

# MC34713 and MC34717

## Single and Dual DC/DC Converter IC

### Applications

- Portable electronics
- Digital still cameras
- PDAs
- Battery-based handheld devices
- servers
- Game consoles
- Networking

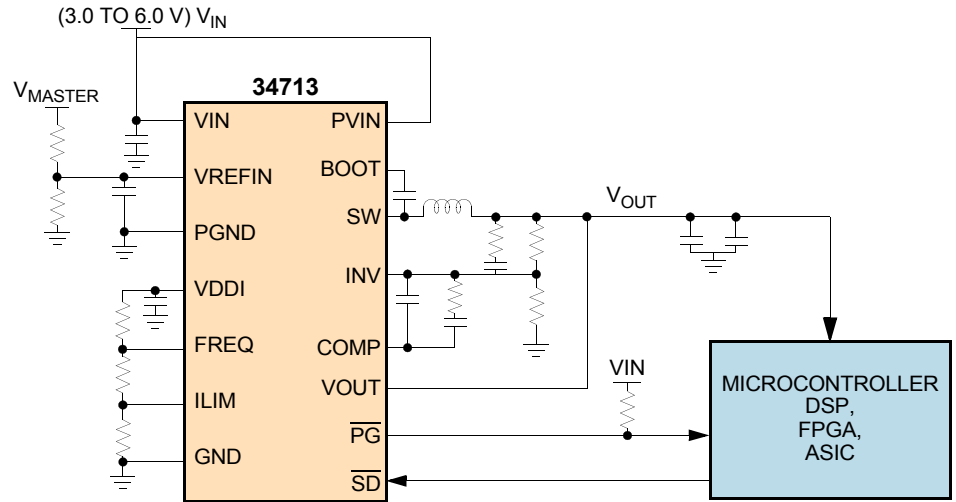
### Overview

The MC34713 and MC34717 devices are single and dual power regulators for simple DC/DC conversion. These highly integrated, efficient devices are ideal for space constrained applications such as graphics cards, blade servers, set top boxes, HBA cards—any application that needs a small form factor, high-efficiency device. Many current solutions consume too much board space. The MC34713 and MC34717 devices fulfill the design engineers need for a small, compact DC converter.

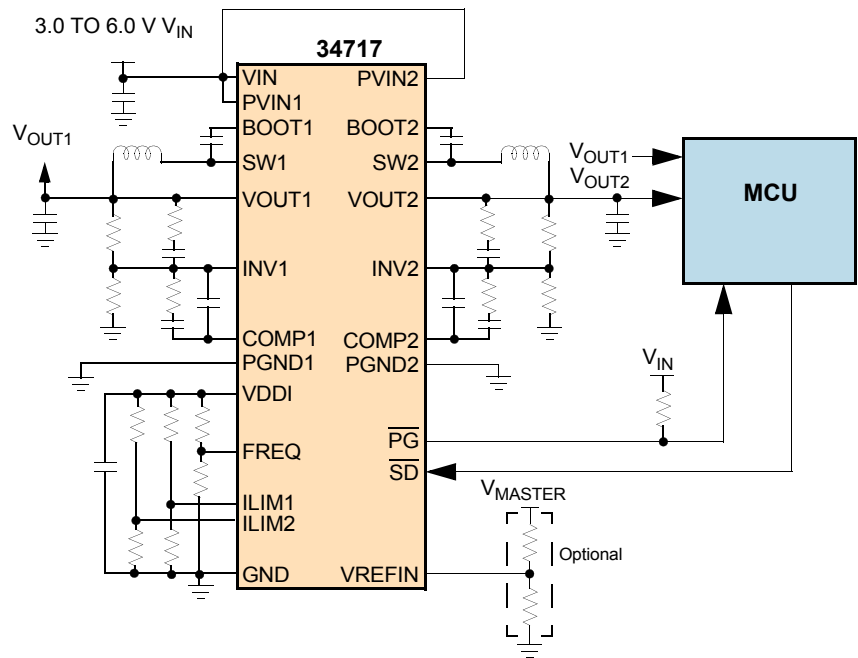
The MC34713 is a single output DC/DC converter IC. The MC34717 is a dual output DC/DC converter IC. These general purpose DC/DC converters take 3–6 input voltage and drop it down to 0.7–3.6 volts. The MC34713 and MC34717 devices power up to 5 amps for space constrained applications.

The MC34713 and MC34717 are one of many power management solutions offered by Freescale, where board constrained manufacturers can benefit from highly integrated, high-efficiency functionality.

MC34713 Simplified Application Drawing



MC34717 Simplified Application Drawing



## Features

- Input operating voltage 3.0–6.0 V
- 1.0 MHz synchronous single and dual switching regulators
  - Programmable switching frequency 200 kHz–1.0 MHz
  - Integrated MOSFETs
  - MC34713 DC-DC version: 5.0 A source output
  - MC34717 DC-DC version: 5.0 A/5.0 A source output
- Output voltage +/-2% accuracy
  - Adjustable output 0.7–3.6 V
  - Separate VREF output +/-2% accuracy
- PGOOD and shutdown inputs (active low)
- Soft start—all outputs
- Extensive protection
  - Over-voltage, under-voltage, over-current, short-circuit and thermal
  - Programmable over-current limit

## Benefits

- Increased efficiency (up to 93 percent)
- Allows for optimized magnetics/capacitors
- Reduced space, enhanced reliability for graphics cards, blade servers, set top boxes and HBA cards
- PGOOD and shutdown inputs

## Questions

- Does your system require a Point of Load power distribution system?
- Does your system require a high output current capability?
- Does your system require a very accurate and stable output voltage?
- Does your supply voltage require fast transient response?
- Does your system require a voltage regulator that protects itself and the devices that it supplies?

## Devices

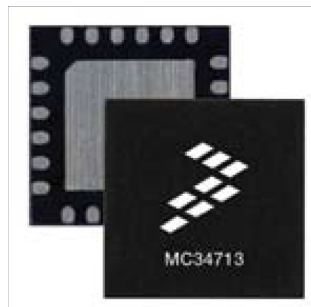
Part number	Operating Input Voltage	Output Current	Temperature Range	Package
MC34713EP/R2	3.0 to 6.0	5.0 A	-40 to 85 °C	24-pin QFN
MC34717EP/R2		5.0/5.0 A		26-pin QFN

## Development Tools

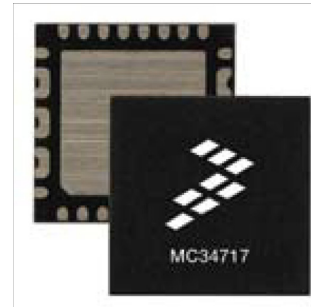
Part Number	Description
KIT34713EPEVBE	Evaluation board to demonstrate the key features of MC34713
KIT34717EPEVBE	Evaluation board to demonstrate the key features of MC34717

## Documentation

Document Number	Title	Description
MC34713	Data Sheet	Single DC/DC Converter IC
MC34717	Data Sheet	Dual DC/DC Converter IC
SG1002	Selector Guide	Analog Product Selector Guide



**EP SUFFIX (Pb-FREE)**  
**98ARL10577D**  
 24 PIN QFN



**EP SUFFIX (Pb-FREE)**  
**98ASA10728D**  
 26 PIN QFN

Freescale Semiconductor is a leading provider for over 25 years of high-performance products that use SMARTMOS™ technology that combines digital, power and standard analog functions. The company supplies analog and power management ICs for the automotive, consumer, networking and industrial markets. Freescale's analog and power ICs complement our broad portfolio of microcontrollers, microprocessors, ZigBee™ technology, digital signal processors, sensors, and development tools. Freescale offers superior support for system solutions to help all customers.

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