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Remote Control and Security Systems Hybrids

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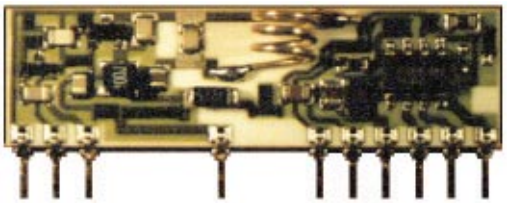
RR1-XXX

Fixed Frequency Super Regenerative Radio Receiver



General description

The RR1-XXX is a super regenerative data receiver.

Sensitivity typically exceedes -100dBm (2.2uVrms) when matched to 50 ohm.

The tuning frequency can be custom-specified in the range 200 to 450 MHz.

It shows stable electrical characteristics thanks to "Thick film hybrid" technology.

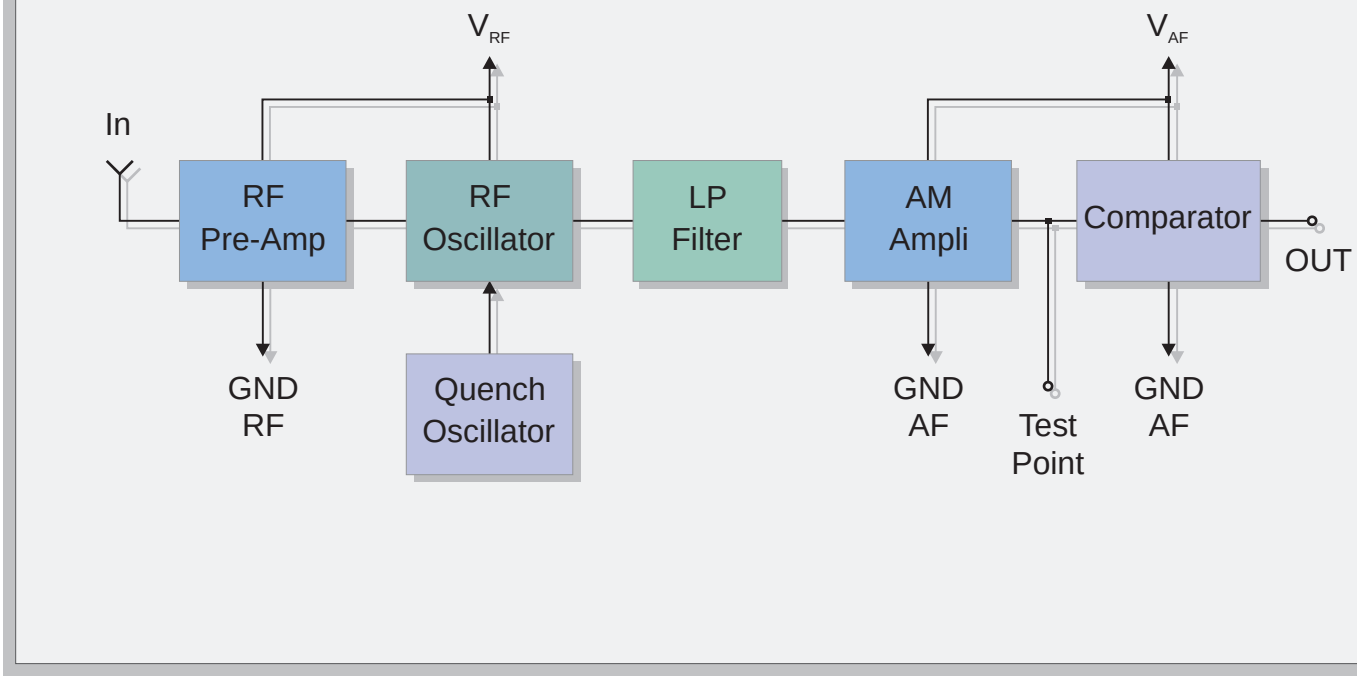
XXX: custom-specified working frequency (200 ÷ 450 MHz)

Standard European and U.S. frequencies (315MHz, 418MHz, 433.92MHz) are readly available from stock.

Applications

- Home security systems
- Car Alarm systems
- Remote gate controls
- Sensor reporting

BLOCK DIAGRAM



Electrical Characteristics

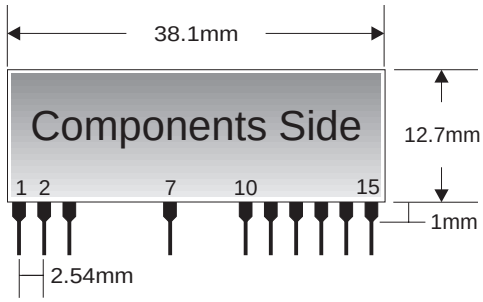
Ta = 25°C unless otherwise specified

	CHARACTERISTICS	MIN	TYP	MAX	UNIT
V_{RF}	RF Supply Voltage	4.5	5	5.5	VDC
V_{AF}	AF Supply Voltage	4.5	5	5.5	VDC
I_S	Supply Current		2.5	3.5	mA
F_W	Working Frequency	200		450	MHz
	Tuning Tolerance		±0.5		MHz
B_W	-3dB Bandwidth		±2	±3	MHz
	Max Data Rate			2	KHz
	RF Sensitivity (100% AM)	-100	-105		dBm
	Level of Emitted Spectrum		-65	-60	dBm
V_{ol}	Low-Level Output Voltage			0.6	V
V_{oh}	High-Level Output Voltage	3.6			V
T_{OP}	Operating Temperature Range	-25		+80	°C

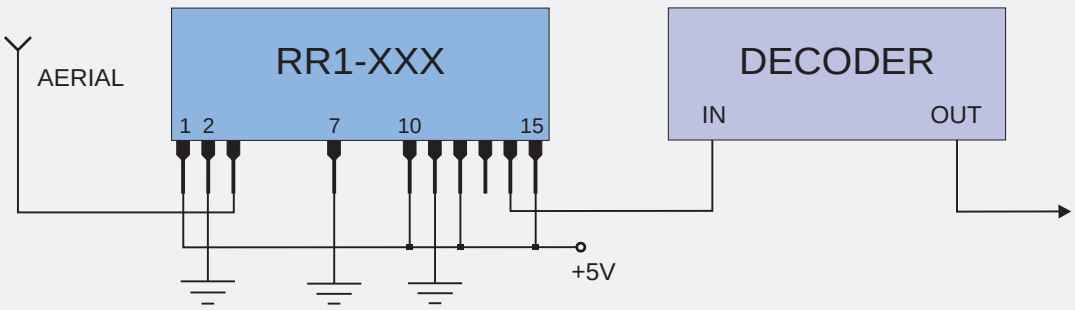
Pin Description

1	RF $+V_{CC}$	9	NC
2	RF GND	10	AF $+V_{CC}$
3	IN	11	AF GND
4	NC	12	AF $+V_{CC}$
5	NC	13	Test Point
6	NC	14	OUT
7	RF GND	15	AF $+V_{CC}$
8	NC		

Mechanical Dimensions



TYPICAL APPLICATION



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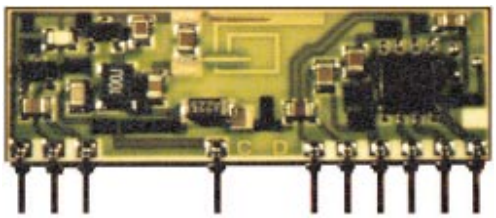
RR3-XXX

Super Regenerative Radio Receiver With Laser Trimmed Inductor



General description

The RR3-XXX is a super regenerative data receiver.

Sensitivity typically exceedes -100dBm (2.2uVrms) when matched to 50 ohm.

It shows high frequency stability also in presence of mechanical vibrations, manual handling and in a wide range of temperature.

The frequency accuracy is very high thanks to laser trimming process. PATENTED.

I-ETS 300-220 Compliance

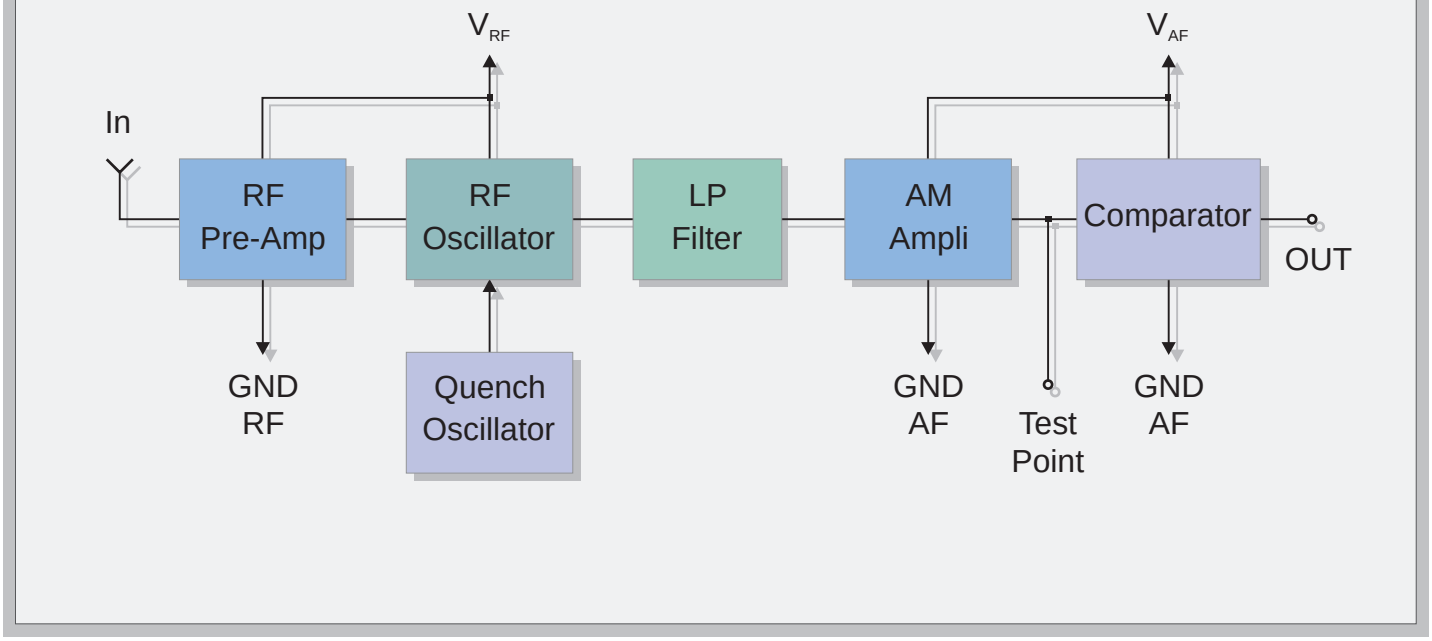
XXX: custom-specified working frequency (200 ÷ 450 MHz)

Standard European and U.S. frequencies (315MHz, 418MHz, 433.92MHz) are readly available from stock.

Applications

- Home security systems
- Car Alarm systems
- Remote gate controls
- Sensor reporting

BLOCK DIAGRAM



Electrical Characteristics

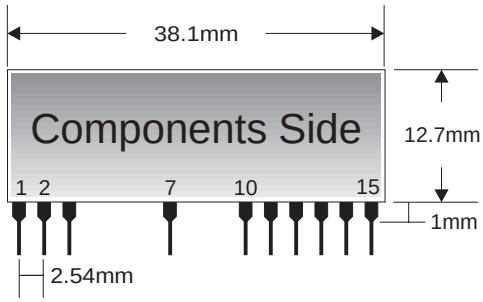
Ta = 25°C unless otherwise specified

	CHARACTERISTICS	MIN	TYP	MAX	UNIT
V_{RF}	RF Supply Voltage	4.5	5	5.5	VDC
V_{AF}	AF Supply Voltage	4.5	5	5.5	VDC
I_S	Supply Current		2.5	3	mA
F_W	Working Frequency	200		450	MHz
	Tuning Tolerance		±0.2	±0.5	MHz
B_W	-3dB Bandwidth		±2	±3	MHz
	Max Data Rate			2	KHz
	RF Sensitivity (100% AM)	-100	-105		dBm
	Level of Emitted Spectrum		-65	-60	dBm
V_{ol}	Low-Level Output Voltage			0.6	V
V_{oh}	High-Level Output Voltage	3.6			V
T_{OP}	Operating Temperature Range	-25		+80	°C

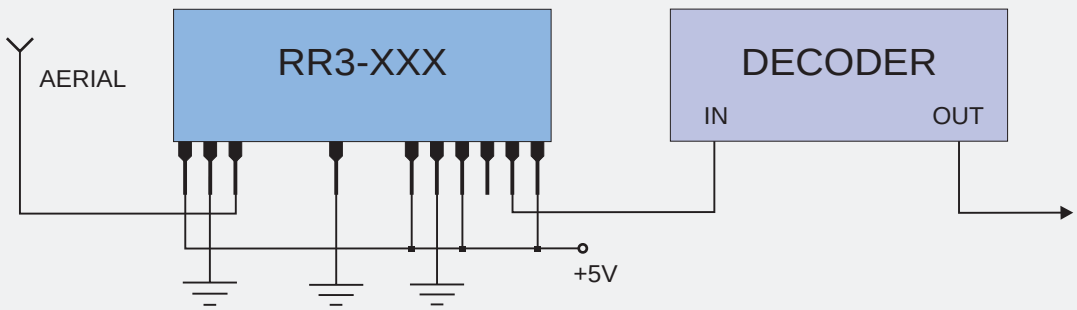
Pin Description

1	RF +V_{CC}	9	NC
2	RF GND	10	AF +V_{CC}
3	IN	11	AF GND
4	NC	12	AF +V_{CC}
5	NC	13	Test Point
6	NC	14	OUT
7	RF GND	15	AF +V_{CC}
8	NC		

Mechanical Dimensions



TYPICAL APPLICATION



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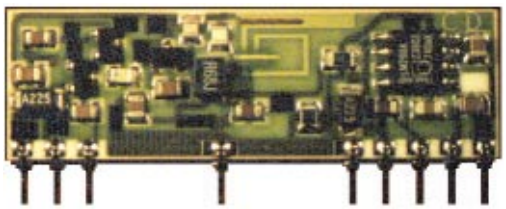
RR4-XXX

Super Regenerative Radio Receiver With Laser Trimmed Inductor and Cascode Input Stage



XXX: custom-specified working frequency (200 ÷ 450 MHz)

Standard European and U.S. frequencies (315MHz, 418MHz, 433.92MHz) are readly available from stock.

General description

The RR4-XXX is a super regenerative data receiver.

Sensitivity typically exceedes -100dBm (2.2uVrms) when matched to 50 ohm.

Emission level: -70 dBm typ (Cascode Input)

-3dB Bandwith: +/-1.5 MHz typ

It shows high frequency stability also in presence of mechanical vibrations, manual handling and in a wide range of temperature.

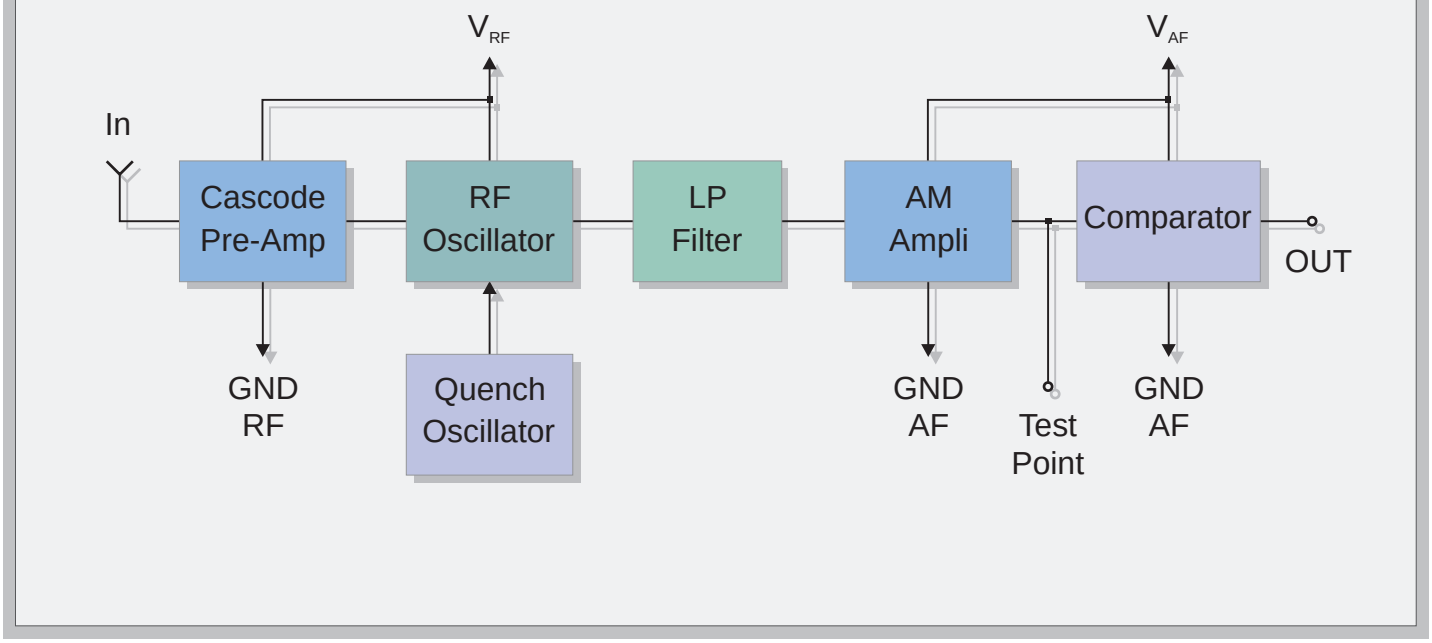
The frequency accuracy is very high thanks to laser trimming process. PATENTED.

I-ETS 300-220 Compliance

Applications

- Home security systems
- Car Alarm systems
- Remote gate controls
- Sensor reporting

BLOCK DIAGRAM



Electrical Characteristics

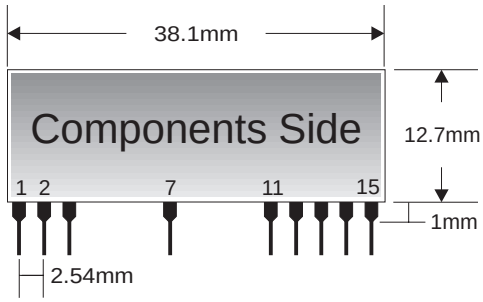
Ta = 25°C unless otherwise specified

	CHARACTERISTICS	MIN	TYP	MAX	UNIT
V_{RF}	RF Supply Voltage	4.5	5	5.5	VDC
V_{AF}	AF Supply Voltage	4.5	5	5.5	VDC
I_S	Supply Current		2.5	3	mA
F_W	Working Frequency	200		450	MHz
	Tuning Tolerance		±0.2	±0.5	MHz
B_W	-3dB Bandwidth		±1.5	±2	MHz
	Max Data Rate			2	KHz
	RF Sensitivity (100% AM)	-100	-105		dBm
	Level of Emitted Spectrum		-70	-65	dBm
V_{ol}	Low-Level Output Voltage			0.6	V
V_{oh}	High-Level Output Voltage	3.6			V
T_{OP}	Operating Temperature Range	-25		+80	°C

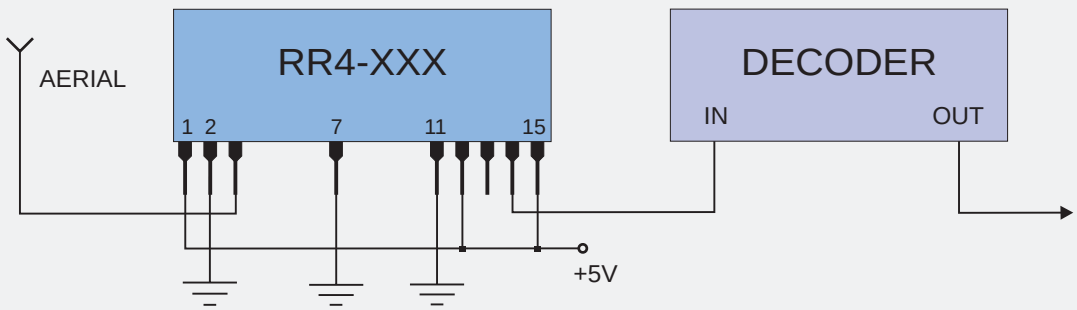
Pin Description

1	RF +V_{CC}	9	NC
2	RF GND	10	NC
3	IN	11	AF GND
4	NC	12	AF +V_{CC}
5	NC	13	Test Point
6	NC	14	OUT
7	RF GND	15	AF +V_{CC}
8	NC		

Mechanical Dimensions



TYPICAL APPLICATION



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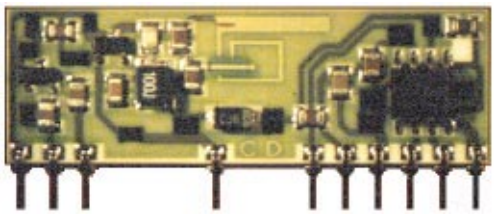
RR5-XXX-LC/VLC

Low Consumption Super Regenerative Radio Receiver - Laser Trimmed Inductor



XXX: custom-specified working frequency (200 ÷ 450 MHz)
LC : Is = 1.2 mA
VLC : Is = 0.8 mA

Standard European and U.S. frequencies (315MHz, 418MHz, 433.92MHz) are readly available from stock.

General description

The RR5-XXX is a super regenerative data receiver.

Sensitivity typically exceedes -95dBm when matched to 50 ohm.

Typical current consumption is 1.2mA (LC model) or 0.8 mA (VLC model).

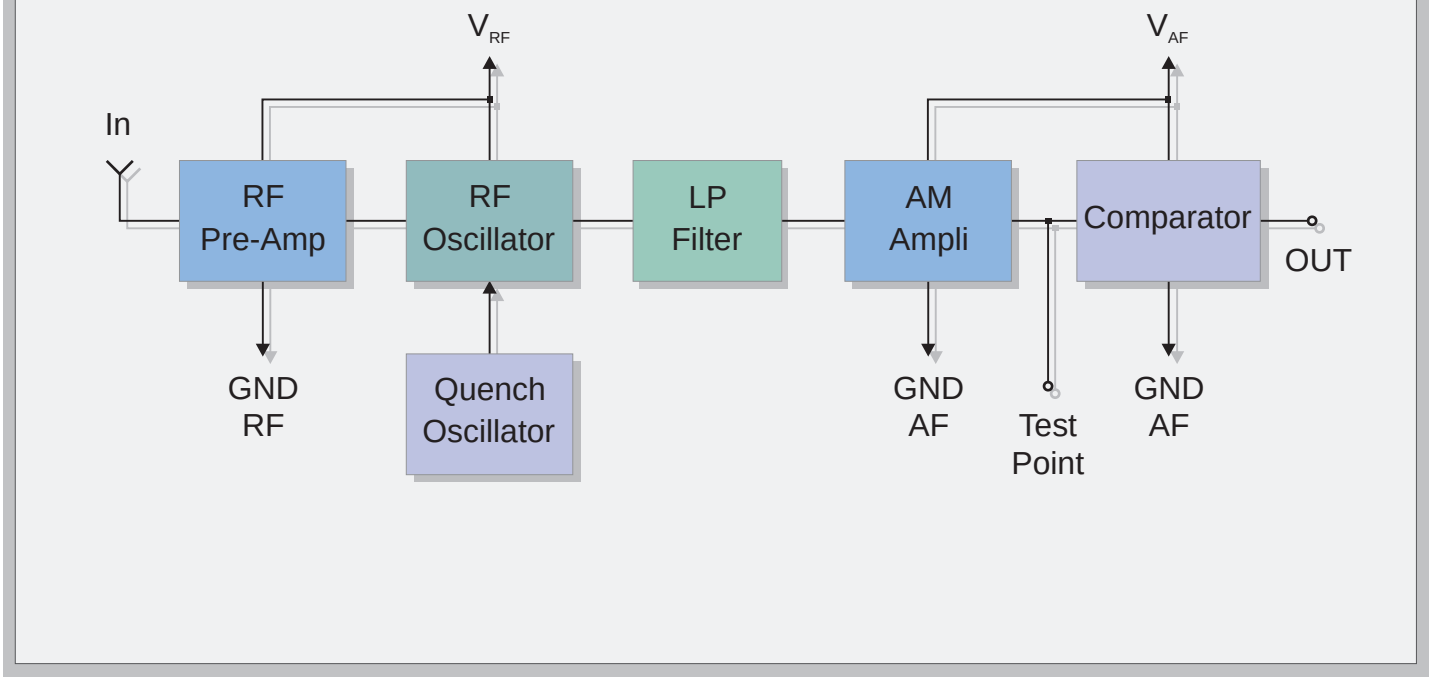
It shows high frequency stability also in presence of mechanical vibrations, manual handling and in a wide range of temperature.

The frequency accuracy is very high thanks to laser trimming process. PATENTED.

Applications

- Home security systems
- Car Alarm systems
- Remote gate controls
- Sensor reporting

BLOCK DIAGRAM



Electrical Characteristics

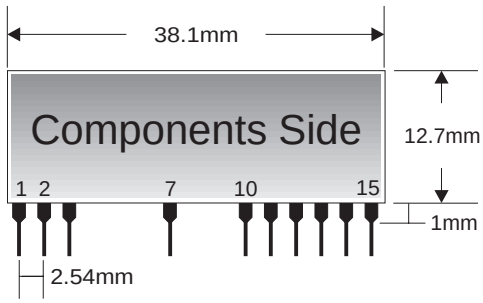
Ta = 25°C unless otherwise specified

	CHARACTERISTICS		MIN	TYP	MAX	UNIT
V_{RF}	RF Supply Voltage		4.5	5	5.5	VDC
V_{AF}	AF Supply Voltage		4.5	5	5.5	VDC
I_S	Supply Current	LC VLC		1.2 0.8		mA
F_W	Working Frequency		200		450	MHz
	Tuning Tolerance			±0.2	±0.5	MHz
B_W	-3dB Bandwidth			±2	±3	MHz
	Max Data Rate				2	KHz
	RF Sensitivity (100% AM)	LC VLC		-96 -94		dBm
	Level of Emitted Spectrum			-65	-60	dBm
V_{ol}	Low-Level Output Voltage				0.6	V
V_{oh}	High-Level Output Voltage		3.6			V
T_{OP}	Operating Temperature Range		-25		+80	°C

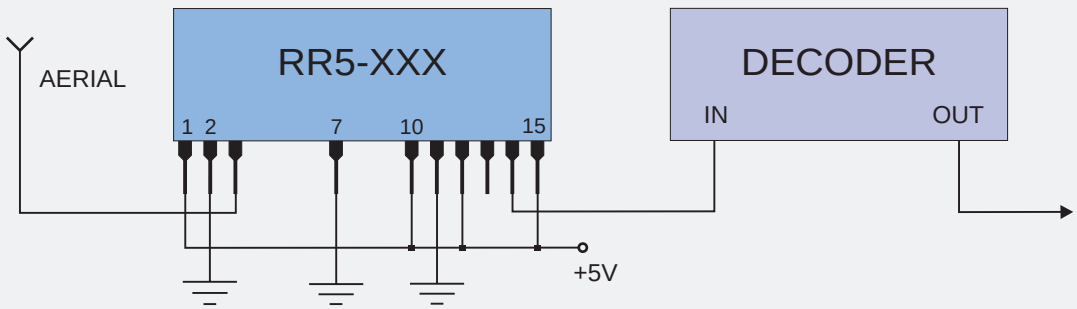
Pin Description

1	RF +V_{CC}	9	NC
2	RF GND	10	AF +V_{CC}
3	IN	11	AF GND
4	NC	12	AF +V_{CC}
5	NC	13	Test Point
6	NC	14	OUT
7	RF GND	15	AF +V_{CC}
8	NC		

Mechanical Dimensions



TYPICAL APPLICATION



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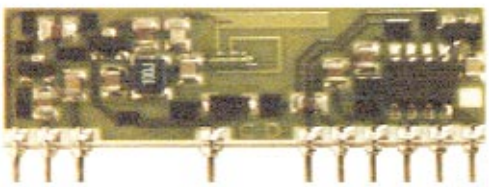
RR6-XXX

Very Low Consumption Super Regenerative Radio Receiver - Laser Trimmed Inductor



XXX: custom-specified working frequency (200 ÷ 450 MHz)

Standard European and U.S. frequencies (315MHz, 418MHz, 433.92MHz) are readly available from stock.

General description

The RR6-XXX is a super regenerative data receiver.

Sensitivity typically exceedes -95dBm when matched to 50 ohm.

Typical current consumption is 0.5 mA.

Low Turn-on Time (150 msec).

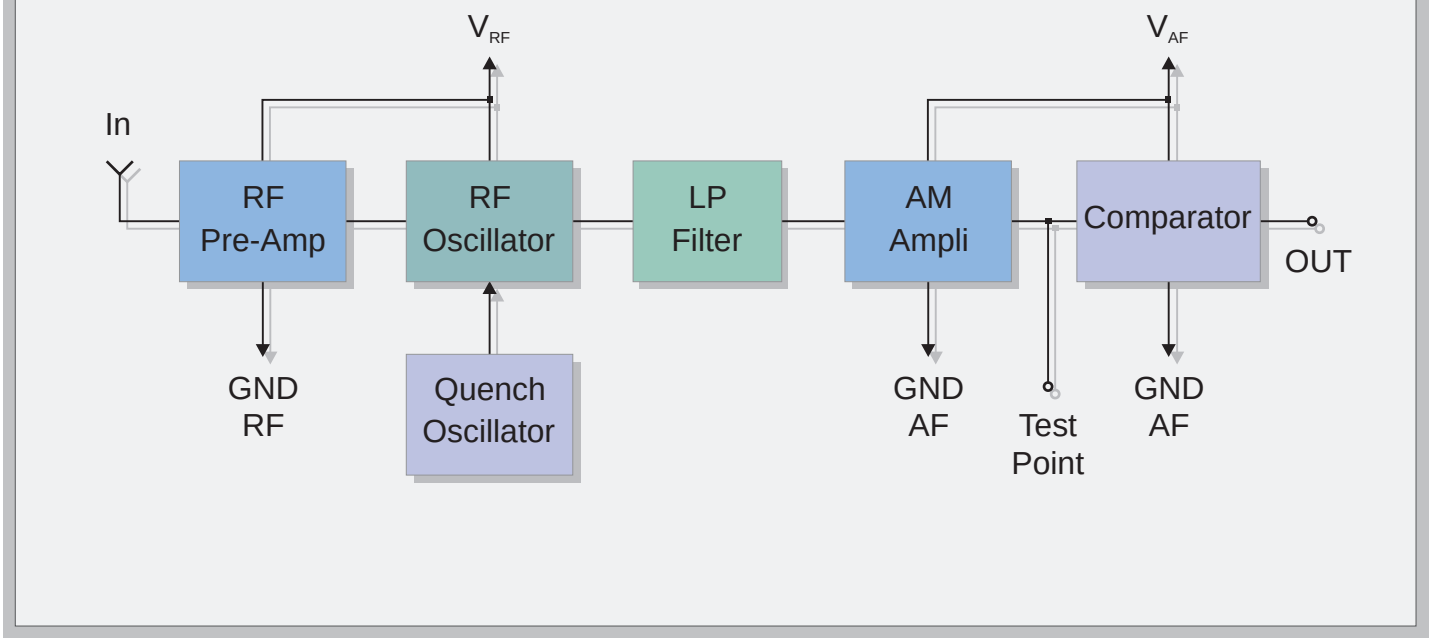
It shows high frequency stability also in presence of mechanical vibrations, manual handling and in a wide range of temperature.

The frequency accuracy is very high thanks to laser trimming process. PATENTED.

Applications

- Home security systems
- Car Alarm systems
- Remote gate controls
- Sensor reporting

BLOCK DIAGRAM



Electrical Characteristics

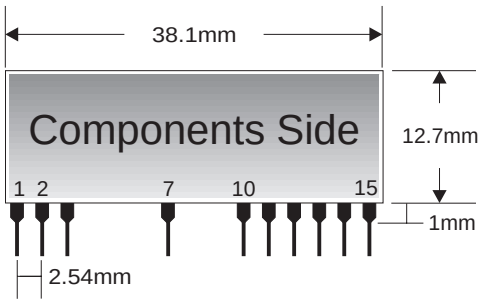
Ta = 25°C unless otherwise specified

	CHARACTERISTICS	MIN	TYP	MAX	UNIT
V_{RF},V_{AF}	Supply Voltage	4.5	5	5.5	VDC
I_S	Supply Current		0.5		mA
F_W	Working Frequency	280		450	MHz
	Tuning Tolerance		±0.2	±0.5	MHz
B_W	-3dB Bandwidth		±2	±3	MHz
	Max Data Rate			2	KHz
	RF Sensitivity (100% AM)		-95		dBm
	Level of Emitted Spectrum		-65	-60	dBm
T_{ON}	Turn-on Time		150	200	msec
V_{ol}	Low-Level Output Voltage			0.6	V
V_{oh}	High-Level Output Voltage	3.6			V
T_{OP}	Operating Temperature Range	-25		+80	°C

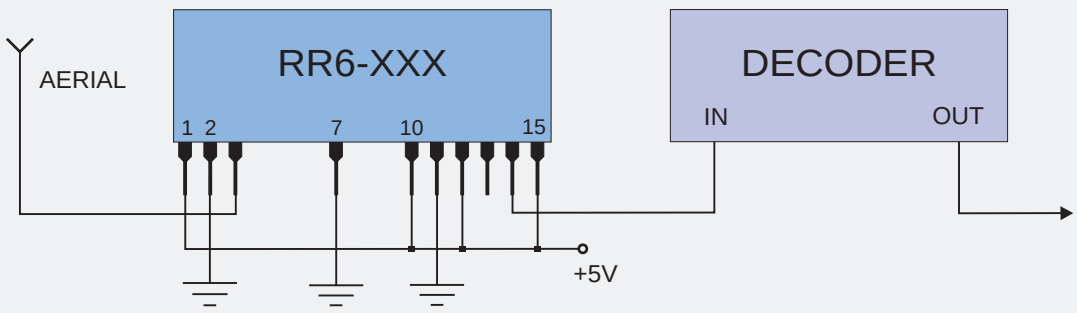
Pin Description

1	RF +V_{CC}	9	NC
2	RF GND	10	AF +V_{CC}
3	IN	11	AF GND
4	NC	12	AF +V_{CC}
5	NC	13	Test Point
6	NC	14	OUT
7	RF GND	15	AF +V_{CC}
8	NC		

Mechanical Dimensions



TYPICAL APPLICATION



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Superheterodyne Receiver

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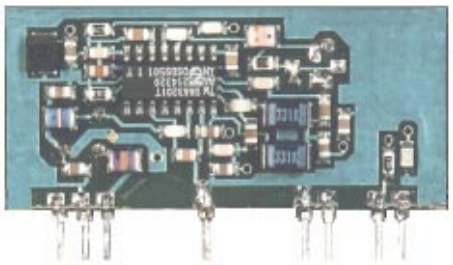
RRS1-XXX

AM Superhet Receiver With SAW Front End Filter



General description

The RRS1-XXX is an AM superhet data receiver with SAW front end filter.

IF Frequency: 500KHz

Typical sensitivity: -100dBm (2.2uVrms)

Supply current: 3.7 mA (typ)

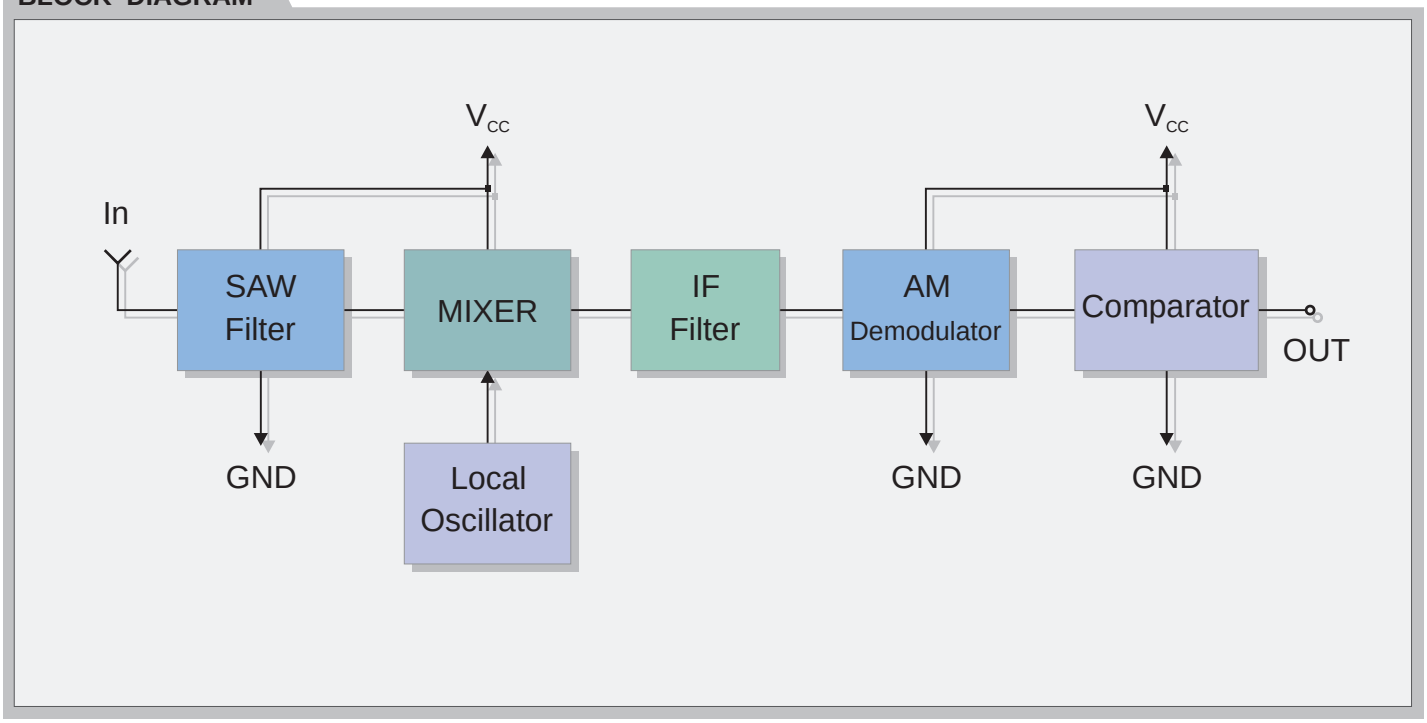
I-ETS 300-220 Compliance

XXX: custom-specified working frequency (315, 418, 433.92 MHz)

Applications

- Wireless security systems
- Car Alarm systems
- Remote gate controls
- Sensor reporting

BLOCK DIAGRAM



Electrical Characteristics

Ta = 25°C unless otherwise specified

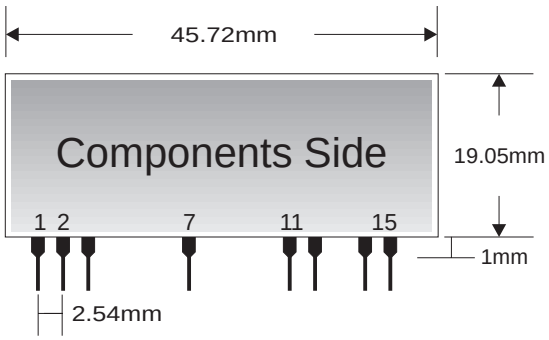
	CHARACTERISTICS	MIN	TYP	MAX	UNIT
V_{CC}	Supply Voltage	4.5	5	5.5	VDC
I_S	Supply Current		3.7	5	mA
F_R	Receiver Frequency		315/418/433.92		MHz
F_{IF}	IF Frequency		500		KHz
	Max Data Rate			3	KHz
	RF Sensitivity (100% AM)*		-100		dBm
	Level of Emitted Spectrum		-65	-60	dBm
V_{ol}	Low-Level Output Voltage (I=-10uA)			0.6	V
V_{oh}	High-Level Output Voltage (I=200uA)	V_{CC}- 0.5			V
T_{OP}	Operating Temperature Range	-25		+80	°C

* Best Performances are obtained utilizing a transmitted coding with a DC average value indipendent of the data content (BiPhase Manchester coding)

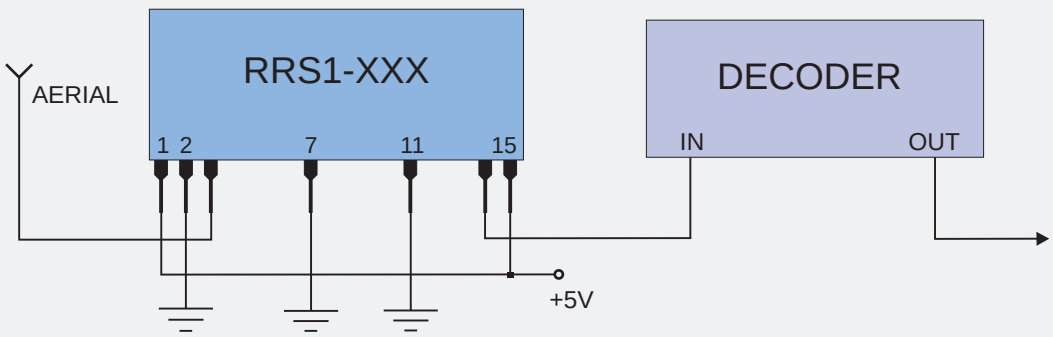
Pin Description

1	V_{CC}	9	NC
2	GND	10	NC
3	IN	11	GND
4	NC	12	V_{CC}
5	NC	13	NC
6	NC	14	OUT
7	GND	15	V_{CC}
8	NC		

Mechanical Dimensions



TYPICAL APPLICATION



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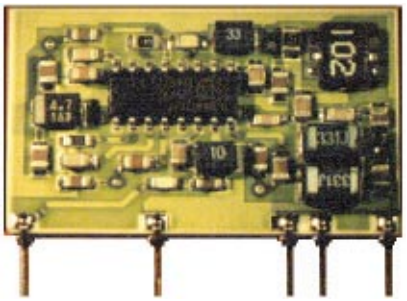
RRS2-XXX

AM Superhet Receiver



General description

The RRS2-XXX is an AM superhet data receiver with LC Front End Filter.

IF Frequency: 500KHz

Typical sensitivity: -102dBm (1.8uVrms)

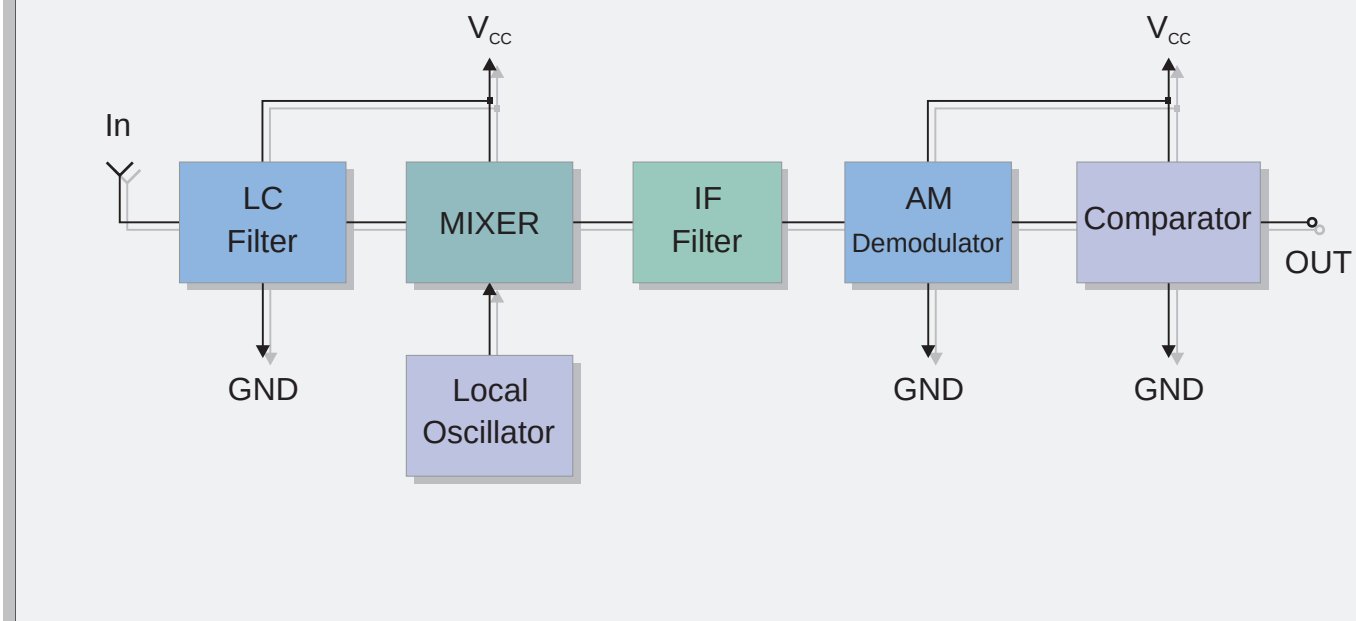
Supply current: 3.7 mA (typ)

XXX: custom-specified working frequency (315, 418, 433.92 MHz)

Applications

- Wireless security systems
- Car Alarm systems
- Remote gate controls
- Sensor reporting

BLOCK DIAGRAM



Electrical Characteristics

Ta = 25°C unless otherwise specified

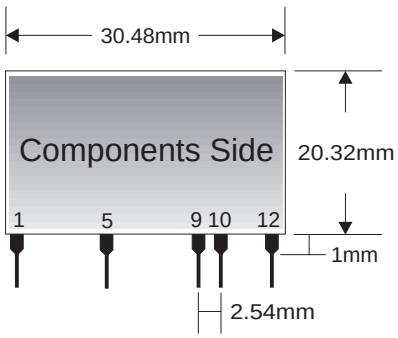
	CHARACTERISTICS	MIN	TYP	MAX	UNIT
V_{CC}	Supply Voltage	4.5	5	5.5	VDC
I_S	Supply Current		3.7	5	mA
F_R	Receiver Frequency		315/418/433.92		MHz
F_{IF}	IF Frequency		500		KHz
	Max Data Rate			3	KHz
	RF Sensitivity (100% AM)*		-102		dBm
	Level of Emitted Spectrum		-50		dBm
V_{ol}	Low-Level Output Voltage (I=-10uA)			0.6	V
V_{oh}	High-Level Output Voltage (I=200uA)	V_{CC}- 0.5			V
T_{OP}	Operating Temperature Range	-25		+80	°C

* Best Performances are obtained utilizing a transmitted coding with a DC average value indipendent of the data content (BiPhase Manchester coding)

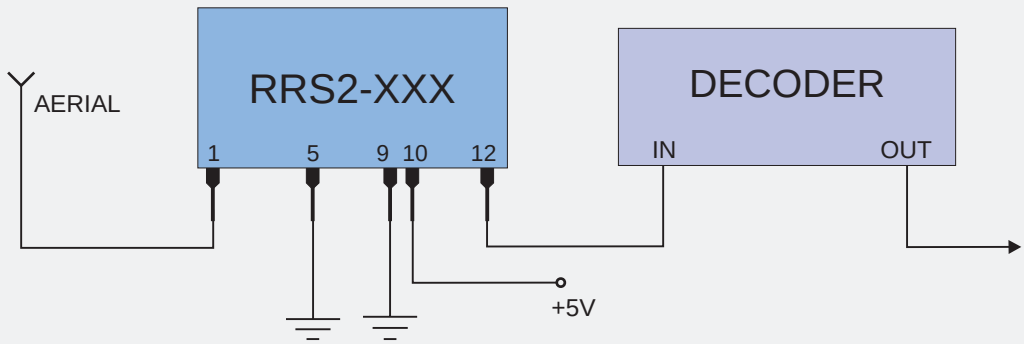
Pin Description

1	IN
5	GND
9	GND
10	VCC
12	OUT

Mechanical Dimensions



TYPICAL APPLICATION



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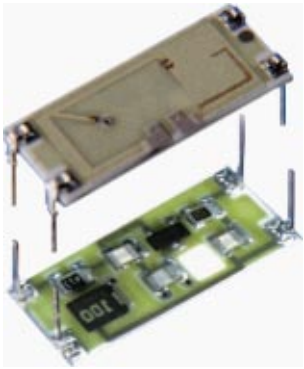
RT1-XXX

Radio Transmitter Module (Integrated Antenna)



General description

The RT1-XXX is an hybrid circuit that allows to realize a complete radio transmitter adding a coding circuit.
The Frequency accuracy is very high thanks to laser trimming process. PATENTED

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

XXX : working frequency (418, 433.92 MHz)

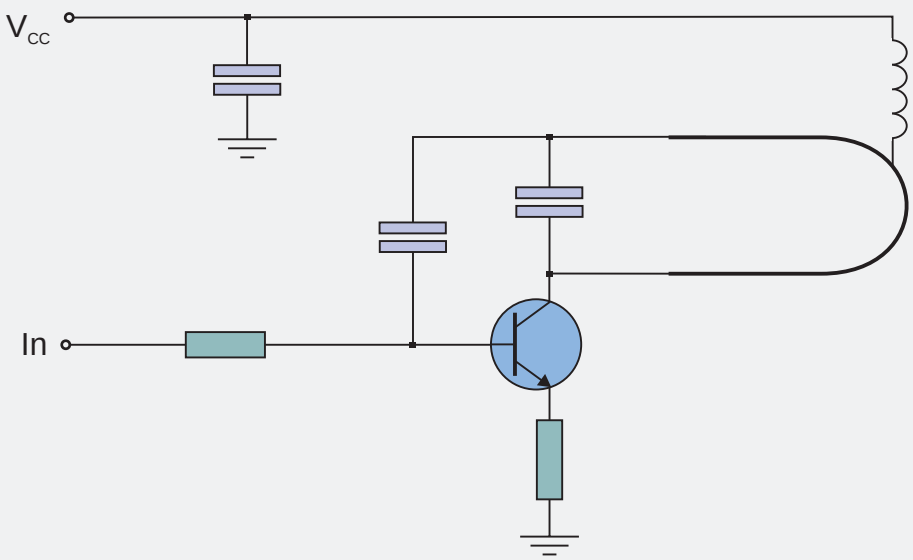
Features

- Integrated Antenna
- High Reliability
- Laser Trimming Process

Applications

- Wireless security systems
- Car Alarm systems
- Remote gate controls
- Sensor reporting

CIRCUIT SCHEMATIC



Electrical Characteristics

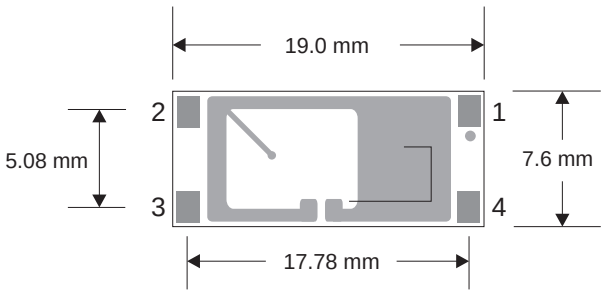
Ta = 25°C unless otherwise specified

	CHARACTERISTICS	MIN	TYP	MAX	UNIT
V_{CC}	Supply Voltage	9		14	VDC
I_S	Supply Current		3		mA
F_W	Working Frequency		418/433.92		MHz
	Tuning Tolerance		±0.2	±0.5	MHz
	Max Data Rate			4	KHz
T_{OP}	Operating Temperature Range	-25		+80	°C

Pin Description

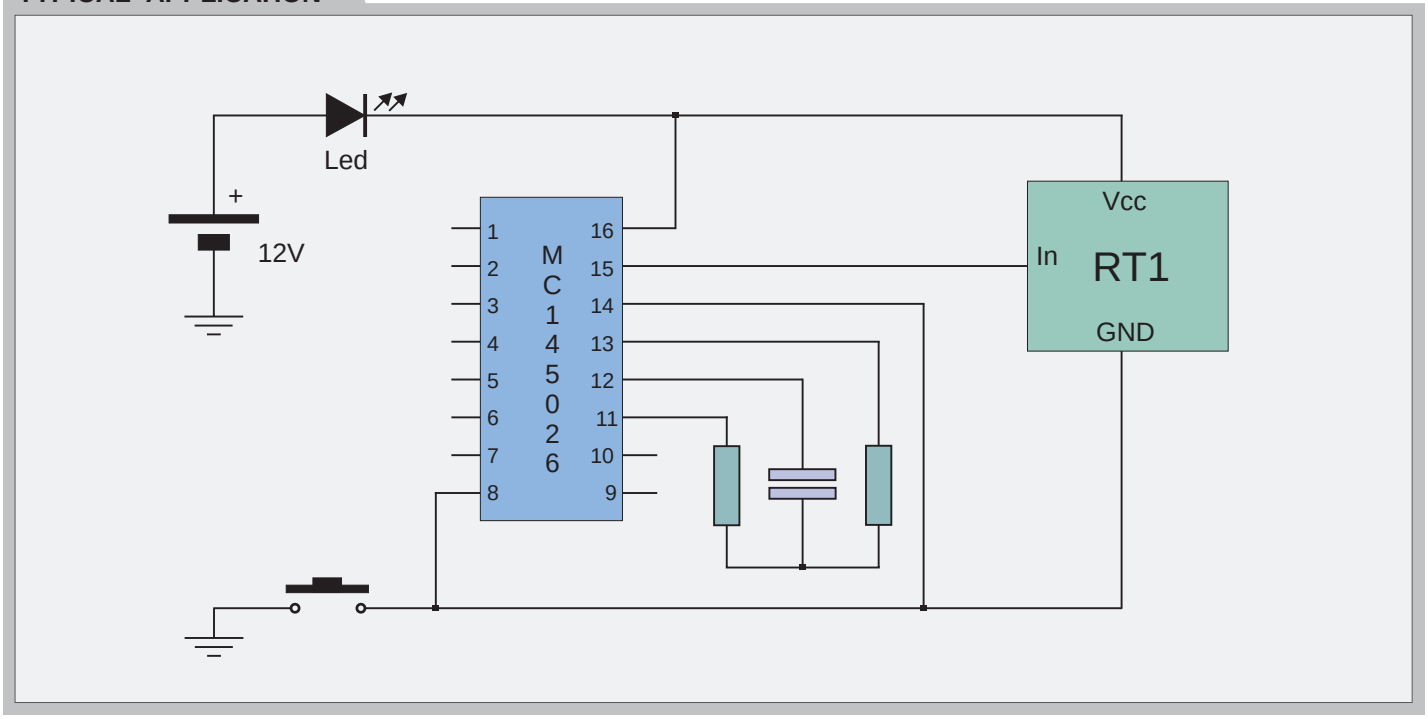
1	GND	Ground
2	IN	Modulation Input
3	NC	Not Connected
4	V_{CC}	Supply Voltage

Mechanical Dimensions



TOP VIEW

TYPICAL APPLICATION



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RT2-XXX

Radio Transmitter Module with SAW Resonator (Integrated Antenna)

General description

The RT2-XXX is an hybrid circuit that allows to realize a complete radio transmitter adding a coding circuit.
It shows stable electric characteristics thanks to the "Thick film hybrid" technology.

XXX : working frequency (418, 433.92 MHz)

I-ETS 300-220 Compliance

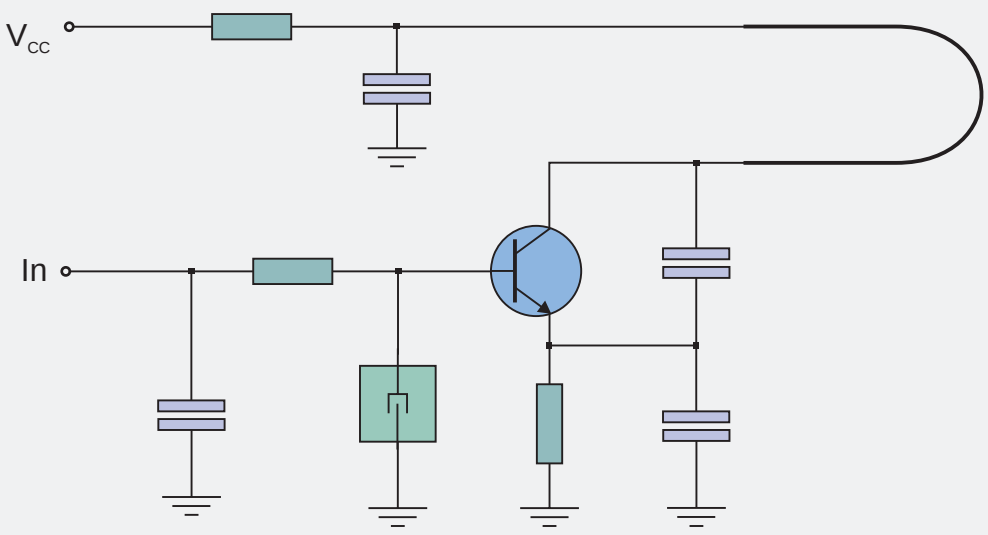
Features

- Integrated Antenna
- High Reliability
- DIL Package

Applications

- Wireless security systems
- Car Alarm systems
- Remote gate controls
- Sensor reporting

CIRCUIT SCHEMATIC



Electrical Characteristics

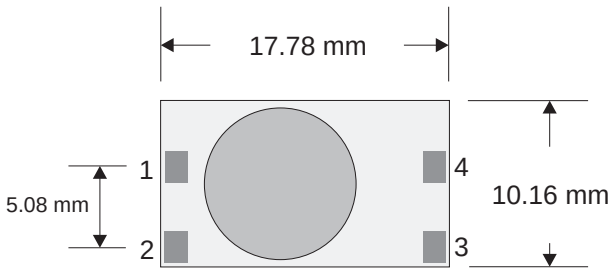
Ta = 25°C unless otherwise specified

	CHARACTERISTICS	MIN	TYP	MAX	UNIT
V_{CC}	Supply Voltage	4		14	VDC
I_S	Supply Current		3		mA
F_W	Working Frequency		418/433.92		MHz
	Max Data Rate			4	KHz
T_{OP}	Operating Temperature Range	-40		+80	°C

Pin Description

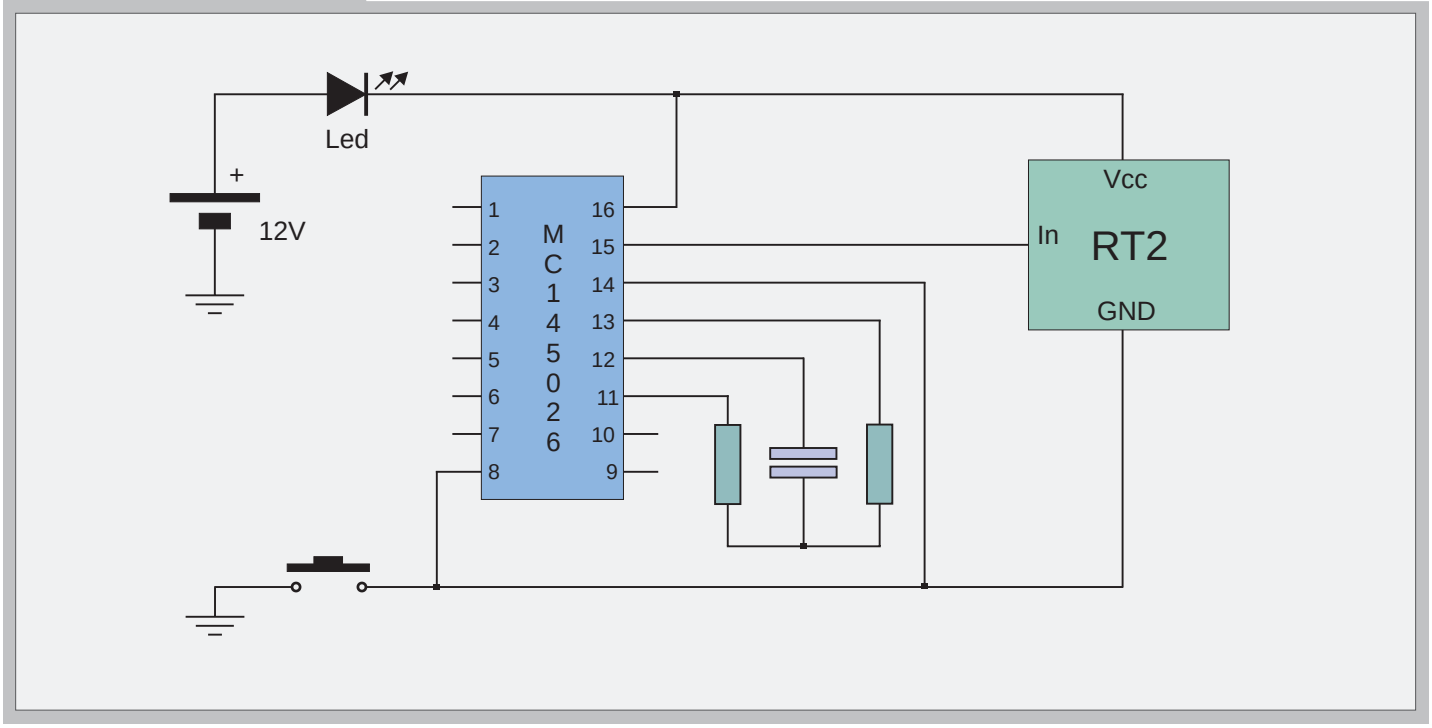
1	V_{CC}	Supply Voltage
2	GND	Ground
3	IN	Modulation Input
4	NC	Not Connected

Mechanical Dimensions



TOP VIEW

TYPICAL APPLICATION



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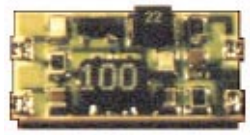
RT4-XXX

Radio Transmitter Module with SAW Resonator and External Antenna



General description

The RT4-XXX is an hybrid circuit that allows to realize a complete radio transmitter adding a coding circuit.

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

XXX : working frequency (315, 418, 433.92 MHz)

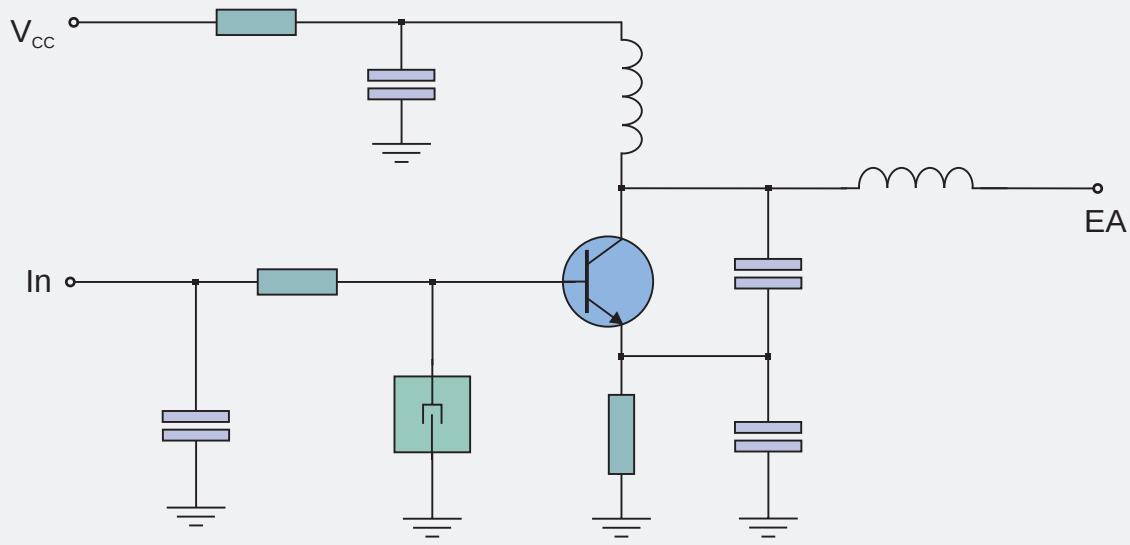
Features

- High Reliability
- DIL Package

Applications

- Wireless security systems
- Car Alarm systems
- Remote gate controls
- Sensor reporting

CIRCUIT SCHEMATIC



Electrical Characteristics

Ta = 25°C unless otherwise specified

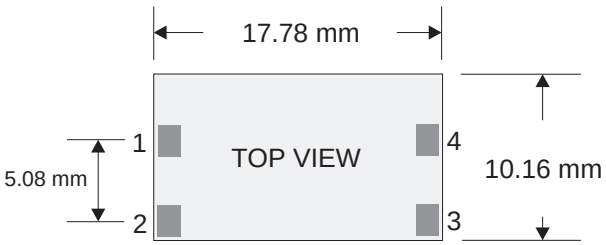
	CHARACTERISTICS	MIN	TYP	MAX	UNIT
V_{CC}	Supply Voltage	2		14	VDC
I_S	Supply Current (Vcc=5V IN=1KHz Square Wawe)		4		mA
F_W	Working Frequency	303.8		433.92	MHz
P_O	RF Output Power into 50Ω (Vcc=5V)		0	3	dBm
	Harmonic Spurious Emission		-30		dBc
V_{IH}	Input High Voltage	2		V_{CC}	V
	Max Data Rate			4	KHz
T_{OP}	Operating Temperature Range	-25		+80	°C

Tipically, equipment utilizing this device requires emissions testing and government approval, wich is the responsibility of the equipment manufacturer .

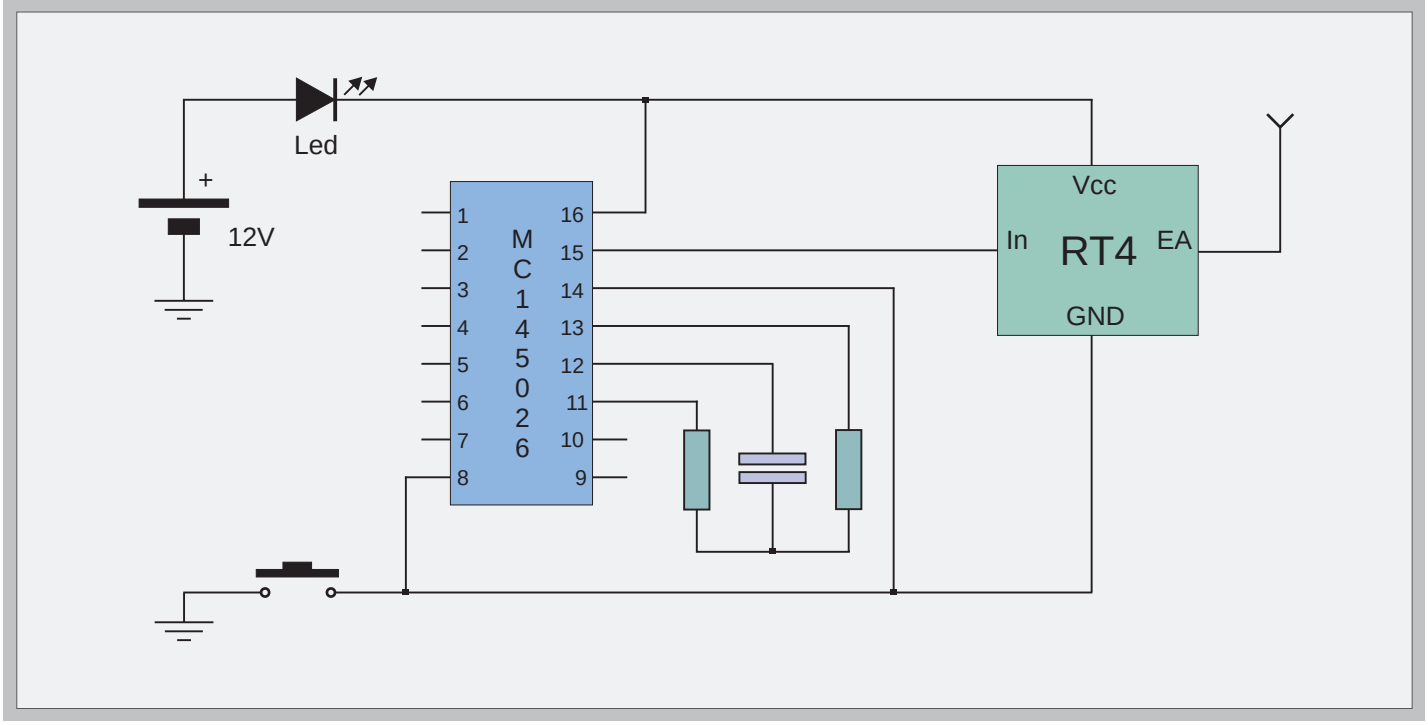
Pin Description

1	V_{CC}	Supply Voltage
2	GND	Ground
3	IN	Modulation Input
4	EA	External Antenna

Mechanical Dimensions



TYPICAL APPLICATION



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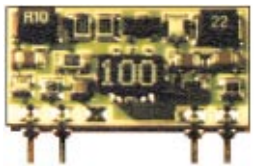
RT5-XXX

Radio Transmitter Module with SAW Resonator and External Antenna



General description

The RT5-XXX is an hybrid circuit that allows to realize a complete radio transmitter adding a coding circuit.

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

XXX : working frequency (315, 418, 433.92 MHz)

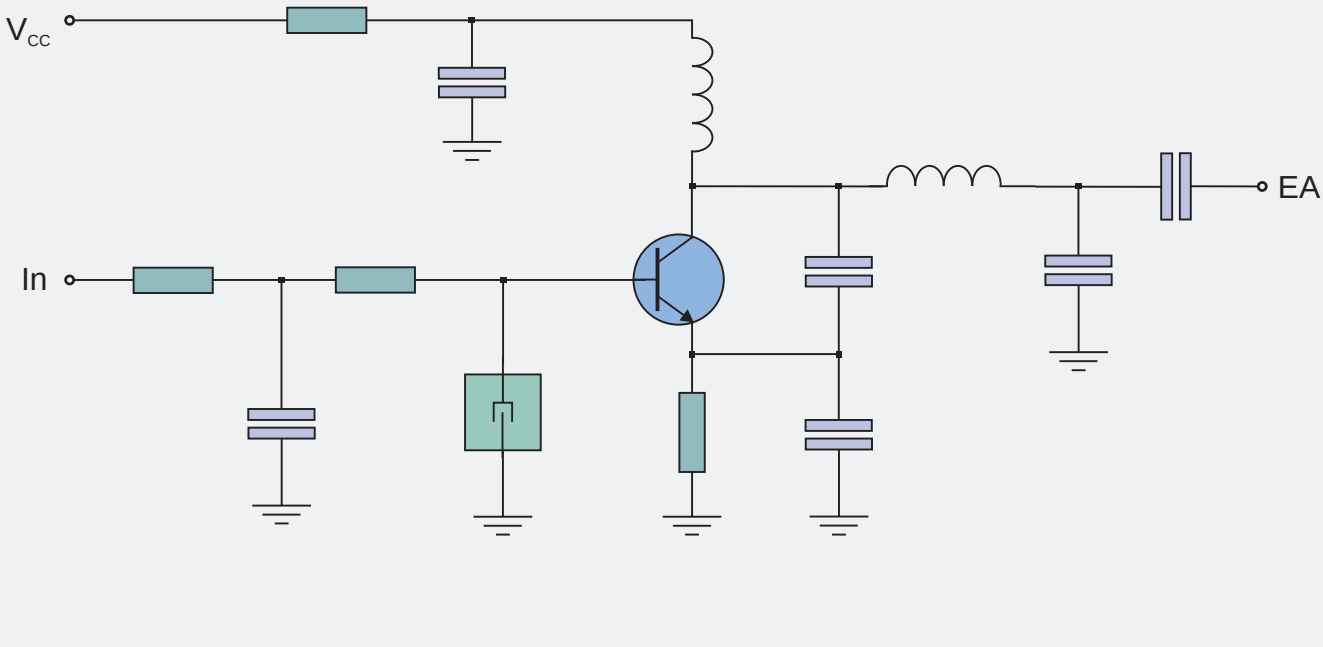
Features

- High Reliability
- SIL Package

Applications

- Wireless security systems
- Car Alarm systems
- Remote gate controls
- Sensor reporting

CIRCUIT SCHEMATIC



Electrical Characteristics

Ta = 25°C unless otherwise specified

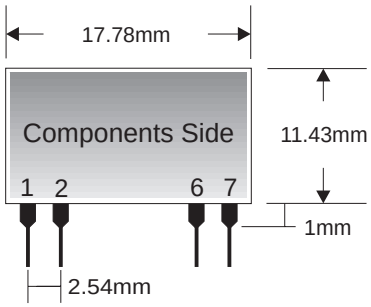
	CHARACTERISTICS	MIN	TYP	MAX	UNIT
V_{CC}	Supply Voltage	2		14	VDC
I_S	Supply Current (Vcc=5V IN=1KHz Square Wawe)		3		mA
F_W	Working Frequency	303.8		433.92	MHz
P_O	RF Output Power into 50Ω (Vcc=5V)		3	6	dBm
	Harmonic Spurious Emission		-35		dBc
V_{IH}	Input High Voltage	2		V_{CC}	V
	Max Data Rate			4	KHz
T_{OP}	Operating Temperature Range	-25		+80	°C

Tipically, equipment utilizing this device requires emissions testing and government approval, wich is the responsibility of the equipment manufacturer .

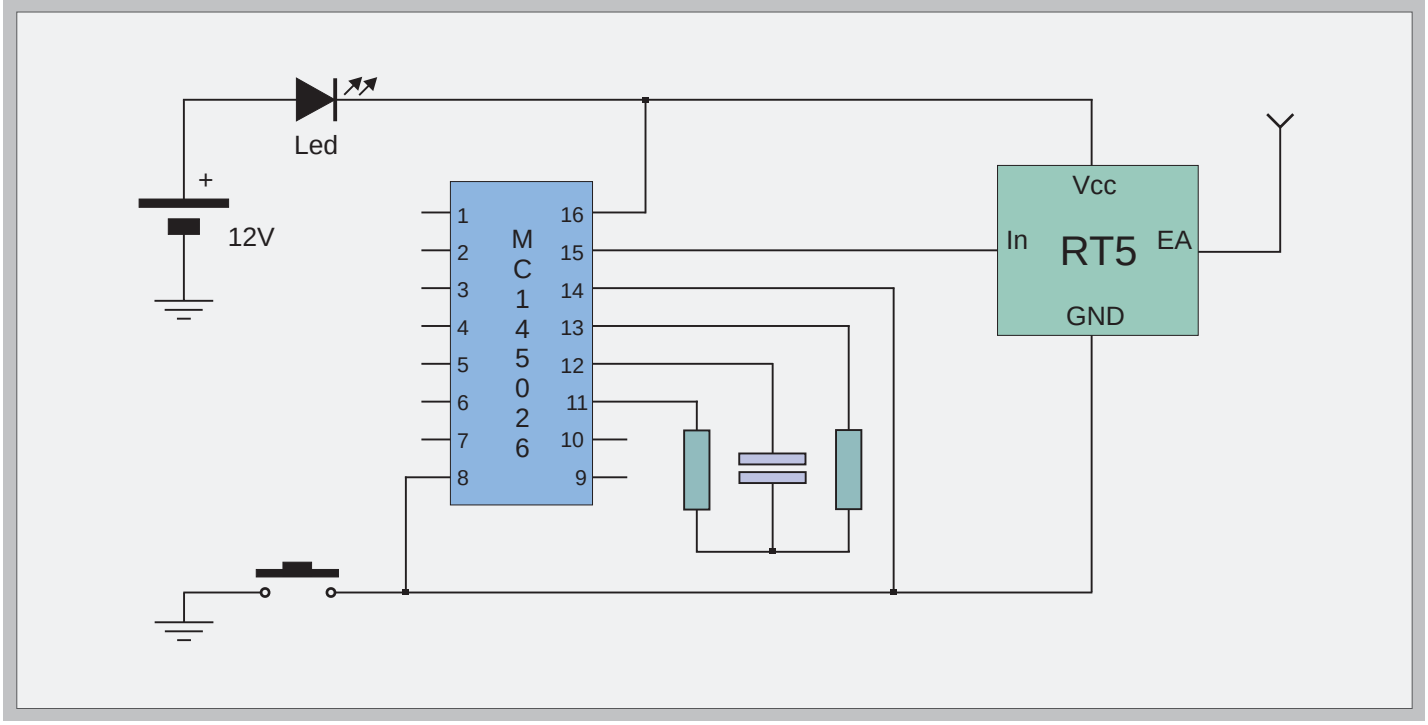
Pin Description

1	EA	External Antenna
2	IN	Modulation Input
6	GND	Ground
7	VCC	Supply Voltage

Mechanical Dimensions



TYPICAL APPLICATION



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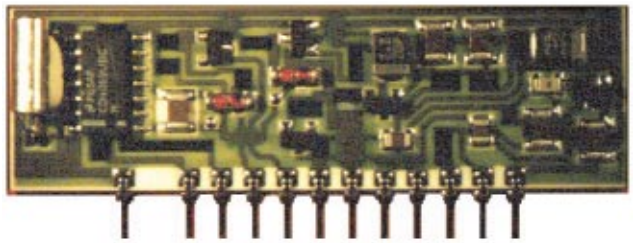
UTR1

Ultrasonic Transmitter / Receiver



General description

The UTR1 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.

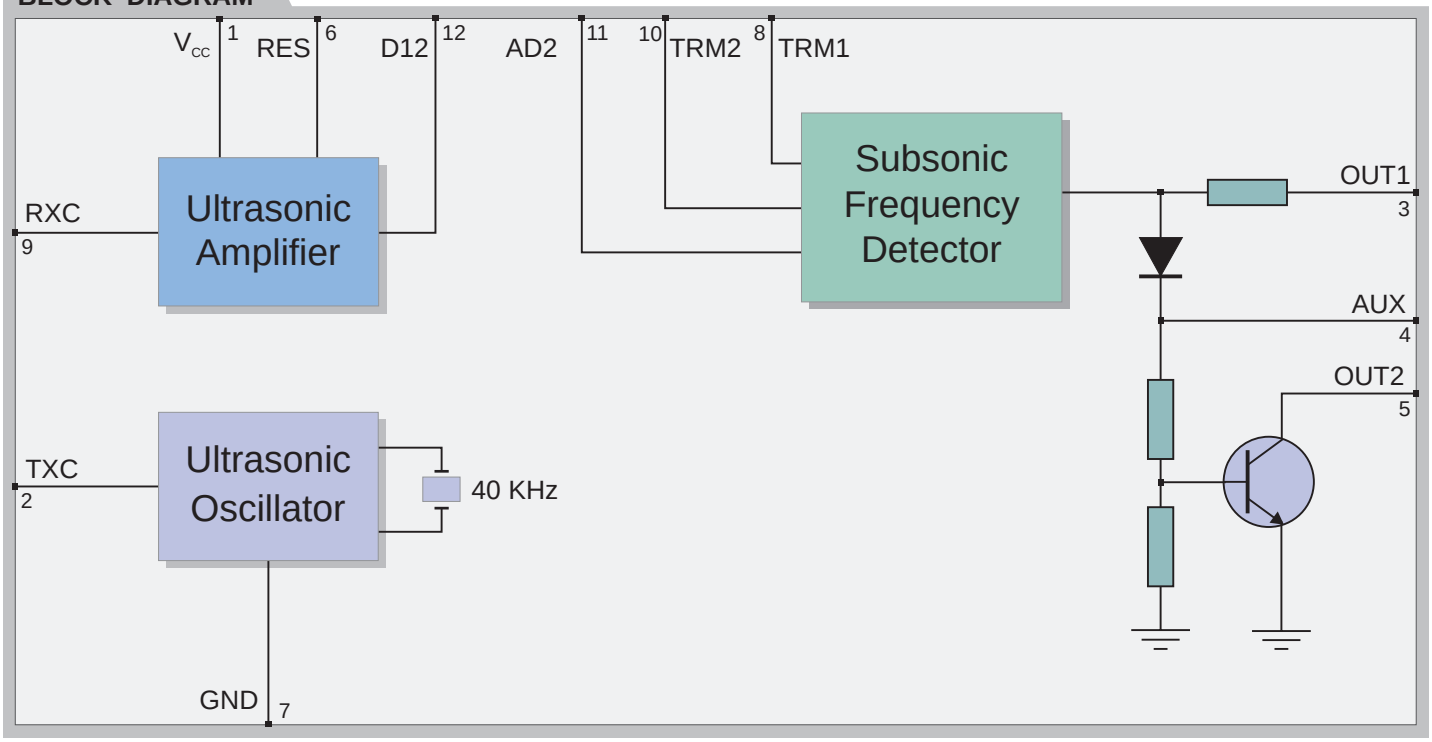
Features

- High RFI Immunity
- SIL Package

Applications

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

BLOCK DIAGRAM



Electrical Characteristics

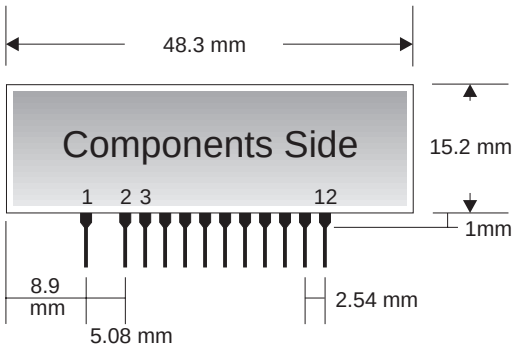
Ta = 25°C unless otherwise specified

	CHARACTERISTICS	MIN	TYP	MAX	UNIT
V_{CC}	Supply Voltage	9	12	16	VDC
I_S	Supply Current		9		mA
G	Utrasonic Amplifier Gain		50		dB
F_U	Ultrasonic Frequency	38	40	42	KHz
I_O	Out2 Sink Current			100	mA
T_{OP}	Operating Temperature Range	-20		+80	°C

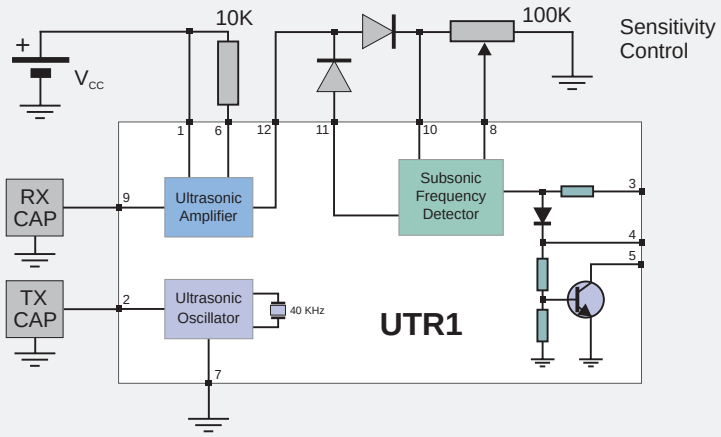
Pin Description

1	V_{CC}	Supply Voltage
2	TXC	Ultrasonic Piezoceramic Transmitter Output (TXCAP)
3	OUT1	Output Signal (OUT = "HIGH" if objet is moving)
4	AUX	Auxiliary Output Signal
5	OUT2	Open Collector Output
6	RES	Pull-up Resistor Input
7	GND	Ground
8	TRM1	External Trimmer
9	RXC	Ultrasonic Piezoceramic Receiver input (RXCAP)
10	TRM2	External Trimmer
11	AD2	External Diode Anode
12	D12	External Diodes Common Point

Mechanical Dimensions



TYPICAL APPLICATION



TX CAP : MA40S3S Murata

RX CAP : MA40S3R Murata

D1 -D2 : Germanium Diode

Component typical values

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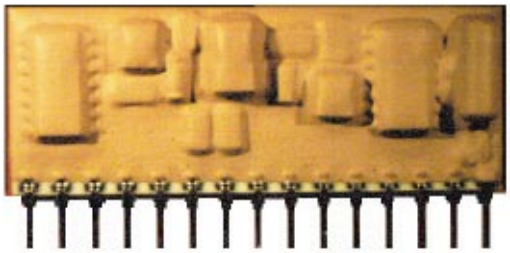
UTR2

Ultrasonic Transmitter / Receiver



General description

The UTR2 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.

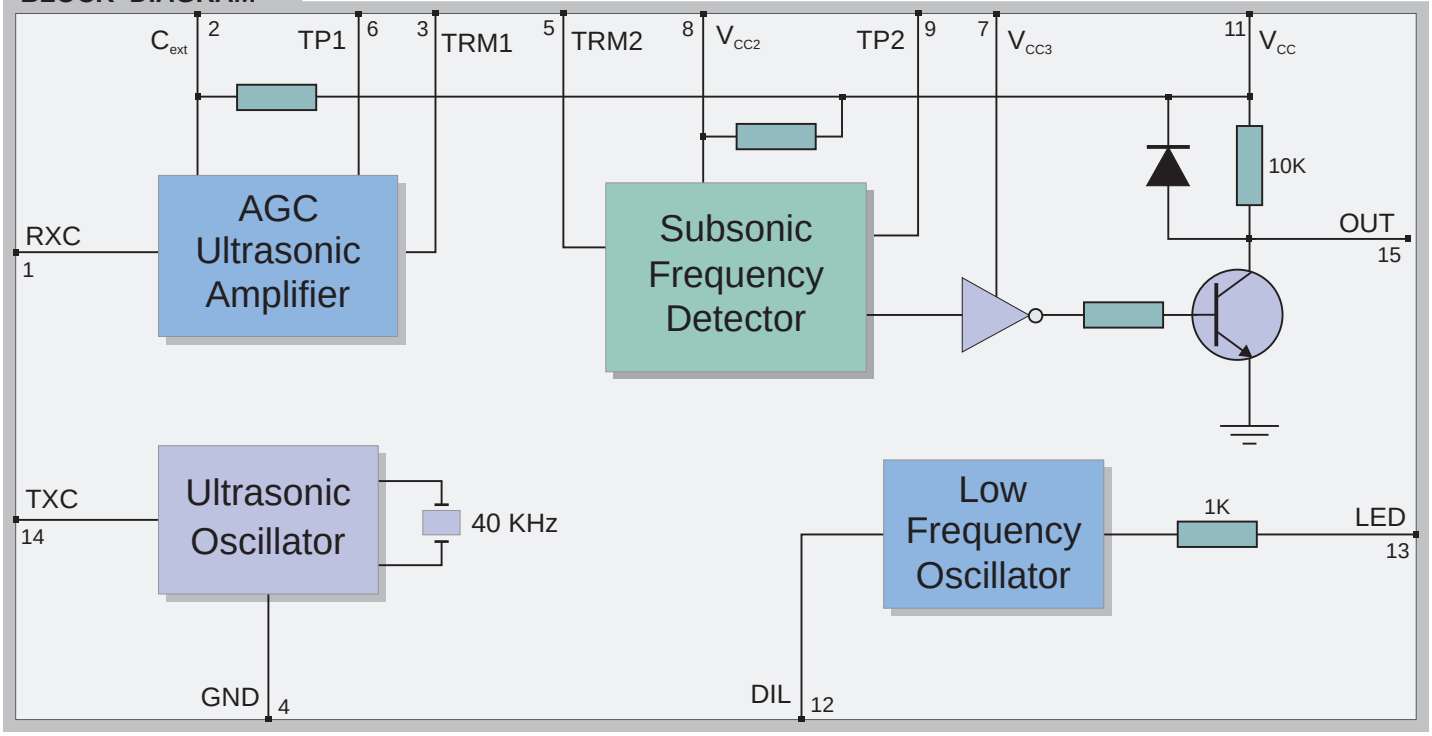
Features

- AC Input Amplifier with Automatic Gain Control
- Output Relay Driving with Ricirculation Diode

Applications

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

BLOCK DIAGRAM



Electrical Characteristics

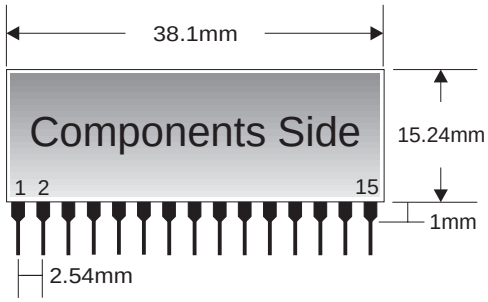
Ta = 25°C unless otherwise specified

	CHARACTERISTICS	MIN	TYP	MAX	UNIT
V_{CC}	Supply Voltage	9	12	16	VDC
I_S	Supply Current		15		mA
G	Utrasonic Amplifier Gain		50		dB
F_U	Ultrasonic Frequency	38	40	42	KHz
I_O	Out2 Sink Current			20	mA
T_{OP}	Operating Temperature Range	-20		+80	°C

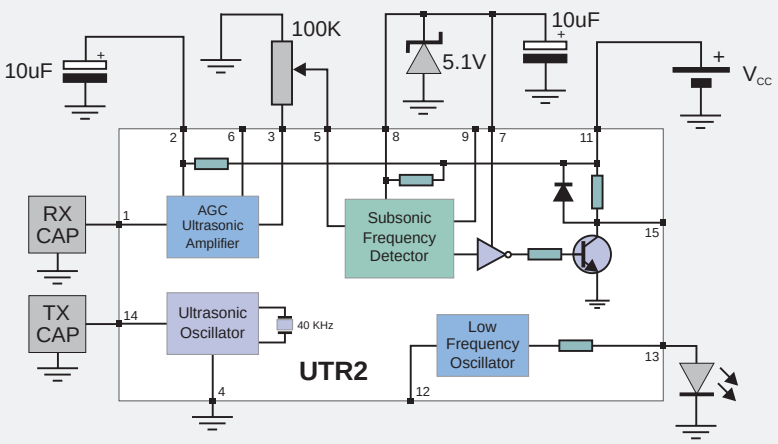
Pin Description

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	TP1	Test Point
7	VCC3	Supply Voltage of output stage
8	VCC2	Supply Voltage of internal stage
9	TP2	Test Point
10	INS	Internal signal: not to be connect
11	VCC	External Supply Voltage
12	DIL	Disable signal LED control: active Low
13	LED	LED control signal
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

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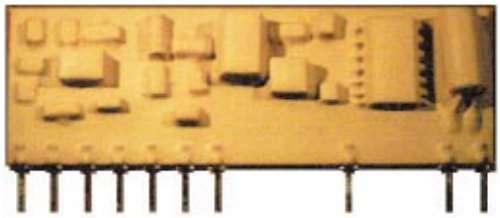
UTR3

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.

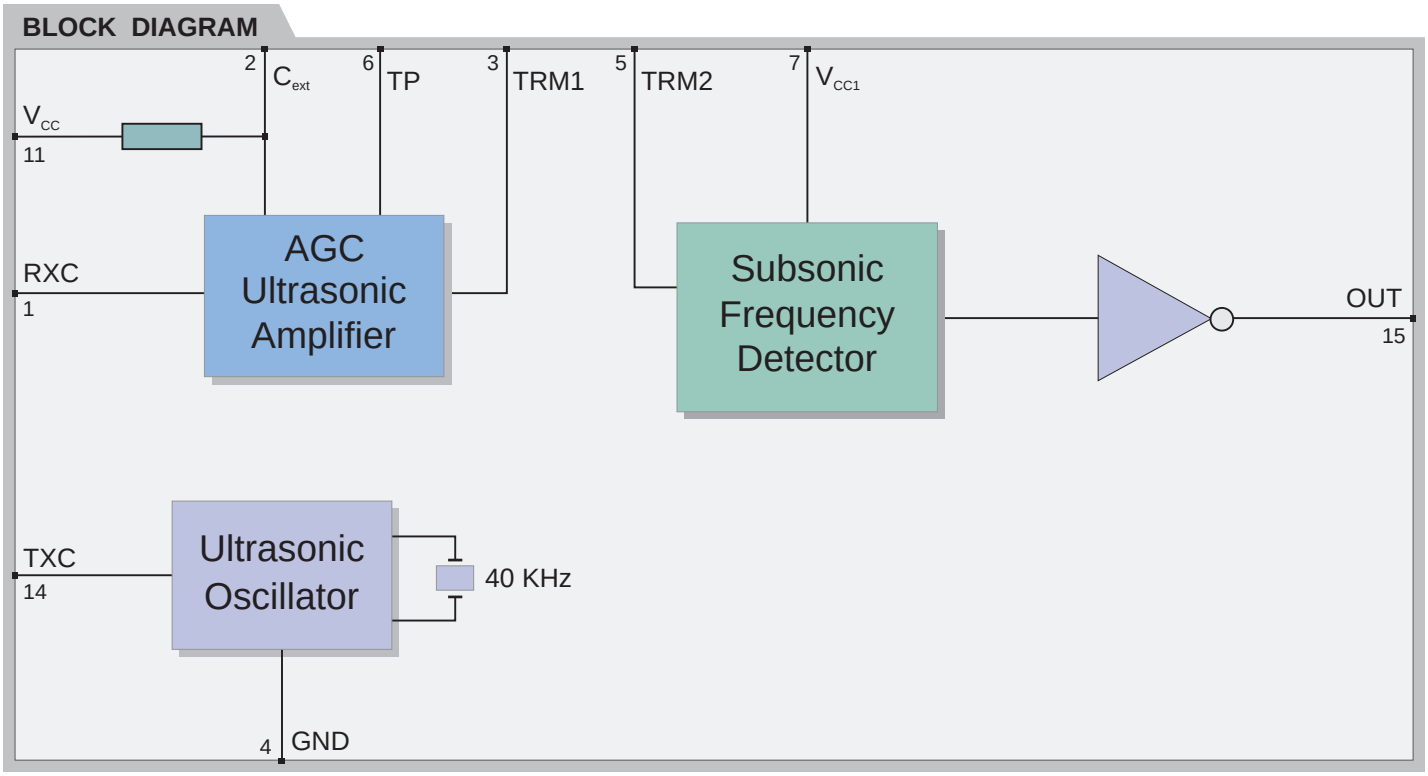
Features

- AC Input Amplifier with Automatic Gain Control

Applications

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

BLOCK DIAGRAM



Electrical Characteristics

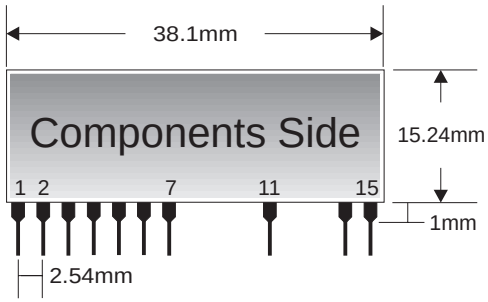
Ta = 25°C unless otherwise specified

	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

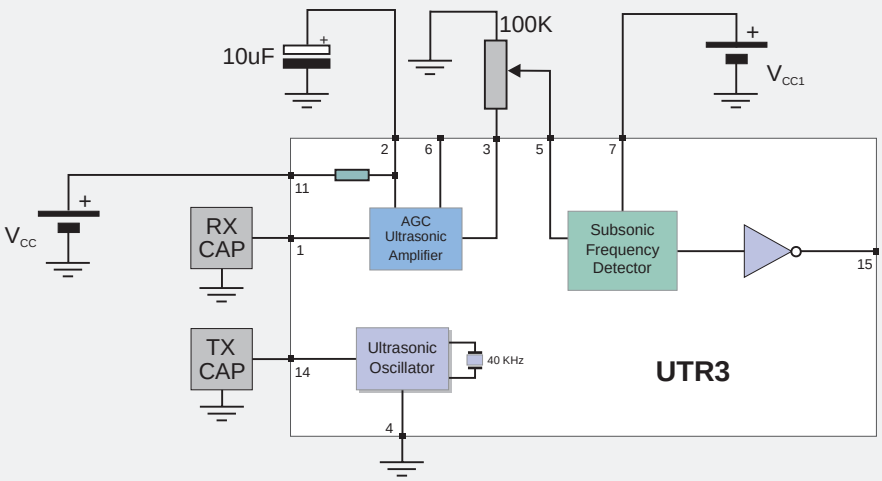
Pin Description

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

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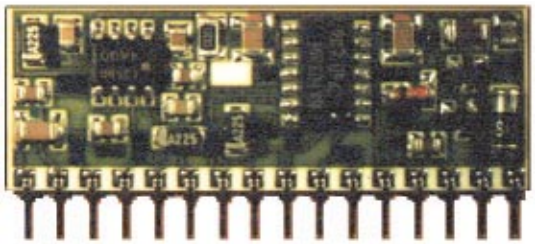
PID1

Passive Infrared Detector



General description

The PID1 is an hybrid circuit that allows to realize a passive infrared detector adding few external components.

Detection is based on infrared radiations emitted by human body.

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

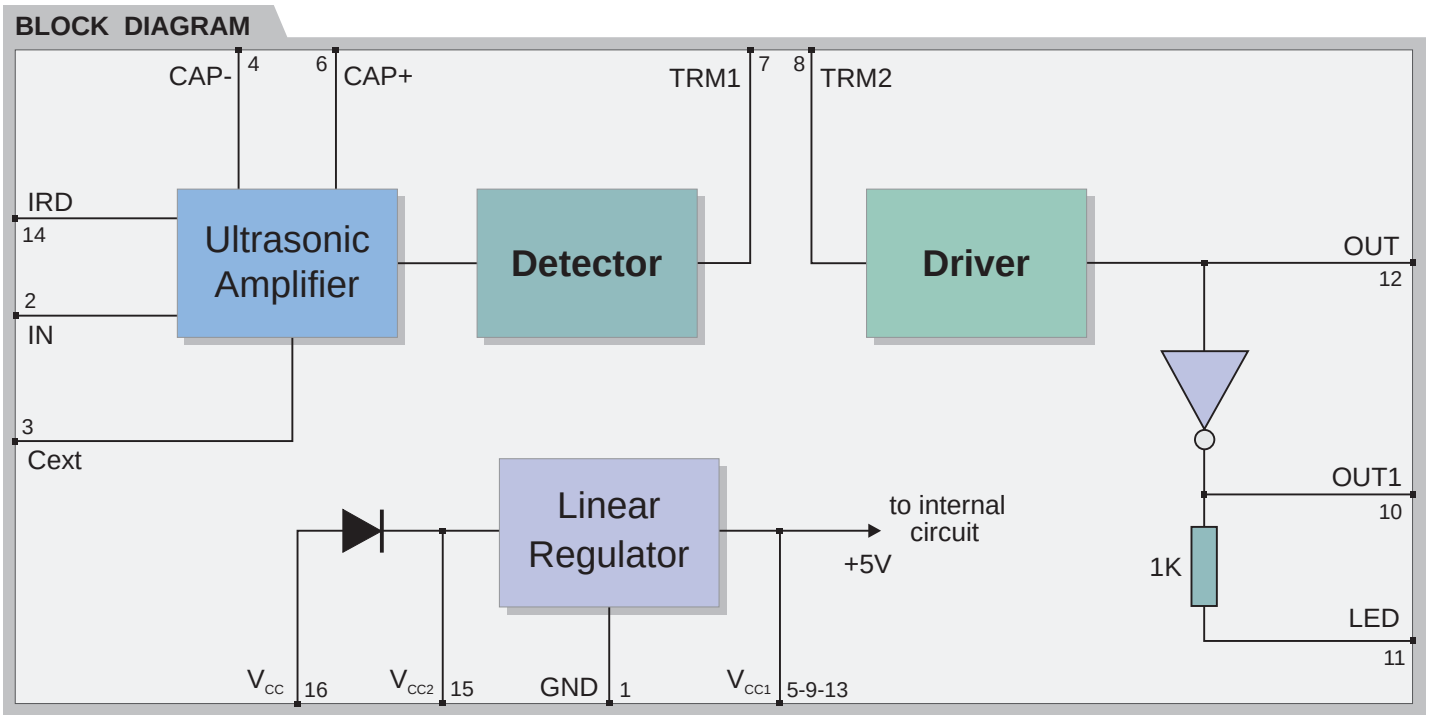
Features

- High RFI Immunity
- SIL Package

Applications

- Residential and commercial security systems
- Automatic doors opening systems

BLOCK DIAGRAM



Electrical Characteristics

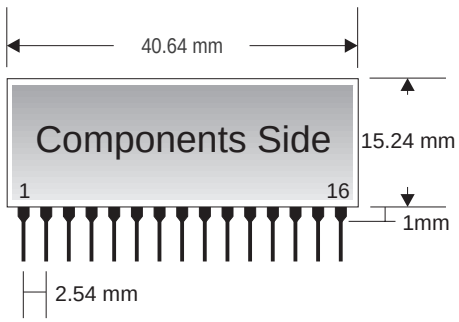
Ta = 25°C unless otherwise specified

	CHARACTERISTICS	MIN	TYP	MAX	UNIT
V_{CC}	Supply Voltage	9	12	16	VDC
I_S	Supply Current		5		mA
G	Amplifier Gain		70		dB
B_W	Amplifier Bandwidth	1		10	KHz
I_O	Out2 Sink Current			20	mA
T_{OP}	Operating Temperature Range	-10		+70	°C

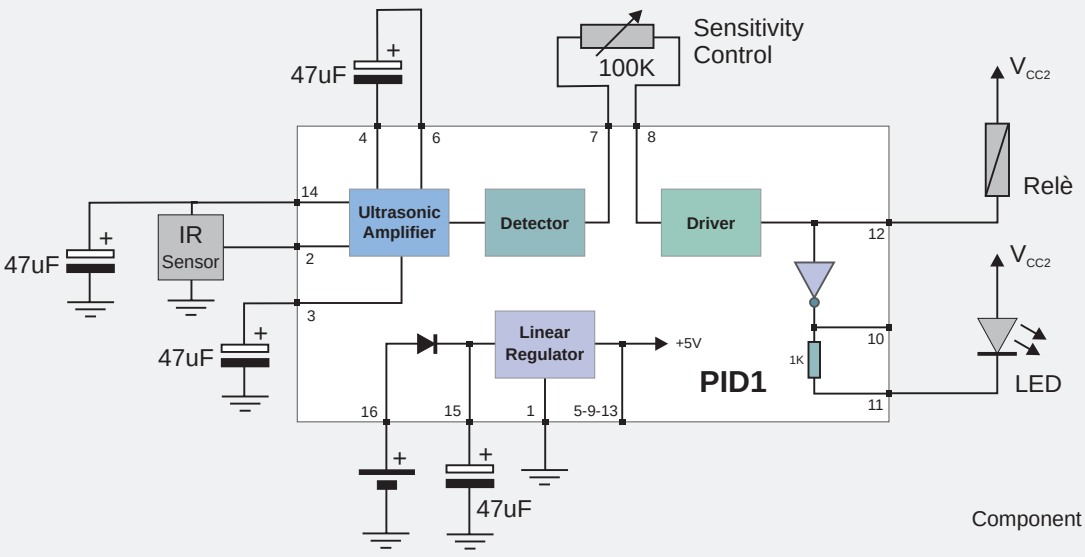
Pin Description

1	GND	Ground
2	IN	Infrared Sensor Input
3	Cext	External Capacitor
4	CAP-	External Capacitor (-)
5-9-13	Vcc1	Supply Voltage of Internal Stage
6	CAP+	External Capacitor (+)
7	TRM1	External Trimmer
8	TRM2	External Trimmer
10	Out1	Output Signal (active low)
11	LED	Led Control Signal
12	Out	Output Signal (active high)
14	IRD	Infrared Sensor Drain
15	Vcc2	+12V Output Voltage
16	Vcc	Input Supply Voltage

Mechanical Dimensions



TYPICAL APPLICATION



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