UTR3

Ultrasonic Transmitter / Receiver

General description

The UTR3 is an hybrid circuit that allows to realize
an ultrasonic detector adding few external components.

Detection is based on amplitude variation of received ultrasonic signal (40KHz) due to the movement of an object.

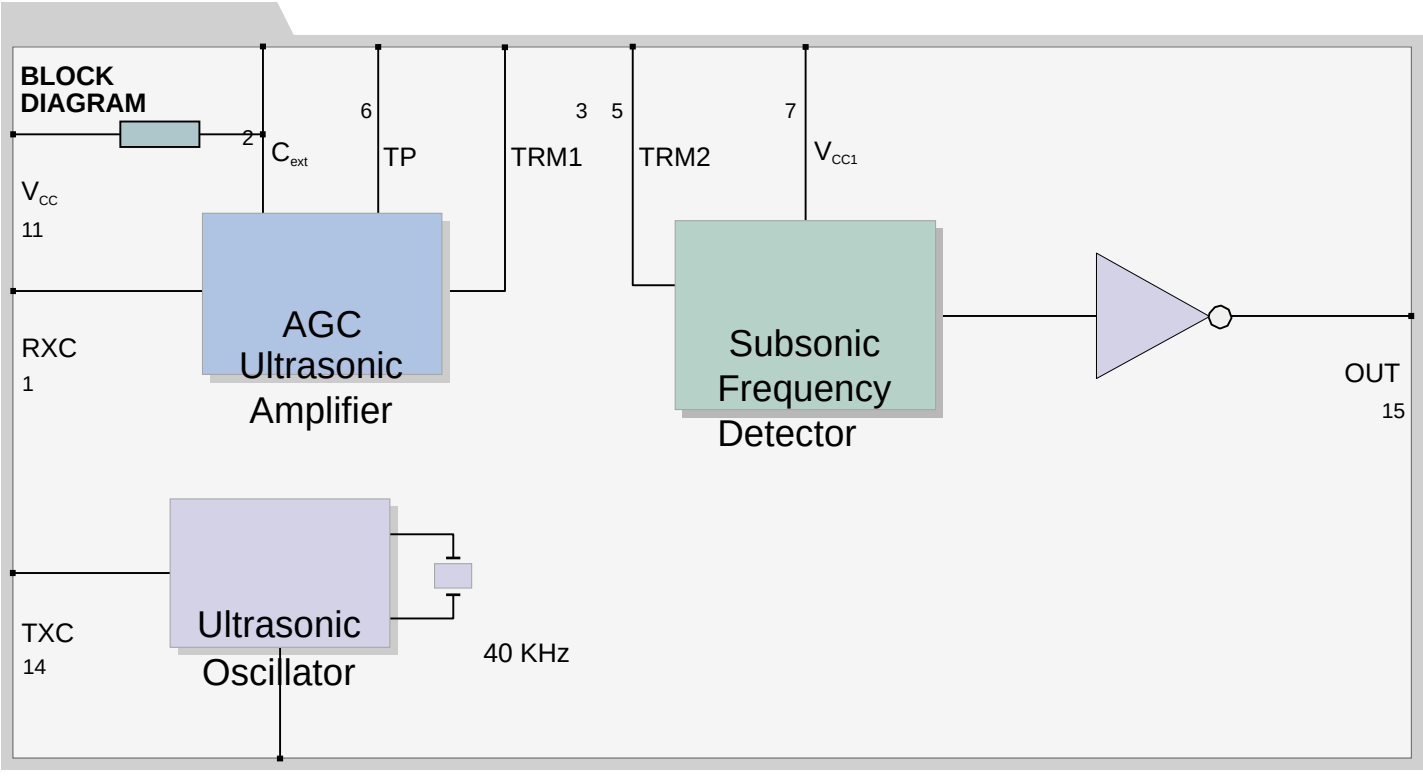
It shows stable electric characteristics thanks to the
"Thick film hybrid" tecnhology.

Features

- AC Input Amplifier with Automatic Gain Control

Applications

- Car Alarm systems
- Residential and commercial security systems
- Automatic doors opening systems



Electrical Characteristics

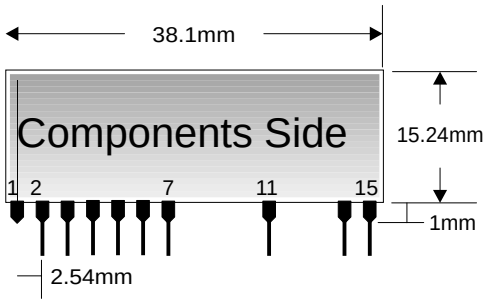
Ta = 25°C unless otherwise specified

	CHARACTERISTICS	MIN	TYP	MAX	UNIT
V_{CC}	Supply Voltage	9	12	16	VDC
V_{CC1}	Supply Voltage	4.5	5	5.5	VDC
I_S	Supply Current		10		mA
G	Utrasonic Amplifier Gain		50		dB
F_U	Ultrasonic Frequency	38	40	42	KHz
I_{OL}	Out Sink Current (Vo = 0.4V)	0.5	1		mA
I_{OH}	Out Source Current (Vo = 4.6V)	0.5	1		mA
T_{OP}	Operating Temperature Range	-20		+80	°C

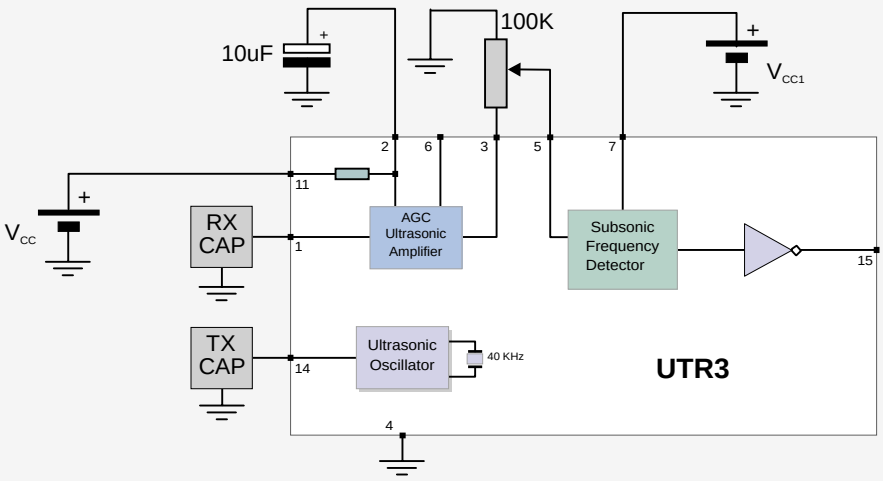
Pin Description

1	RXC	Ultrasonic Piezoceramic Receiver Input (RXCAP)
2	Cext	Supply Voltage External Capacitor
3	TRM1	External Trimmer
4	GND	Ground
5	TRM2	External Trimmer
6	TP	Test Point
7	VCC1	+5V Supply Voltage
11	VCC	+12V Supply Voltage
14	TXC	Ultrasonic Piezoceramic Transmitter Output (TXCAP)
15	OUT	OUT="LOW" if Objet is moving

Mechanical Dimensions



TYPICAL APPLICATION



TX CAP : MA40S3S Murata

RX CAP : MA40S3R Murata

Component typical values