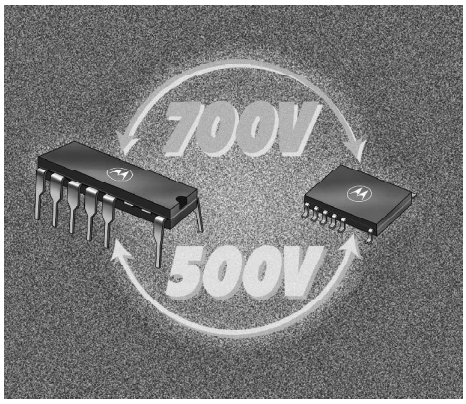
Order this document by MC33362IB/D

Information Brief



MC33362/MC33363
High Voltage Switching Regulators for Off-Line Power Supplies

Motorola's new High Voltage Switching Regulators, the **MC33362** and the **MC33363**, are monolithic devices specifically designed to operate from a rectified 120 or 240 Vac line source.

These devices are ideal for off-line power supplies and for dc-dc converters with high voltage input and / or output. The need for external components has been minimized.

The MC33362 is designed for rectified 120 Vac line operation and features an on-chip 500 volt, 2.0 amp SenseFET power switch, 250 volt active off-line startup FET, duty cycle controlled oscillator, current limiting comparator with a programmable threshold and leading edge blanking, latching pulse width modulator for double pulse suppression, high gain error amplifier and a trimmed internal bandgap reference. Protective features include cycle-by-cycle current limiting, input undervoltage lockout with hysteresis, output overvoltage protection and thermal shutdown.

The MC33363 contains the same features, but is designed for rectified 240 Vac line operation and features an on-chip 700 volt, 1.0 amp SenseFET and a 450 volt active off-line startup FET.

Each device is available in a 16-lead wide body surface-mount package and the 16-lead dual-in-line package for thru-hole mounting.

FEATURES

- On chip SenseFET power switch
  MC33362 500 volt, 2.0 amp
  MC33363 700 volt, 1.0 amp
- Rectified off-line operation
- On-chip active off-line start-up FET
  MC33362 250 volt
  MC33363 450 volt
- Latching PWM for double pulse suppression
- Cycle-by-cycle current limiting
- Input undervoltage lockout with hysteresis
- Output overvoltage protection comparator
- Trimmed internal bandgap reference
- Internal thermal shutdown

TYPES OF APPLICATIONS

Flyback or other converters having a single grounded switch for applications such as:

- Off-line converters, up to 20 watts, with single or multiple outputs
  - General purpose power supplies
  - Industrial controls
  - Set top converters
  - Portable printers
  - Point of sale equipment
- Primary side battery chargers for portable equipment
  - Portable computers
  - Portable and cellular telephones
  - Camcorders
  - Small power tools
  - Emergency lighting
- DC–DC converters with high voltage input and / or output
  - Telecom applications
  - High voltage displays

BENEFITS TO YOU

- Simplifies design of off-line power supplies with on-chip high voltage power switching and startup transistors.
- Saves space by integrating control and power circuitry in a single package.
- Reduces cost by minimizing the number of external components required.
- Improves reliability with internal thermal shutdown and cycle-by-cycle current limiting protection.
- Lowers cost by eliminating the need for an add-on heatsink by using the heat tab power package with the pc board copper as a heat dissipater.

ANSWERS FOR THESE QUESTIONS

- Do you need to design an efficient, yet easy to implement, off-line power supply?
- Do you want to minimize the number of external components in your high voltage power supply?
- Are cycle-by-cycle current limiting and/or thermal shutdown protection required functions in your power supply design?
- Would you like to improve power supply efficiency by eliminating startup circuit losses?
- Is reduced space a critical design requirement of your off-line supply?
- Would you like to reduce costs by eliminating your heatsink, using the pc board copper as a heat dissipater?

LITERATURE

Data Sheets: MC33362/D or MC33363/D. These comprehensive data sheets provide full specifications and characteristic curves, complete pin descriptions and extensive operating information.

ORDERING INFORMATION

The MC33362 and MC33363 are available in the convenient wide body SOIC-16 power package and in the plastic dual in line DIP-16. Some pins have been eliminated to achieve the required high voltage spacing requirements. The two center pins on each side of the package are electrically common to the die attach flag for thermal efficiency.

Device	Temperature Range	Package
MC33362DW	–25 to +125°C	SOP-16L
MC33363DW	–25 to +125°C	SOP-16L
MC33362P	–25 to +125°C	DIP-16
MC33363P	–25 to +125°C	DIP-16

How to reach us:

USA/EUROPE/Locations Unlisted: Motorola Literature Distribution;
P.O. Box 5405; Denver, Colorado, 80217; 1-800-441-2447

Mfax™: RMFAX0@email.sps.mot.com – TOUCHTONE 602-244-6609
INTERNET: http://Design-NET.com
Mfax is a trademark of Motorola, Inc.

JAPAN: Nippon Motorola Ltd.; Tatsumi-SPD-JLDC, 6F Seibu-Butsuryu-Center,
3-14-2 Tatsumi Koto-Ku, Tokyo 135, Japan. 81-3-3521-8315

ASIA/PACIFIC: Motorola Semiconductors H.K. Ltd.; 8B Tai Ping Industrial Park
51 Ting Kok Road, Tai Po, N.T., Hong Kong. 852-26629298