Description

This is an ultra low-voltage LC (Colpitts) oscillator circuit using EPAD MOSFETs with passive resistor load and output buffer operating on a single 0.17V power supply. This circuit is similar in configuration to a classic LC oscillator circuit in 5V circuits. A dual EPAD MOSFET is connected in parallel to provide more low voltage drive current as necessary. The output buffer is powered by Rout, which can be selected to optimize the output voltage swing levels as well as providing adequate output drive currents.

Some performance figures: V+=0.17V, I+= 5μA, Pd=800nW, Crystal frequency = 1 MHz. VL is an output voltage level that can be equal to, higher than or lower than V+, depending on desired output voltage swing levels. Rout must be selected for a selected VL and at the same time minimize current drain. An example: VL= 0.1V, IL= 17μA, Pd= 1.7μW, VOH=59mV, VOL=48mV.

For full schematic diagram and notes, please register and login at aldinc.com

©2005 Advanced Linear Devices, Inc. Information furnished by Advanced Linear Devices, Inc. (ALD) is believed to be accurate and reliable. However, ALD assumes no responsibility for the use of such information nor for any infringement of patent or rights of third parties that may result from its use. No license is granted implication or otherwise under any patent rights of ALD.

www.aldinc.com