Ordering number : EN*A0339

Preliminary

SANYO Semiconductors
DATA SHEET

Bi-CMOS IC

LV2257PTT — 434MHz Band FSK/ASK Wireless Transmitter IC

Overview

The LV2257PTT is a 434MHz band FSK/ASK wireless transmitter IC.

Features

- Operating frequency range: 430 to 450MHz
- Miniature package: MSOP10 (0.5mm lead pitch)

Functions

- PLL circuit
- VCO
- Power amplifier
- FSK/ASK mode switching
- Transmitter output level switching

Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_{CC} max		4.5	V
Maximum input voltage	V_{IN} max		V_{CC}+0.3	V
Maximum output voltage	V_{OUT} max		V_{CC}+0.3	V
Allowable power dissipation	Pd max	≤ 85°C, Mounted on a circuit board*	115	mW
Operating temperature	Topr		-40 to +85	°C
Storage temperature	Tstg		-55 to +150	°C
Recommended operating supply voltage range	V_{CC}		2.0 to 3.5	V

*: Circuit board: 20×10×0.8mm paper phenolic printed circuit board

SANYO Semiconductor Co., Ltd.
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

Electrical Characteristics at Ta = +25°C, V_{CC} = 3.0V, no modulation

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Current drain 1	I_{CCO}	F_{VCO} = 434MHz, when the transmitter output is 0dBm		7		mA
Current drain 2	I_{CCPS}	Power saving mode		1	100	nA
VCO frequency range	F_{VCO}		430		450	MHz
Crystal oscillator frequency range	F X tal	V X tal = -6dBm	25		30	MHz
Charge pump current	I_{CP}	V_{CP} = 1.5V		±100		μA

Transmitter Output at Ta = +25°C, V_{CC} = 3.0V, no modulation, F_{VCO} = 434MHz, 50Ω termination

Parameter	Symbol	Conditions	Ratings			unit
			min	typ	max	
Transmitter output 1	TxPwr1	When the pin 6 resistor is 10kΩ	-11.5	-10	-8.5	dBm
Transmitter output 2	TxPwr2	When the pin 6 resistor is 4.7kΩ	-1.5	0	1.5	dBm
Transmitter output 3	TxPwr3	When the pin 6 resistor is 1kΩ	+8	+10	+12	dBm
[Ta = 25°C, V_{CC} = 2.2V, no modulation, F_{VCO} = 434MHz, 50Ω termination]						
Transmitter output 4	TxPwr4	When the pin 6 resistor is 4.7kΩ	-2.5	-1	0.5	dB

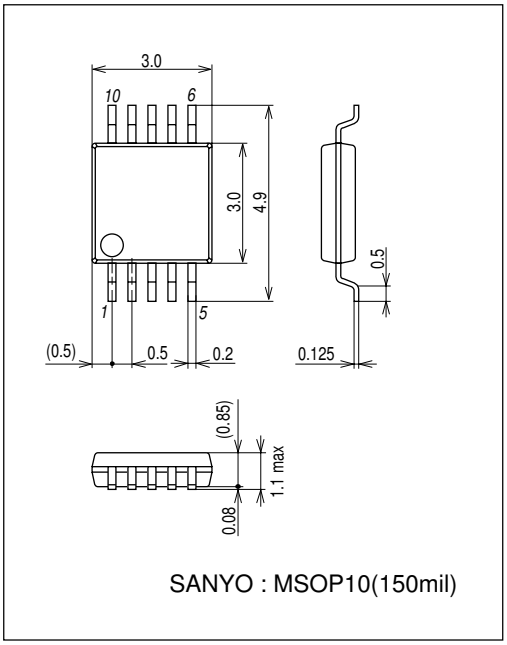
Modulation Frequency at Ta = +25°C, V_{CC} = 3.0V

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Modulation frequency 1	Fmodf	FSK mode			20	kHz
Modulation frequency 2	Fmoda	ASK mode			20	kHz

Package Dimensions

unit : mm (typ)

3297

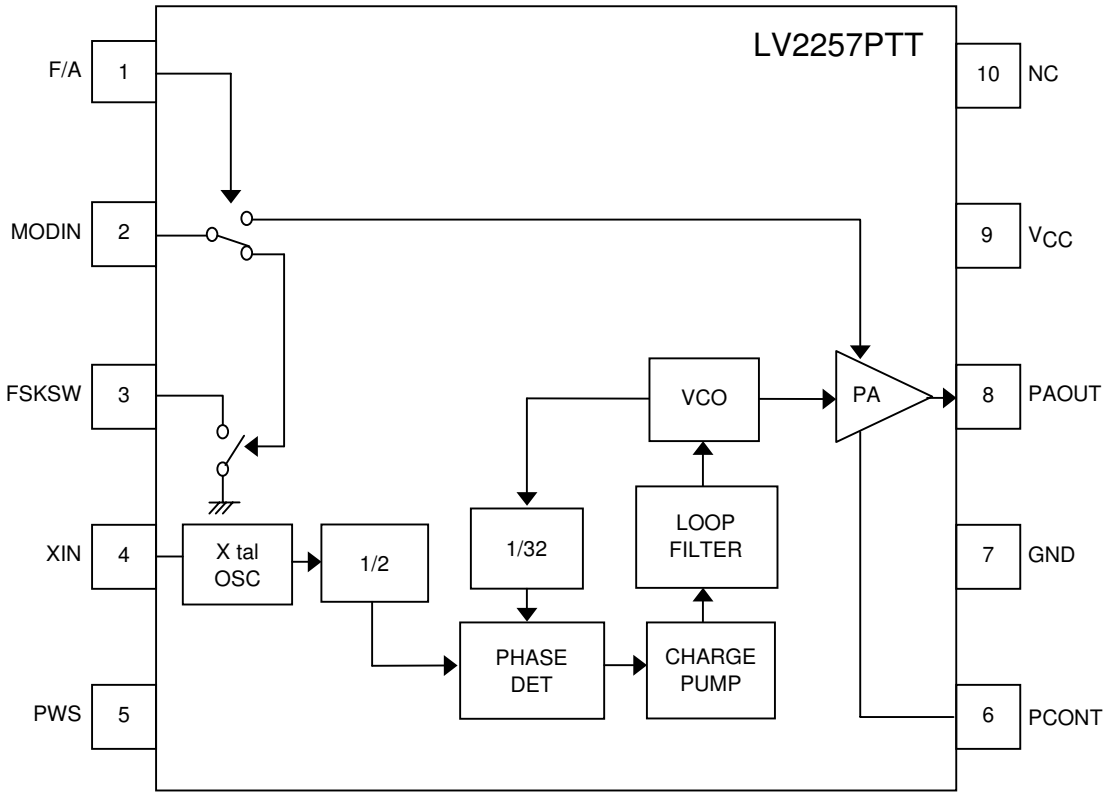


SANYO : MSOP10(150mil)

Pin Functions

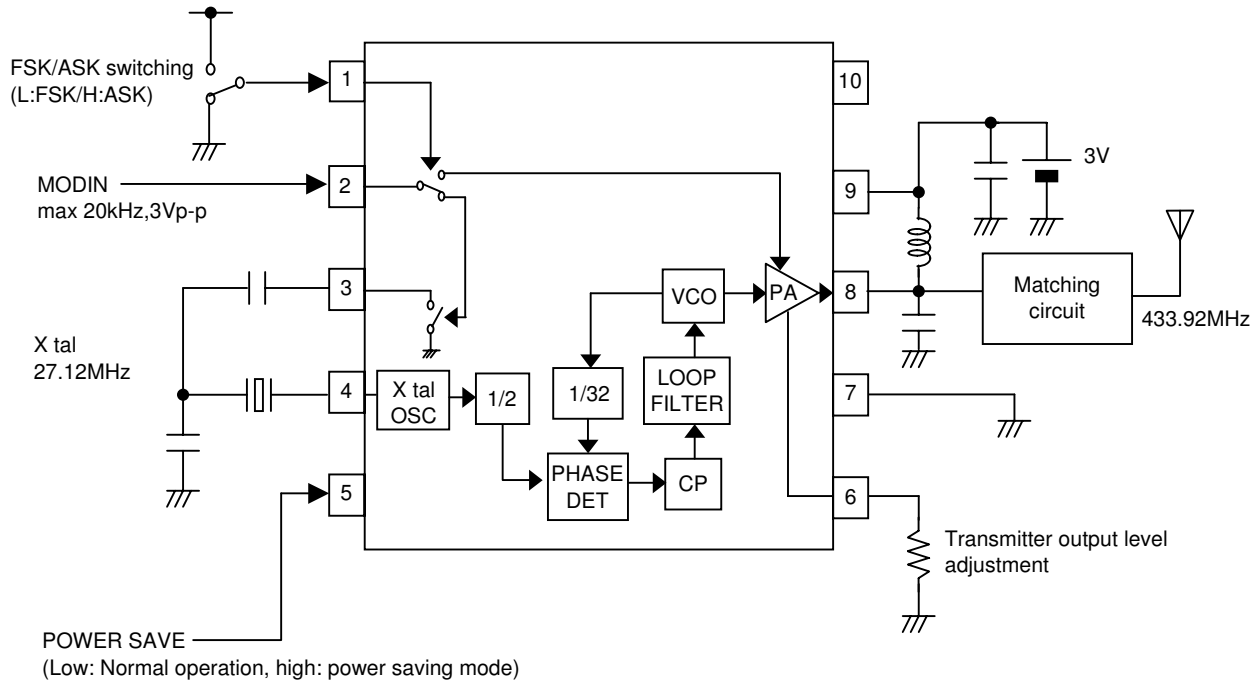
Pin No.	Pin	Function
1	F/A	FSK/ASK mode switching. Low: FSK, high: ASK
2	MODIN	Modulation signal input
3	FSKSW	FSK modulation external capacitor switching input
4	XIN	Crystal oscillator connection
5	PWS	Power saving mode control. Low: Normal operation, high: power saving mode
6	PCONT	Transmitter output level adjustment external resistor connection
7	GND	GND
8	PAOUT	Transmitter output
9	V_{CC}	V_{CC}
10	NC	Unused pin

Block Diagram and Pin Assignment



Top view

Application Circuit Example 1: FSK Specifications



Application Circuit Example 2: ASK Specifications