

DESCRIPTION

PT4450 is a high performance OOK/ASK transmitter for the Remote Keyless Entry (RKE) systems. It consists of a SAW oscillator, power amplifier, and one-shot circuit which control the SAW oscillator and power amplifier

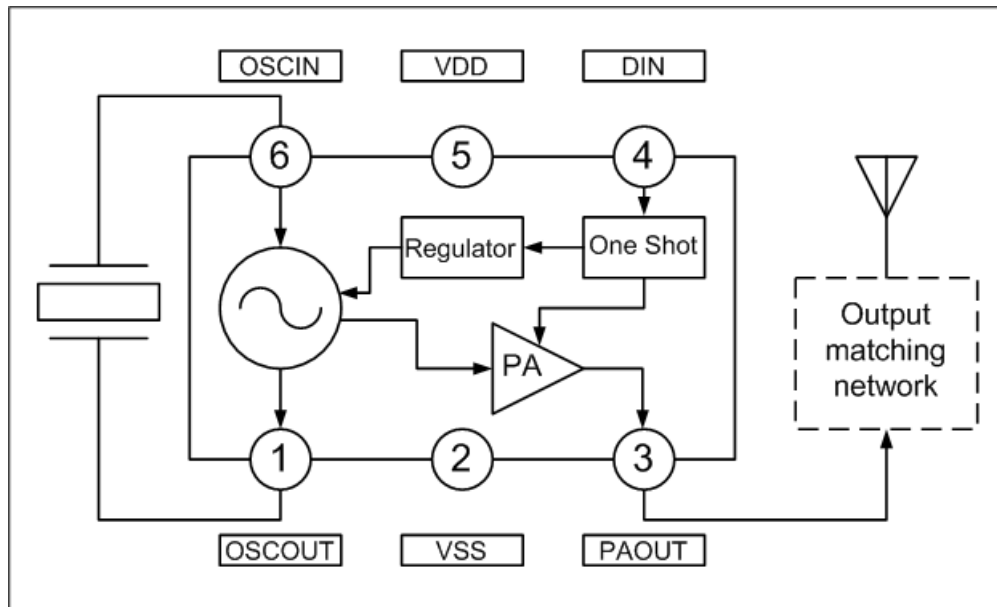
APPLICATIONS

- Keyless entry systems
- Remote control systems
- Garage door openers
- Alarm systems
- Security systems
- Wireless sensors

FEATURES

- Highly integrated OOK/ASK transmitter
- High output power, 3 V/+10 dBm/18 mA
- Low supply voltage (2.2 V to 3.6V operation range)
- Low external component cost.
- SAW-based oscillator, frequency range from 250 MHz to 500 MHz
- On-chip one-shot circuit
- 50 dB RF on/off ratio
- Available in 6-pin, SOT-23 package

BLOCK DIAGRAM

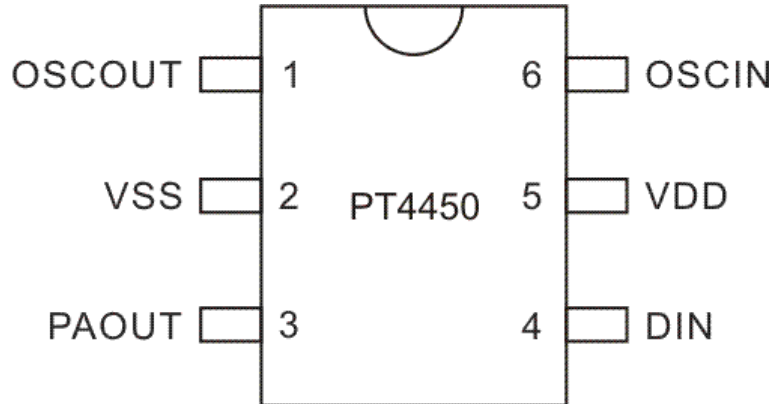




ORDER INFORMATION

Valid Part Number	Package Type	Top Code
PT4450	6 Pins, SOT-23	PT4450

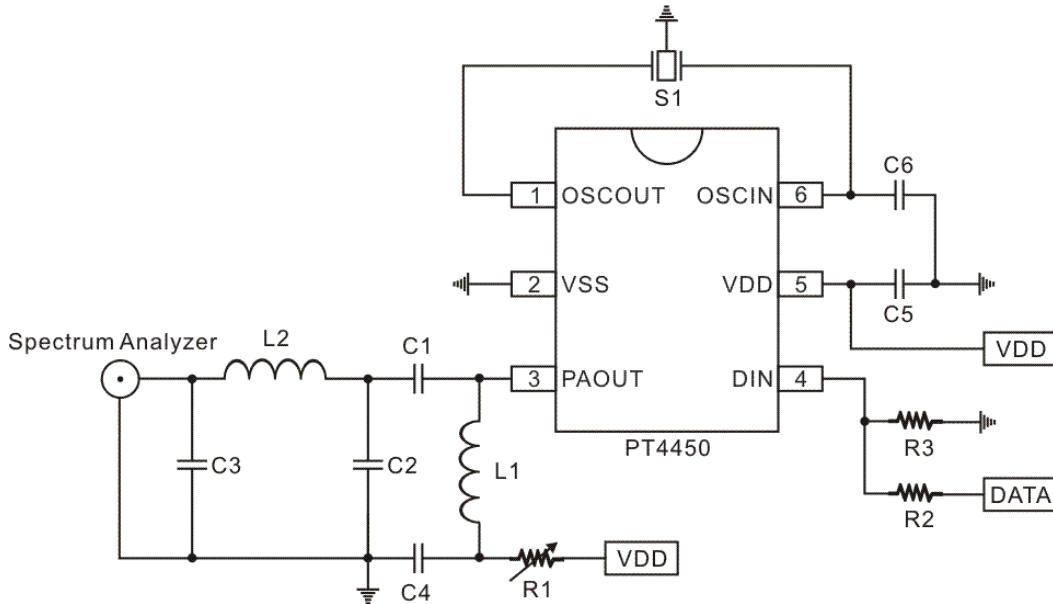
PIN CONFIGURATION



PIN DESCRIPTION

Pin Name	I/O	Description	Pin No.
OSCOUT	O	Oscillator output	1
VSS	G	Ground connection	2
PAOUT	O	Power amplifier output	3
DIN	I	Data input, it will also be used to enable the chip	4
VDD	P	Power supply	5
OSCIN	I	Oscillator input	6

TESTING CIRCUIT



Component	Values		Unit
	315 MHz Band	434 MHz Band	
S1(See note)	315	434	MHz
R1(See note)	0	0	Ω
R2	10 K	10 K	Ω
R3	470 K	470 K	Ω
L1	180 n	180 n	H
L2	27 n	27 n	H
C1	220 p	220 p	F
C2	12 p	4.7 p	F
C3	22 p	12 p	F
C4, C5	100 n	100 n	F
C6	1 p	1 p	F

Notes:

1. S1 is a SAW resonator.
2. R1 for output power control.



ABSOLUTE MAXIMUM RATINGS

($V_{SS} = 0\text{ V}$)

Parameter	Symbol	Rating	Unit
Supply voltage	V_{DD}	$V_{SS}-0.3$ to $V_{SS} + 5.0$	V
Operating temperature	T_{opr}	-40 to +85	°C
Storage temperature	T_{stg}	-65 to +150	°C
Soldering temperature	T_{SLD}	255	°C
Soldering time	t_{SLD}	10	Sec.

RECOMMEND OPERATING CONDITIONS

($V_{SS} = 0\text{ V}$)

Parameter	Symbol	Rating			Unit
		Min.	Typ.	Max.	
Supply voltage range	V_{DD}	2.2	3.0	3.6	V
Operating temperature	T_A	-40	25	85	°C

ELECTRICAL CHARACTERISTICS

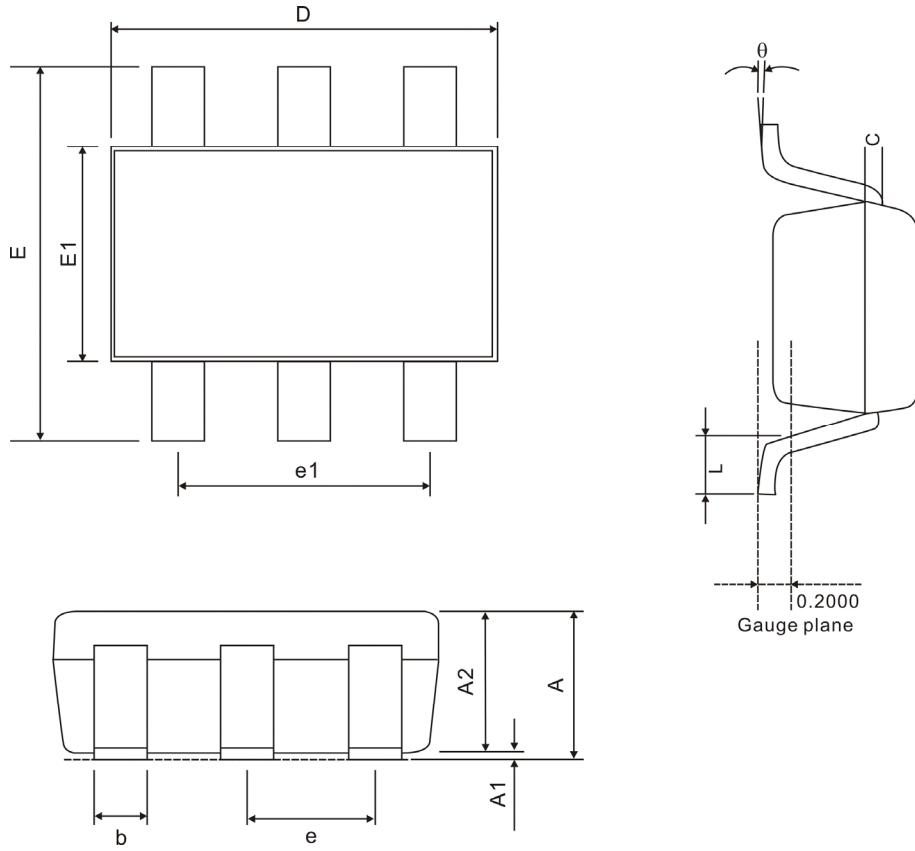
(Unless otherwise specified, $V_{DD} = 3.0\text{ V}$, $V_{SS} = 0\text{ V}$, $DIN = 3.0\text{ V}$, $Temp = 27^\circ\text{C}$, $f_{RF} = 434\text{ MHz}$)

Parameter	Symbol	Condition	Rating			Unit
			Min.	Typ.	Max.	
DC						
Supply voltage	V_{DD}		2.2	3.0	3.6	V
Operating current (See note)	I_{DD}	DIN=High(CW mode); $P_{OUT} = 10\text{ dBm}$	16	-	18	mA
Standby current	$I_{standby}$	DIN = Low; $T_{DELAY} > 50\text{ ms}$	-	-	1	μA
RF						
Frequency range	f_{RF}		250	-	500	MHz
Power amplifier output power(See note)	P_{out}		-	+10	-	dBm
RF power on/off ratio	P_{EXT}		-	50	-	dB
Phase noise	P_{NOISE}	10 KHz offset	-	-100	-	dBc/Hz
Harmonics (See note)	P_{HARM}	$2x/3x f_{RF}$	-	-40	-	dBc
Data Input and One Shot						
Data rate	D_{RATE}		0.5	2	50	Kbps
Start up time	T_{ON}		-	-	200	μs
One shot delay time	T_{DELAY}		50	-	-	ms

Note: Depend on power amplifier output matching.

PACKAGE INFORMATION

6 PINS, SOT-23



Symbol	Min.	Nom.	Max
A	-	-	1.45
A1	0.00	-	0.15
A2	0.90	1.15	1.30
b	0.30	-	0.50
c	0.08	0.13	0.20
D	2.90 BSC		
E	2.80BSC		
E1	1.60BSC		
e	0.95BSC		
e1	1.90BSC		
L	0.30	0.45	0.60
θ	0°	-	8°

Notes:
1.Refer to JEDEC MO-178
2.Unit: mm



IMPORTANT NOTICE

Princeton Technology Corporation (PTC) reserves the right to make corrections, modifications, enhancements, improvements, and other changes to its products and to discontinue any product without notice at any time.

PTC cannot assume responsibility for use of any circuitry other than circuitry entirely embodied in a PTC product. No circuit patent licenses are implied.

Princeton Technology Corp.
2F, 233-1, Baociao Road,
Sindian Dist., New Taipei City 23145, Taiwan
Tel: 886-2-66296288
Fax: 886-2-29174598
<http://www.princeton.com.tw>

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [RF Transceiver](#) category:

Click to view products by [Princeton](#) manufacturer:

Other Similar products are found below :

[ATA5428C-PLQW-1](#) [ATA8520-GHPW](#) [XR1019-QH-0G0T](#) [AX5043-1-TW30](#) [MAX7043EUI](#) [ATA5428C-PLQW-1](#) [MAX2510EEI+T](#)
[AX5051-1-TW30](#) [ADRV9026-HB/PCBZ](#) [ADRV9026-MB/PCBZ](#) [BGT24LTR22E6327XTSA1](#) [ADL6316ACCZ](#) [ADL6316ACCZ-R7](#)
[ADL6317ACCZ](#) [SX1268DVK1GAS](#) [MC13213R2](#) [CC1260RGZT](#) [NRF51822-CEAA-R \(E0\)](#) [CC2590RGVR](#) [USB3317-GJ-TR](#) [USB3311-GJ-](#)
[TR](#) [MAX7030HATJ+T](#) [MAX2831ETM+](#) [MAX2830ETM+](#) [MAX2829ETN+](#) [MAX2828ETN+](#) [BH1406KV-E2](#) [SX1232BIMLTRT](#) [XBP24-](#)
[API-080](#) [ADF7242BCPZ-RL](#) [MAX2831ETM](#) [S2-LPQTR](#) [MAX7037EGL+](#) [ESP32-D0WDQ6](#) [ESP8266EX](#) [TRF2443IPFP](#) [CC8530RHAR](#)
[ADF7021-NBCPZ-RL](#) [CC1201RHBR](#) [TLE9221SXXUMA2](#) [TC35675XBG-001\(EL\)](#) [DA14585-00000AT2](#) [SX1281IMLTRT](#) [TC35661SBG-](#)
[501,EL](#) [ADS62PF49IRGCT](#) [TC32306FTG,EL](#) [NRF51822-QFAC-R](#) [CC1310F128RHBR](#) [AT86RF215IQ-ZUR](#) [A7108](#)