

Product Brief



SEMTECH ADVANCED COMMUNICATION & SENSING

XE1203F

Wideband High Performance
Multi-Channel Low Power Transceiver



Industry's Leading Low Power Wideband Transceiver

High Link-budget BiCMOS FSK transceiver
433 MHz / 868 MHz / 915 MHz

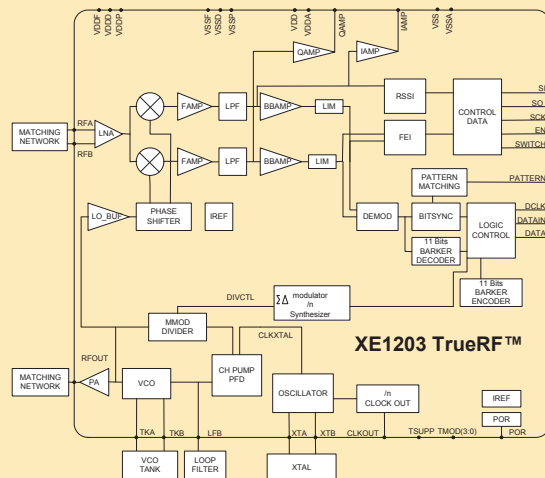
Key Product Features:

- Semtech's True RF™ technology
- Typical link budget of 129 dB @ 0.1% BER
No need for external LNA or PA
- RX sensitivity -114 dBm (typical) @ 4.8 kbit/s,
0.1% BER
- TX output power + 15 dBm (typical)
- Data rates from 1.2 to 152.34 kbit/s
- KONNEX™ compatible
- Built-in 11-bit Barker encoder/decoder for robust
transmission/reception
- Bit synchronizer for data recovery
- Digital RSSI
- Built-in Frequency Error Indicator for AFC
- 500 Hz frequency resolution
- 150 μ S Transmitter wake up time
- Pre-certified reference designs for 433, 868 and
915 MHz bands
- Satisfies ETSI EN 300 220-1 and FCC Part 15.247
regulations WITHOUT requiring an external SAW filter
- Complies with FCC Digital Modulation System
requirements

Applications:

- Automated Meter Reading
- Wireless Intercom Systems and
Voice over RF Links
- Security and Alarm Systems
- Secure Communications with Data Whitening
- Long-Range Bidirectional Remote Control
- High Performance Telemetry
- Home and Building Automation
- KONNEX™ Systems
- Industrial Monitoring and Control

Block Diagram:

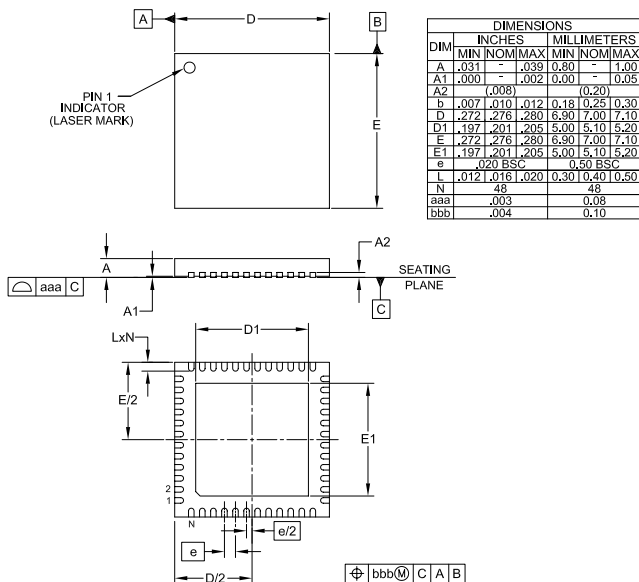


Product Brief

XE1203F – Wideband High Performance Multi-Channel UHF-band Transceiver

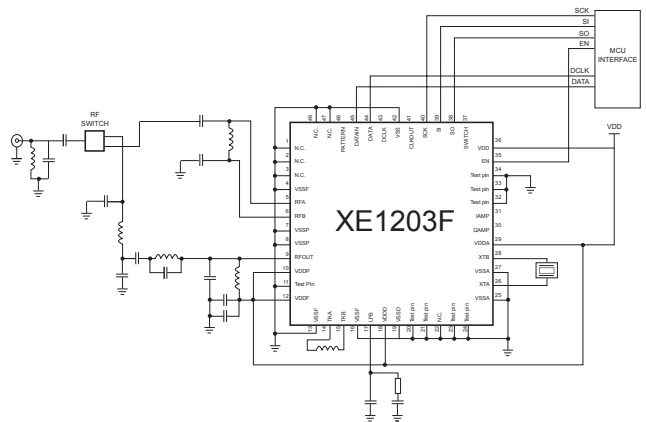
Characteristics						
Parameter	Min	Typ	Max	Unit	Condition	
Operating Conditions						
Operating temperature range	-40		+85	°C		
Current Consumption						
Current consumption, sleep mode		200		nA		
Current consumption R_x		14		mA		
Current consumption T_x		33		mA	+5 dBm	
		62		mA	+15 dBm	
RF Characteristics						
Frequency range (Frequencies 160 - 1000 MHz with external component changes)	435		435	MHz	500 Hz resolution	
	863		870	MHz		
	902		928	MHz		
T_x Output power (Programmable)	0		15	dBm		
R_x sensitivity		-114		dBm	4.8 kbits/s	
Conditions: Supply Voltage=3.3V, Temp=25°C, 2-level FSK, f_c =915 MHz, Δf =55 kHz, Bit rate=4.8 kbit/s, $BBW_{(DSB)}$ =200 kHz, BER=0.1%.						

XE1203F Package Drawing



- NOTES:
- CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).
 - COPLANARITY APPLIES TO THE EXPOSED PAD AS WELL AS THE TERMINALS.

Typical Application Circuit



Ordering Information

Part Number	Temperature Range	Package
XE1203F1063TRLF	-40 °C to +85 °C	VQFN48
Note: 2500 pcs Tape & Reel		

Visit our website to locate the most current product specifications, datasheets and contact information for your local Semtech Field Applications Engineer.