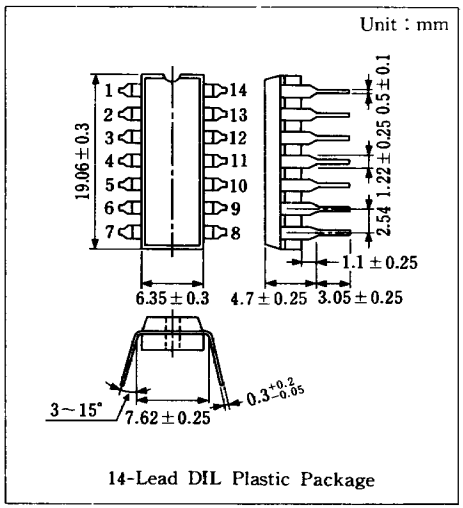
AN6171

Telephone Tone Set Ringer

■ Outline

The AN6171 is a tone ringer IC which drives a ceramic sounder or speaker as power supply for IC upon receipt of a call signal from telephone set.



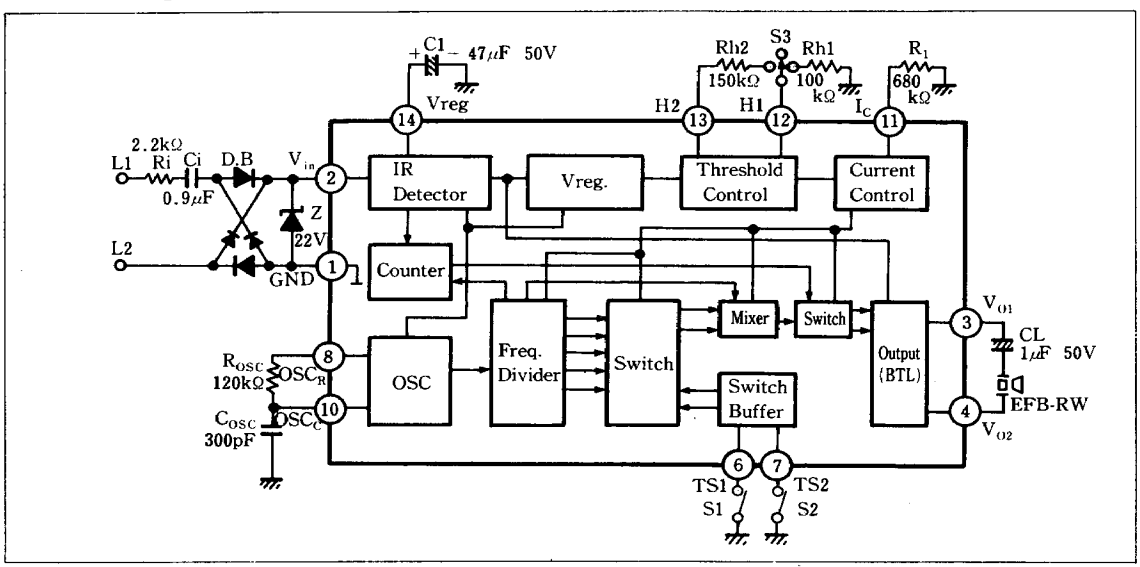
14-Lead DIL Plastic Package

■ Features

- Wide selection of output tone
  Four types of tremolo sounds can be selected by SW_1 and SW_2. Each tremolo sound is generated by I2L divider circuit and mixer circuit.
- Rumbling starting voltage variable
  Ringer rumbling starting voltage is made vairable with external resistors Rh1 and Rh2.
- Built-in hysteresis circuit
  This circuit can prevent malfunction due to power noise, resonance due to dial pulse and malfunction due to howler.
- Built-in time starting circuit
  This circuit follows the signal such as Centlex whose nonrumbling time is short.
- High output power by BTL circuit

*1 Howler : Alarm signal when the receiver is off-hook.
*2 Centlex : 0.2-sec interval of call signal.

■ Block Diagram and Peripheral Circuit



Panasonic

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■ Pin

Pin No.	Pin Name	Pin No.	Pin Name
1	GND	8	Resistor for OSC
2	Input Voltage	9	NC
3	Output (1)	10	Capacitor for OSC
4	Output (2)	11	I^2L Current Control
5	NC	12	Threshold Control (1)
6	Tremolo Select (1)	13	Threshold Control (2)
7	Tremolo Select (2)	14	Filter Capacitor

■ External Conditions of Tone Ringer Circuit (Japan)

Item	Technical Reference Standard Value	Unit
Call Signal Supply Voltage	75^{+8}_{-10}	Vrms
Call Signal Power Frequency	16.6± 1	Hz
Electrostatic Capacitance of Telephone Set	0.9	μF
Impedance of Telephone Set	11 or more	kΩ

■ Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Rating	Unit
Supply Voltage	V_{CC}	24	V
Power Dissipation	P_D	500	mW
Operating Ambient Temperature	T_{opr}	−30～+75	°C
Storage Temperature	T_{stg}	−55～+150	°C

■ Electrical Characteristics (V_{CC}=24V, Ta=25°C)

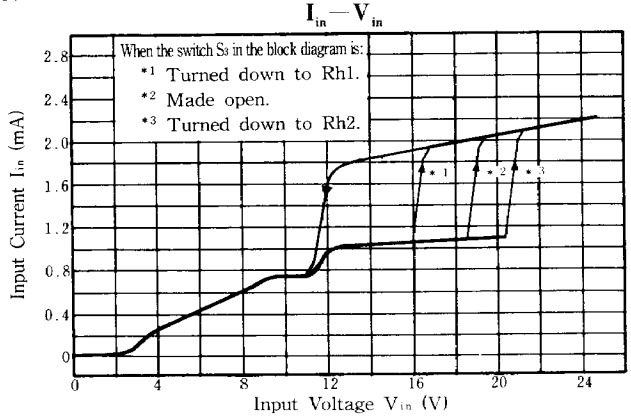
Item	Symbol	Condition	typ.	Unit
Rumbling Starting Supply Voltage	V_{st}	$R_L=\infty$	18.5	V
Rumbling Continuous Supply Voltage	V_{con}	$R_L=\infty$	12	V
Rumbling Starting Current Consumption	I_{st}	$R_L=\infty$	2.0	mA
Rumbling Continuous Current Consumption	I_{con}	$R_L=\infty$	1.8	mA
Output Frequency (1)	$f_W/f_1/f_3$	V_{CC}=22V, Refer to the table.	15.3/1400/980	Hz
Output Frequency (2)	$f_W/f_2/f_3$	V_{CC}=22V, Refer to the table.	15.3/1225/980	Hz
Output Frequency (3)	$f_W/f_3/f_4$	V_{CC}=22V, Refer to the table.	15.3/980/820	Hz
Output Frequency (4)	$f_W/f_4/f_5$	V_{CC}=22V, Refer to the table.	15.3/820/700	Hz
Output Voltage	V_{OPP}	V_{CC}=22V,	36	V_{PP}

Note : Operating Supply Voltage Range : $V_{CC(opr)}$=8.5～24V

(Table) Measurement Conditions of Output Frequency

Output Frequency \ Pin	Pin ⑥	Pin ⑦
(1)	OPEN	OPEN
(2)	OPEN	GND
(3)	GND	OPEN
(4)	GND	GND

$I_{in}-V_{in}$



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