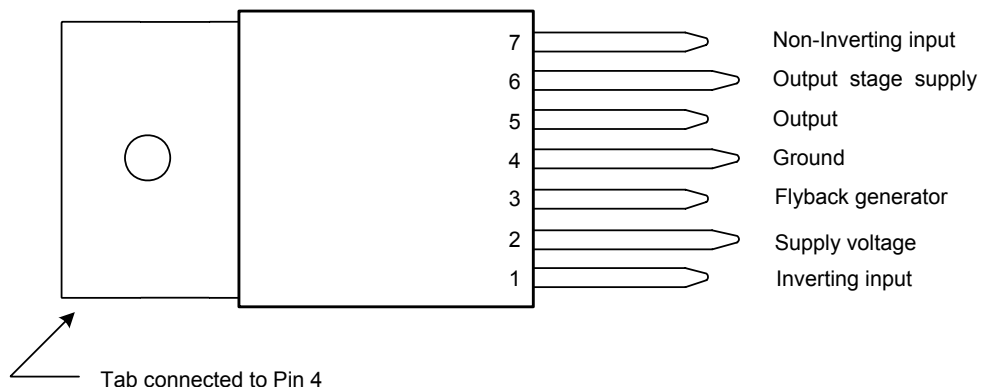
T8172L-TB7-T 	(1)Packing Type (2)Package Type (3)Lead Plating	(1) T: Tube (2) TB7: TO-220Z7 (3) Lead Free Plating, Blank: Pb/Sn
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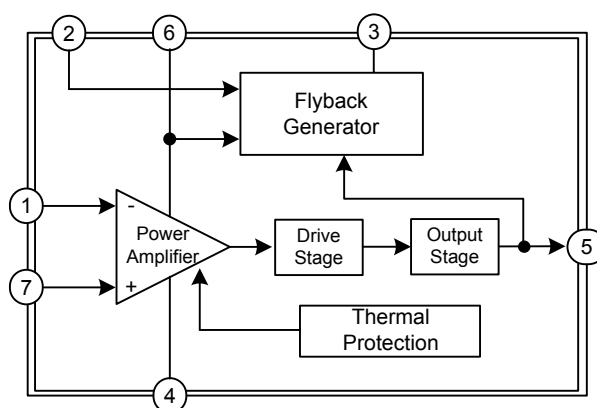
TO-220Z7

*Pb-free plating product number: T8172L

PIN CONFIGURATIONS



BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage (pin 2)	V_{CC}	35	V
Flyback Peak Voltage	V_5, V_6	60	V
Voltage at Pin 3	V_3	+ V_{CC}	
Amplifier Input Voltage	V_1, V_7	+ $V_{CC} - 0.5$	V
Output Peak Current (non repetitive, $t = 2 \text{ ms}$)	$I_{O(PEAK)}$	2.5	A
Output Peak Current ($f = 50 \text{ or } 60 \text{ Hz}$, $t \leq 10 \text{ us}$)	$I_{O(PEAK)}$	3	A
Output Peak Current ($f = 50 \text{ or } 60 \text{ Hz}$, $t > 10 \text{ us}$)	$I_{O(PEAK)}$	2	A
Pin 3 DC Current at $V_5 < V_2$	I_3	100	mA
Pin 3 Peak to Peak Flyback Current ($f = 50 \text{ or } 60 \text{ Hz}$, $t_{fb} \leq 1.5 \text{ ms}$)	I_3	3	A
Total Power Dissipation ($T_C = 90^\circ\text{C}$)	P_D	20	W
Junction Temperature	T_J	+150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-40~+150	$^\circ\text{C}$

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

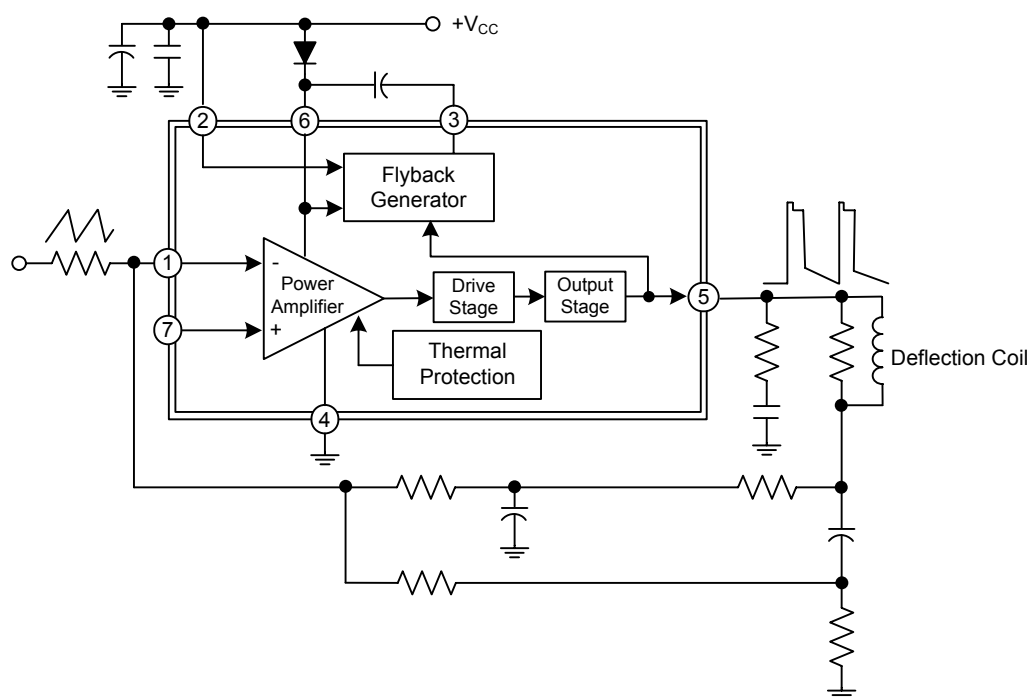
■ THERMAL DATA

PARAMETER	SYMBOL	RATING	UNIT
Thermal Resistance Junction-Case	θ_{JC}	3	$^\circ\text{C/W}$

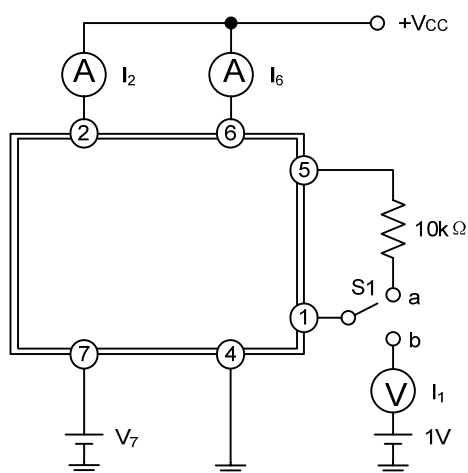
■ ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$, $V_{CC} = 35\text{V}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Pin 2 Quiescent Current	I_2	$I_3 = 0, I_5 = 0$		8	16	mA
Pin 6 Quiescent Current	I_6	$I_3 = 0, I_5 = 0$		16	36	mA
Amplifier Input Bias Current	I_1	$V_1 = 1\text{V}, V_7 = 2\text{V}$		-0.1	-1	μA
		$V_1 = 2\text{V}, V_7 = 1\text{V}$		-0.1	-1	μA
Pin 3 Saturation Voltage to GND	V_{3L}	$I_3 = 20\text{mA}$		1	1.5	V
Quiescent Output Voltage	V_5	$V_{CC} = 35\text{V}, R_a = 39\text{k}\Omega$		18		V
Output Saturation Voltage to GND	V_{5L}	$I_5 = 1.2\text{A}$		1	1.4	V
		$I_5 = 0.7\text{A}$		0.7	1	V
Output Saturation Voltage to Supply	V_{5H}	$-I_5 = 1.2\text{A}$		1.6	2.2	V
		$-I_5 = 0.7\text{A}$		1.3	1.8	V
Thermal Shutdown Junction Temperature	T_J			140		$^\circ\text{C}$

■ APPLICATION CIRCUIT



■ TEST CIRCUIT
FOR DC Test Circuit



S₁ : (a) I₂ and I₆ ; (b) I₁

Figure 1. Measurement of I₁ ; I₂ ; I₆

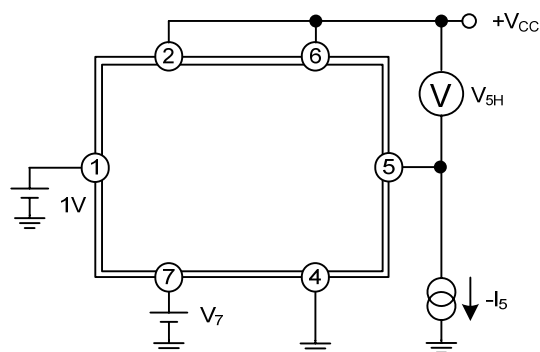
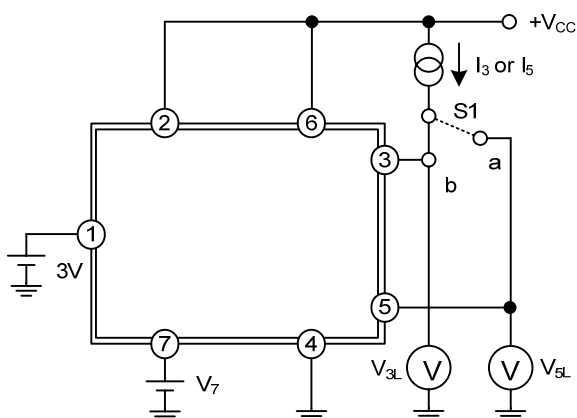


Figure 2. Measurement of V_{5H}



S₁ : (a) V_{3L} ; (b) V_{5L}

Figure 3. Measurement of V_{3L} ; V_{5L}

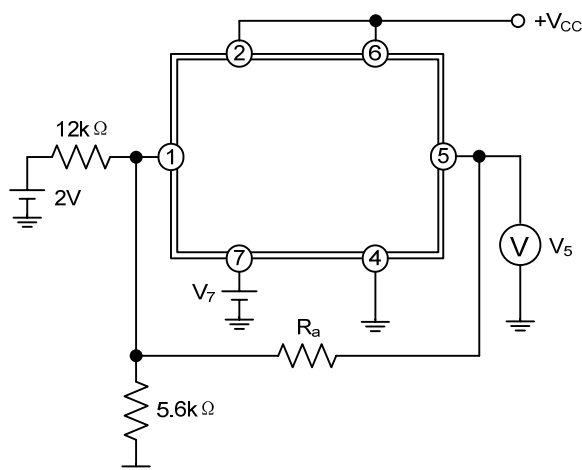


Figure 4. Measurement of V₅

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