**Applications**

- . Telephones and other various types of consumer equipment

Features and Functions

- . Adjustable OSC frequency
- . On-chip power supply control circuit with hysteresis prevents false triggering and rotary dial "chirps".
- . Minimum number of external parts required
- . Adjustable operation start voltage (LA8500)
- . Adjustable operation start current (LA8501-P)

Maximum Ratings at Ta=25°C

			unit
Maximum Supply Voltage	V_{CC} max	30	V
Allowable Power Dissipation	P_d max	500	mW
Operating Temperature	T_{opr}	-20 to +75	°C
Storage Temperature	T_{stg}	-55 to +150	°C

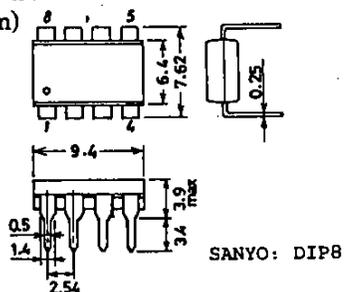
Operating Conditions at Ta=25°C

			min	typ	max	unit
Operating Voltage	V_{opr}				29	V
Operation Start Supply Voltage	V_{si} (Note 1)		17	19	21	V
Operation Sustain Supply Voltage	V_{sus} (Note 2)		10.5	12		V
Operation Start Current Dissipation	I_{si} No load		1.4	3.3	4.2	mA
Operation Sustain Current Dissipation	I_{sus} No load			1.0		mA
OSC Frequency (Note 3)	f_L	$C1=0.47\mu F, R1=165k\Omega$	9	10	11	Hz
	f_{H1}	$C2=6800pF, R2=191k\Omega$	461	512	563	Hz
	f_{H2}	$C2=6800pF, R2=191k\Omega$	576	640	703	Hz
Output Voltage	H Level V_{OH}	$V_{CC}=24V, I_{OH}=-10mA, PIN 7=GND$	20.0	21.5	22.5	V
	L Level V_{OL}	$V_{CC}=24V, I_{OL}=10mA, PIN 7=7V$	0.7	1.0	2.0	V
Trigger Pin Operating Voltage (LA8500)	V_{trig}	$V_{CC}=15V, I_{trig}=100\mu A$	7.8	10	11.5	V

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Package Dimensions 3001B

(unit: mm)

**SANYO Electric Co., Ltd. Semiconductor Business Headquarters**

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

70494HK / 1170YT / 8087TA, TS No.3351-1/2

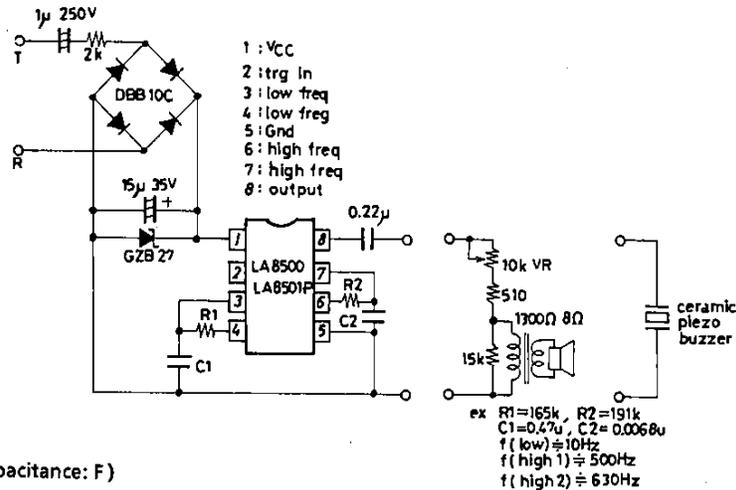
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Note 1: Operation start supply voltage (V_{s1}) is the value of supply voltage required for the tone ringer to start oscillating.

Note 2: Operation sustain supply voltage (V_{sus}) is the value of supply voltage required for the tone ringer to maintain oscillation.

Note 3: OSC frequencies are: (1) $f_L = 1/1.234 \cdot R_1 \cdot C_1$
 (2) $f_{H1} = 1/1.515 \cdot R_2 \cdot C_2$
 (3) $f_{H2} = 1.24 \cdot f_{H1}$

Sample Application Circuit



Unit (resistance: Ω, capacitance: F)

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