FEATURES

- 3V Power Supply
- Direct Piezo Drive
- Direct LED Drive (2Hz flash)

FUNCTIONS

- Alarm Siren Sound
- ON/OFF Toggle Switch
- Bare chip is available

DESCRIPTION

The M3033 Siren Sound IC is designed to save a wide range of applications, as intrusion alarms, moisture or waters ingress alarms, and personal safety devices. The M3033 drives piezoelectric buzzer, horn, and/or LED.

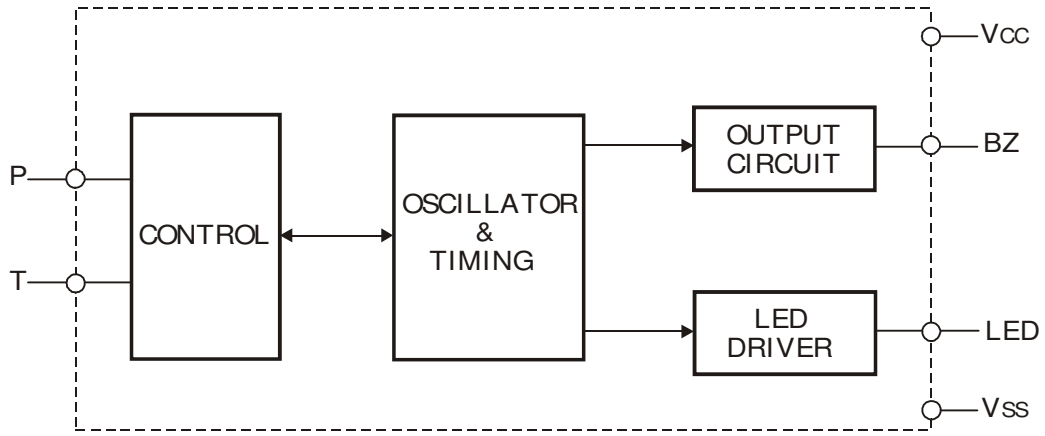
ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Characteristic	Symbol	Value	Unit
DC Supply Voltage	V_{CC} - V_{SS}	-0.3 ~ 5.5	V
Input Voltage	V_{IN}	V_{SS} - 0.3 ~ V_{CC} + 0.3	V
Operating Temperature	T_{opr}	0 ~ 70	°C
Storage Temperature	T_{stg}	- 55 ~ + 125	°C

ELECTRICAL CHARACTERISTICS (T_a = 25°C, V_{CC} = 3.0V, V_{SS} = 0V ; unless otherwise specified)

Characteristic		Symbol	Test Condition	Min	Typ	Max	Unit
Operating Voltage		V_{CC}		2.4	3.0	5.0	V
Supply Current	Stand-by	I_{CCS}	No load		1.2	5	μA
	Operating	I_{CC}			0.2	0.5	mA
Input Voltage High		V_{IH}		V_{CC} - 0.2V		V_{CC}	V
Input Voltage Low		V_{IL}		V_{SS}		V_{SS}+0.2V	V
Output Current High (BZ Output)		I_{OH}	V_{OH} =2V	3	5		mA
Output Current Low (BZ, LED Outputs)		I_{OL}	V_{OL} =1V	5	10		mA

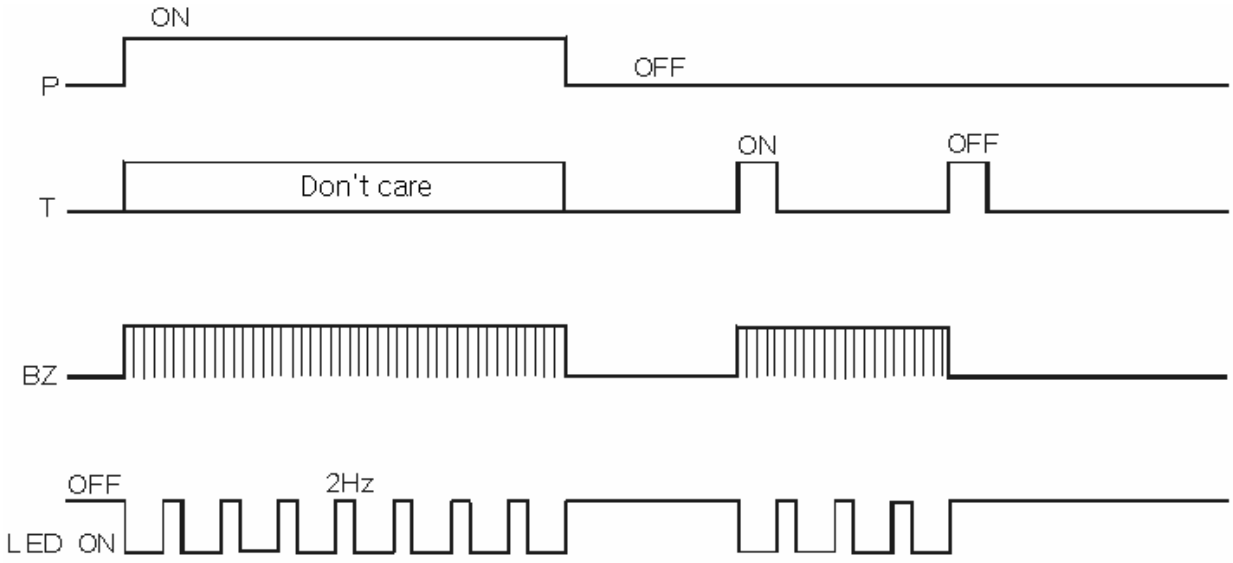
BLOCK DIAGRAM



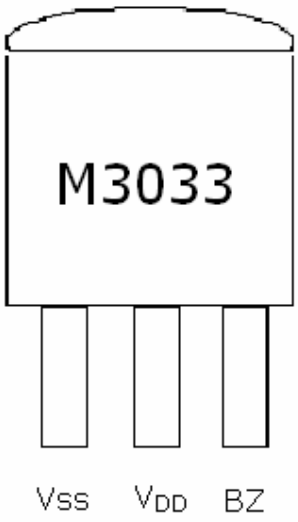
DEVICE OPERATION

The M3033 has internal oscillator integrated on the chip. When P input connected to V_{CC}, output BZ will generate alarm signal siren sound and LED will flashes 2Hz, 1/2 duty. These signals will continue till P inputs is released. The T input is don't care during this period. The T input is a toggle switch, - alarm signals start by pulse on this input and stop by next pulse. Output LED is open drain.

OPERATING MODES



TO-92 PIN ASSIGNMENT

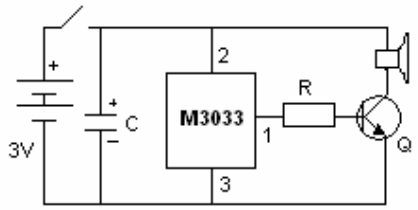


Remarks : In TO-92 form , siren sound plays continuously after power-up.

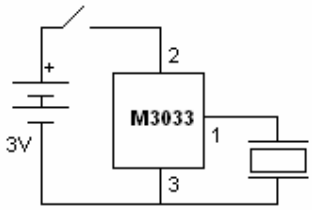
TO-92 FORM APPLICATION CIRCUIT

Pin no.	Symbol	Description
1	BZ	Melody Output
2	VDD	Positive Power Supply
3	Vss	Negative Power Supply

LEVEL HOLD MODE FOR SPEAKER OR TRANSDUCER

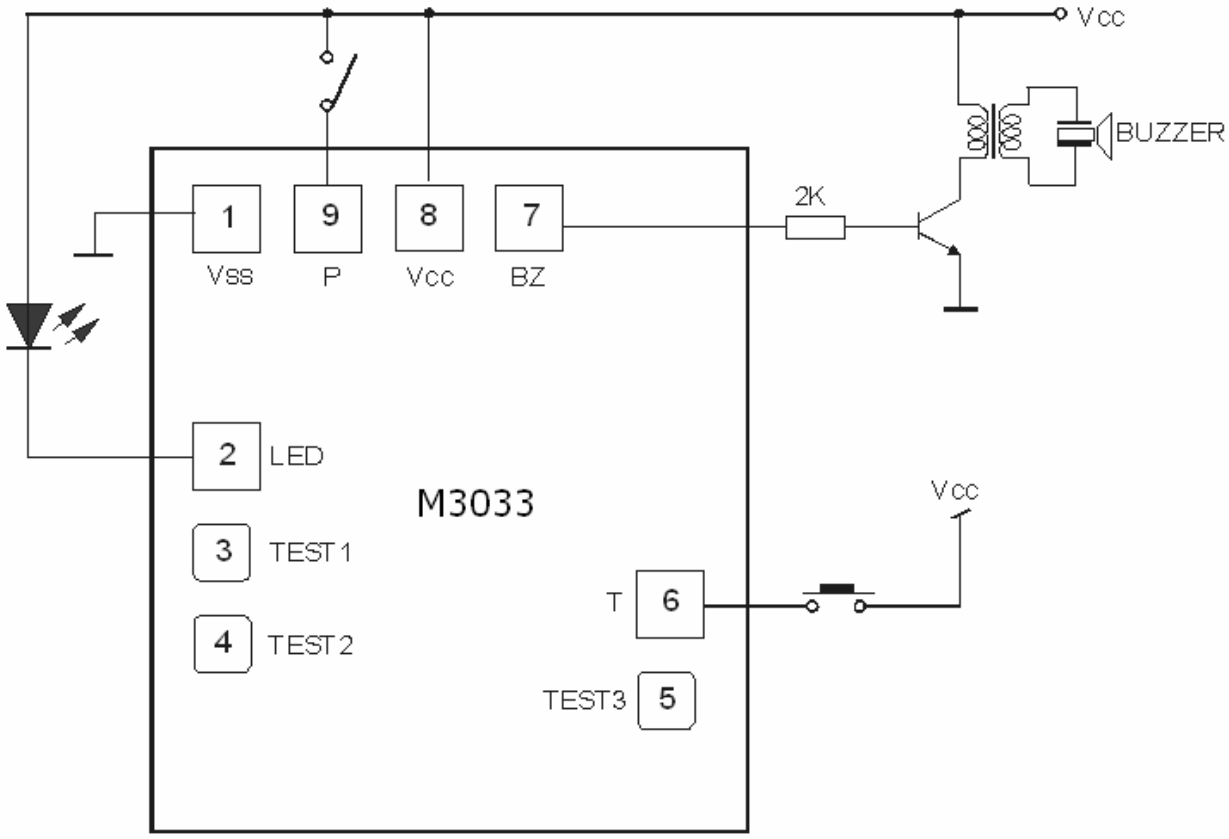


LEVEL HOLD MODE FOR PIEZO BUZZER

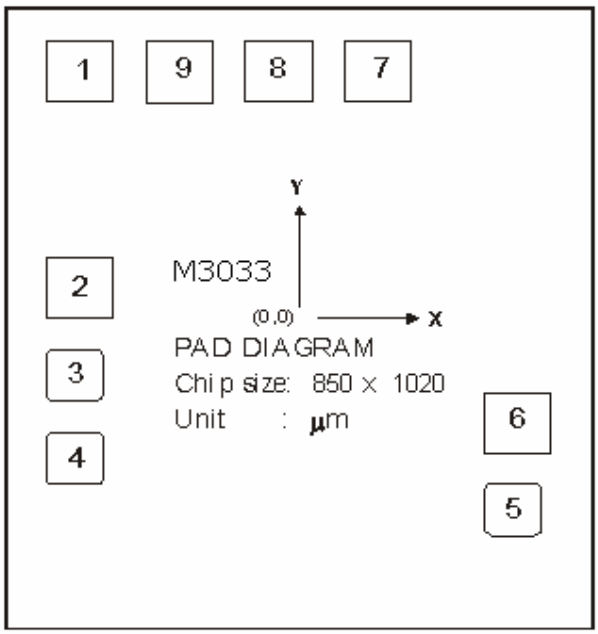


C = 1μF , R = 4.7KΩ

FULL APPLICATION CIRCUIT



PAD LAYOUT

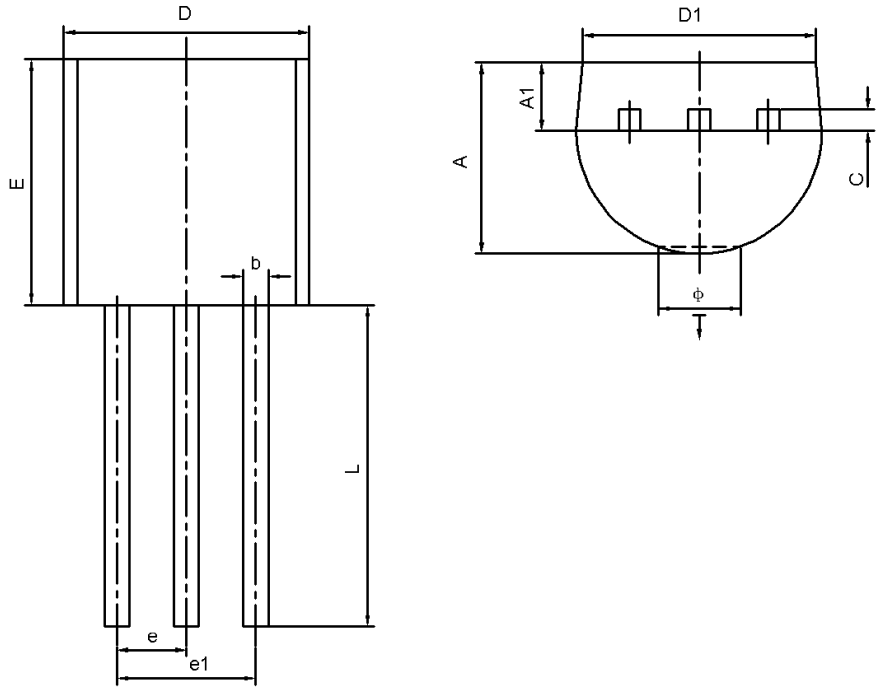


PAD LOCATION

Pad No.	Pad Name	Description
1	V_{SS}	Negative Power Supply
2	LED	LED Blinking Output
3	TEST1	Test
4	TEST2	Test
5	TEST3	Test
6	T	Trigger Input
7	BZ	Alarm Output
8	V_{CC}	Positive Power Supply
9	P	Level Hold Input

Remarks : The substrate is electrically connected to V_{SS}.

TO-92 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.400	4.700	0.173	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270TYP		0.050TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Ö		1.600		0.063
⊤	0.000	0.380	0.000	0.015

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