

QwikRadio® ASK Transmitter

Description

MICRF113 is a fast time to market solution for ASK transmitter in the 300 to 450 MHz frequency band. It is an “easy to use”, single chip ASK transmitter IC in 6-pin SOT package. This transmitter is ideal for portable applications such as key fobs, sensors, where form factor and battery life are key high priorities.

Key fobs and sensors usually require small antenna, which are lossy. MICRF113 is capable of delivering +10dBm into a 50Ω load. This power level compensates some of the insertion loss from small antenna such as PCB loop, helical, short dipole and monopole antenna, transmitter to operate near the maximum limit of transmission regulations. In terms of operating voltage, MICRF113 operates from 3.6 volts to 1.8 volts. Many transmitter ICs in the same frequency band stop operating below 2.0V. MICRF113 will work with most batteries to the end of their useful limits. In terms of operating temperature, MICRF113

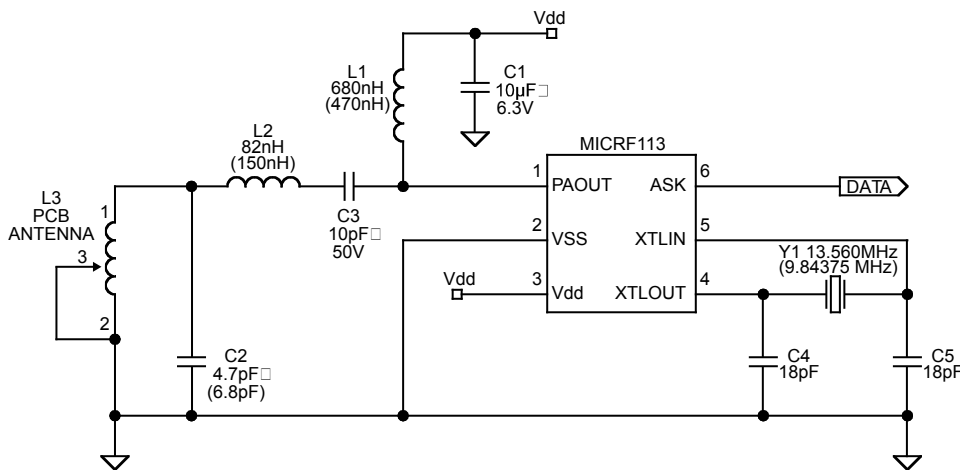
operates from -40°C to +85°C degrees. This wide operating temperature range makes MICRF113 an ideal candidate for demanding application such as tire pressure monitoring system.

MICRF113 is easy to use. One only needs a reference frequency (RF carrier frequency divided by 32 times) generated from a crystal with a few additional external parts to create a complete versatile transmitter.

MICRF113 operates with ASK/OOK (Amplitude Shift Keying/On-Off Keyed) UHF receiver types from wide-band super-regenerative radios to narrow-band, high performance super-heterodyne receivers. MICRF113's maximum ASK data rate is 10Kbps (Manchester Encoding).

All datasheets and support documentation can be found on Micrel's web site at: www.micrel.com.

Typical Application



Features	Benefits
Complete UHF Transmitter on a Monolithic Chip	Compact and Easy to Implement in Small Form Factor
Frequency Range 300MHz~450MHz	Covers Actuation Frequencies Worldwide
Data Rate up to 10kbps ASK / OOK (Manchester)	Ideal for Actuation, Telemetry
Output Power to +10dBm	Enable small form factor transmitter to operate near maximum of transmission regulations
Low Standby Current: 50nA	Prolong Battery Life
Low Operating Voltage (down to 1.8V)	Squeeze more current from batteries than transmitters of its class
Transmitter in 6-pin package: 6-pin SOT23	Small Package, Small PCB Foot Print, Easy Hand Solder and Rework

Applications

- Remote Keyless Entry Systems (RKE)
- Lighting, HVAC, Appliances Remote Control
- Garage Door Opener Transmitters
- Remote Sensor Data Links
- Infrared Transmitter Replacement

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