



DESCRIPTION

CYF219 is a high performance OOK/ASK transmitter for the Remote Keyless Entry (RKE) systems. It consists of a power amplifier, one-shot circuit and phase-locked loop with internal voltage controlled oscillator and loop filter. The one-shot circuit control the phase-locked loop and power amplifier to have fast start-up time in operation.

FEATURES

- Highly integrated OOK/ASK transmitter
- High output power, 3.3V /+14 dBm / 20 mA (50% duty cycle)
- Low supply voltage, 1.8 V to 3.6 V operation range Low external component cost.
- PLL-based transmitter with frequency range from 300MHz to 1000MHz
- On-chip one-shot circuit
- 60 dB RF on-off ratio for OOK/ASK modulation SOT23-6 package

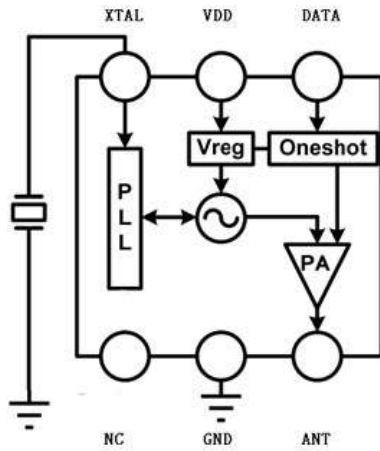
APPLICATIONS

- Keyless entry systems
- Remote control systems
- Garage door openers alarm systems

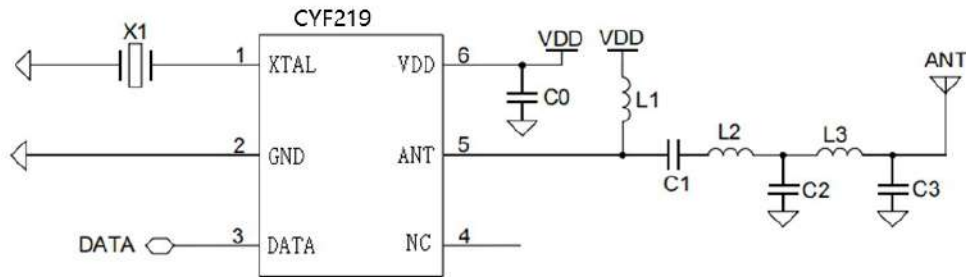


- Security systems
- Wireless sensors

BLOCK DIAGRAM



APPLICATION CIRCUIT



BILL OF MATERIALS

Designator	Value
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CYF219

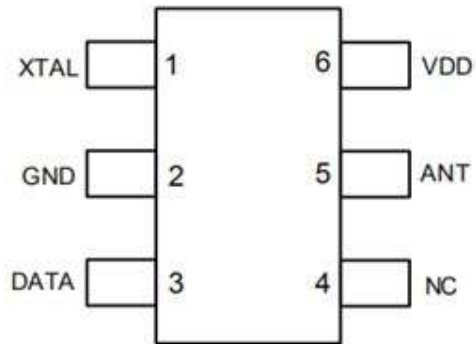
	868M	915M
X1	26M	26M
C0	0.1uF	0.1uF
C1	68pF	68pF
C2	9.1pF	9.1pF
C3	8.2pF	8.2pF
L1	100nH	100nH
L2	8.2nH	8.2nH
L3	8.2nH	8.2nH

ORDER INFORMATION

Valid Part Number	Package Type	Top Code
CYF219	6 Pins, SOT23	CYF219



PIN CONFIGURATION



PIN DESCRIPTION

Pin No.	Pin Name	Description	I/O
1	XTAL	Oscillator output	O
2	GND	Ground connection	G
3	DATA	Data input	I
4	NC		
5	ANT	Power amplifier	O
6	VDD	Power supply	P



ABSOLUTE MAXIMUM RATINGS

(VSS=0V)

Parameter	Symbol	Min.	Max.	Unit
Supply Voltage	V _{DD}	-0.3	5	V
I/O Voltage	V _{I/O}	-0.3	5	V
Operating Temperature	T _A	-40	+85	°C
Storage Temperature	T _{STG}	-55	+125	°C

RECOMMENDED OPERATING CONDITIONS

(VSS=0V)

Parameter	Symbol	Min.	Max.	Unit
Supply Voltage	V _{DD}	-0.3	3.6	V
Operating Temperature	T _A	-40	+85	°C



ELECTRICAL CHARACTERISTICS

Nominal conditions: $V = DD\ 3.0\ V$, $V = 0\ SS\ V$, $T = A\ +27^{\circ}C$.

Parameter	Symbol	Coonditions	Min.	Typ.	Max.	Unit
General Characteristics						
Supply Voltage	V_{DD}		1.8	3.0	3.6	V
Operating Current (Note)	I_{DD}	DIN=50% duty cycle; $P_{OUT} = 14dBm$, $f_{RF} = 868MHz$		20		mA
		DIN=50% duty cycle; $P_{OUT} = 14dBm$, $f_{RF} = 915MHz$		20		mA
Standby Current	$I_{standby}$	DIN=Low; $T_{DELAY} > 50ms$			1	uA
RF						
Frequency Range	f_{RF}		300		1000	MHz
Power Amplifier Output Power (Note)	P_{out}	$f_{RF} = 315MHz$		14		dBm
		$f_{RF} = 434MHz$		14		dBm
RF Power On / Off Ratio	P_{EXT}			60		dB
Phase Noise	P_{NOISE}	315MHz, 10KHz offset		-75		dBc/Hz



CYF219

Harmonics (Note)	P_{HARM}	$2x/3x f_{RF}$		-40		dBc
Crystal Spur	P_{SPUR}	$f_{RF} = 868MHz$		-50		dBc
		$f_{RF} = 915MHz$		-50		dBc
Data Input and One-shot						
Data Rate	D_{RATE}		0.5	2	30	Kbps
Crystal Oscillator Start-up Time	T_{ON}	C_L not connected		1		ms
One-shot Delay Time	T_{DELAY}		50			ms

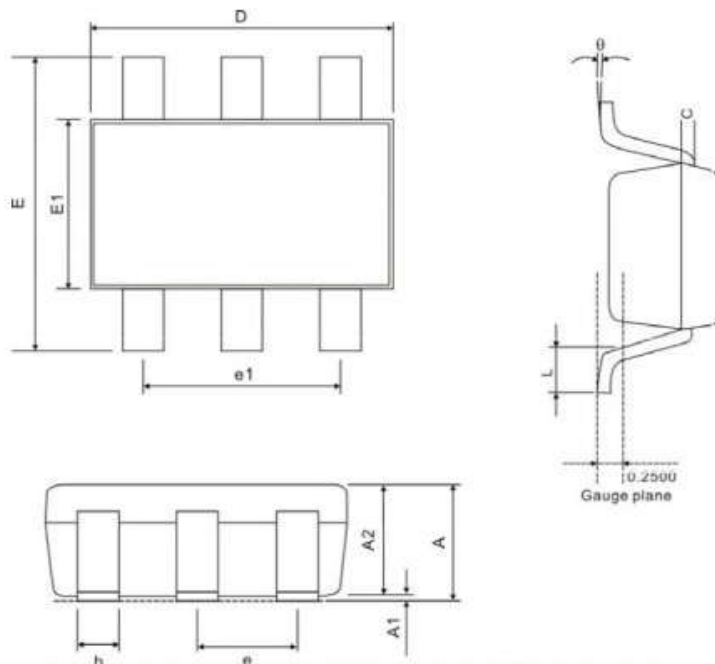
Note: Depend on power amplifier output matching.



CYF219

PACKAGE INFORMATION

6 Pins, SOT23-6



Symbol	Min.	Typ.	Max.
A	-	-	1.45
A1	0.00	-	0.15
A2	0.90	1.15	1.30
b	0.30	-	0.50
c	0.080	0.130	0.200



CYF219

D	2.90BSC		
E	2.80BSC		
E1	1.60BSC		
e	0.95BSC		
e1	1.90BSC		
θ	0°	-	8°
L	0.30	0.45	0.60

Notes:

1. Refer to JEDEC MO-178
2. All dimensions are in millimeter

For more information and assistance, please contact us as follows:

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