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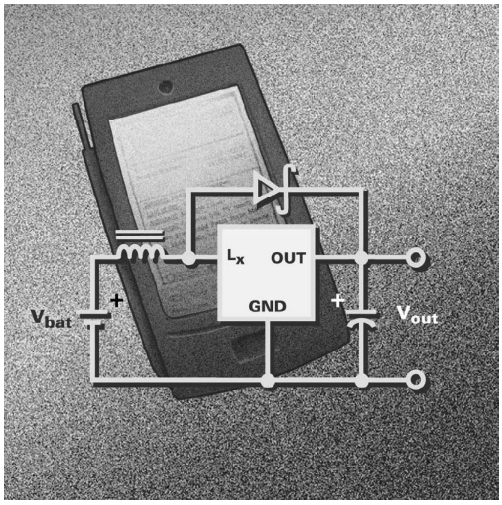
Information Brief



MC33463 Series
MC33466 Series
Micropower
CMOS DC – DC Converters

The MC33463 / 33466 series of CMOS micropower switching voltage regulators are available in 3.0, 3.3 and 5.0 V options, and are ideally suited for battery powered computer, consumer and industrial equipment. Both families are available in the three-pin SOT-89 package, with either an on-chip switch transistor or provisions for an external switch. The MC33463 devices are Variable Frequency Modulation controllers with a quiescent bias current of 4 µA, while the MC33466 devices are Fixed Frequency PWM switchers with a quiescent current of 15 µA.

The MC33463 series are high-efficiency, Variable Frequency Modulation (VFM) step-up DC-DC converters / switching regulators. By externally connecting a diode, inductor and capacitor, a low ripple, highly efficient step-up switching regulator can be designed. An optional external transistor will allow a larger output current.

The MC33466 series consist of an oscillator, a reference voltage unit, a phase compensation circuit, a PWM control circuit, an error amplifier, a driver transistor, resistors for voltage detection, and a soft-start circuit. Like the MC33463 series, a highly efficient, low noise, low ripple step-up switching regulator can be designed by externally connecting a diode, capacitor and inductor to the IC.

FEATURES

- Ultra-low supply current
- High efficiency: 80% typical (MC33463)
  85% typical (MC33466)
- Low ripple and low noise
- Low start-up voltage: 0.9V (at output = 1mA)
- Highly accurate output voltage: ± 2.5% typical
- Output voltage drift vs. temperature: ± 50ppm / °C
- Inductor, diode and capacitor are only external components required
- Ramps to 3 V output in 2 milliseconds
- Convenient SOT-89 package
- Wide operating temperature range: T_A = –30° to +80°C

TYPES OF APPLICATIONS

- Camcorders, PDAs, VCRs, cameras, electronic data banks, and hand-held communication equipment
- Palmtop computers
- Personal data communicators / computers
- Battery-powered equipment
- Instruments which require low noise and low supply current, such as hand-held audio equipment
- Medical instrumentation

BENEFITS TO YOU

- Increased efficiency in battery powered instruments due to low supply current and efficient switching power supply.
- Low noise operation for end product in noise-sensitive applications.
- Improved system performance with highly accurate output voltage.
- Reduced printed circuit board space with subminiature SOT-89 surface mount packages and minimum number of external components required.
- Extended battery life with very low quiescent current drain.

A SOLUTION FOR THESE QUESTIONS

- Is a high level of integration with a very few number of external components important to you?
- Do you need ultra-low quiescent bias current, low ripple and low noise performance?
- Does your design require a highly accurate output voltage?
- Are you interested in a highly efficient switching regulator that can operate from battery voltages?
- Do you need to conserve battery power?
- Does your portable product design require very small package footprints to minimize PC board area?

ORDERING INFORMATION

Device	Output Voltage	Output Type	Controller Type	Operating Temperature Range	Package
MC33463H-30KT1 MC33463H-33KT1 MC33463H-50KT1	3.0V 3.3V 5.0V	Internal Switch (100 kHz)	VFM	T_A = –30°C to +80°C	SOT-89
MC33463H-30LT1 MC33463H-33LT1 MC33463H-50LT1	3.0V 3.3V 5.0V	External Switch Drive (100 kHz)			
MC33466H-30JT1 MC33466H-33JT1 MC33466H-50JT1	3.0V 3.3V 5.0V	Internal Switch (50 kHz)	PWM		
MC33466H-30LT1 MC33466H-33LT1 MC33466H-50LT1	3.0V 3.3V 5.0V	External Switch Drive (100 kHz)			

LITERATURE

Data sheets containing full specifications, parametric curves and extensive applications information are available from Motorola LDC as MC33463/D and MC33466/D.

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