

General Description

The MxL7213 is a dual channel, 13A step-down power module. It includes a wide 4.5V to 16V input voltage range and supports two outputs each with an output voltage range of 0.6V to 5.3V, set by a single external resistor. The MxL7213 requires just a few input and output capacitors, which simplifies design and shortens time-to-market. The module supplies either two 13A outputs, a single 26A or up to 100A when paralleled with additional MxL7213 modules. Attention to thermal design, component selection and internal construction results in higher efficiency and extended operating range relative to devices with the same industry standard pinout.

The complete switch mode DC/DC power supply integrates the control, drivers, bootstrap diodes, bootstrap capacitors, inductors, MOSFETs and HF bypass capacitors in a single package for point-of-load conversions.

The MxL7213 includes a temperature diode that enables device temperature monitoring. It also has an adjustable switching frequency and utilizes a peak current mode architecture which allows fast line and load transient response.

A host of protection features, including overcurrent, over-temperature, short-circuit and UVLO, help this module achieve safe operation under abnormal operating conditions.

The MxL7213 is available in two space saving, RoHS compliant and thermally enhanced packages: a 15mm x 15mm x 4.41mm LGA package and a 15mm x 15mm x 5.01mm BGA package.

Features

- Dual 13A or single 26A output
- Input voltage range: 4.5V to 16V
- Output voltage range: 0.6V to 5.3V
- Multiphase current sharing with multiple MxL7213s for up to 100A output
- Frequency synchronization
- Higher efficiency than competitive devices with the same industry standard pinout
- Differential remote sense amplifier
- Peak current mode architecture for fast transient response
- Adjustable switching frequency (250kHz to 780kHz)
- Overcurrent protection
- Output overvoltage protection
- Internal temperature monitor and thermal shutdown protection
- Thermally enhanced packages:
 - 15mm x 15mm x 4.41mm LGA package
 - 15mm x 15mm x 5.01mm BGA package

Applications

- Telecom and Networking Equipment
- Industrial Equipment
- Test Equipment

Typical Application

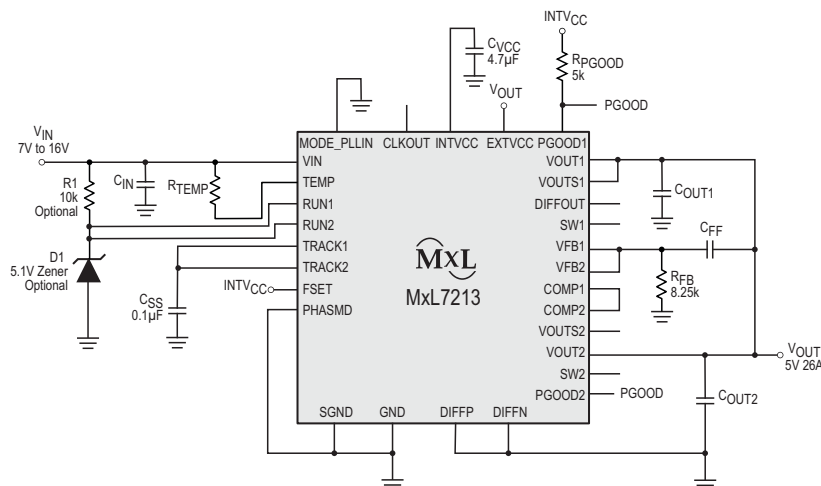


Figure 1: Typical Application: 26A, 5V Output DC/DC Power Module

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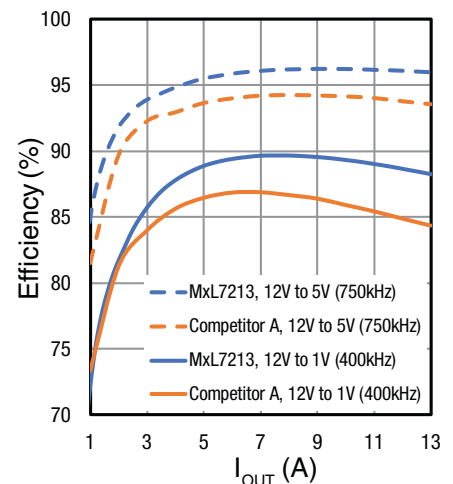


Figure 2: Efficiency Advantage vs. Competition

Functional Block Diagram

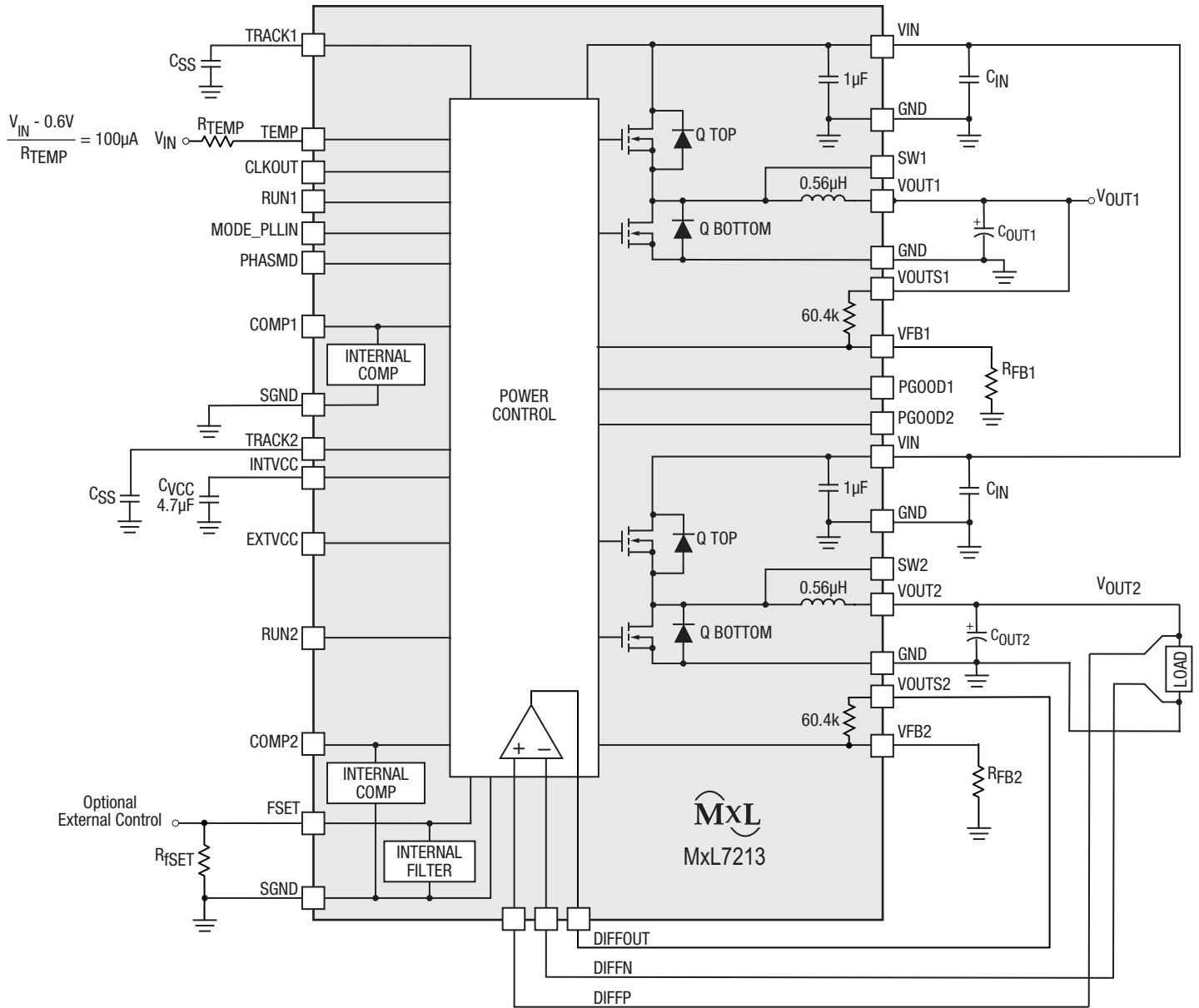


Figure 3: Functional Block Diagram

Typical Application Circuit

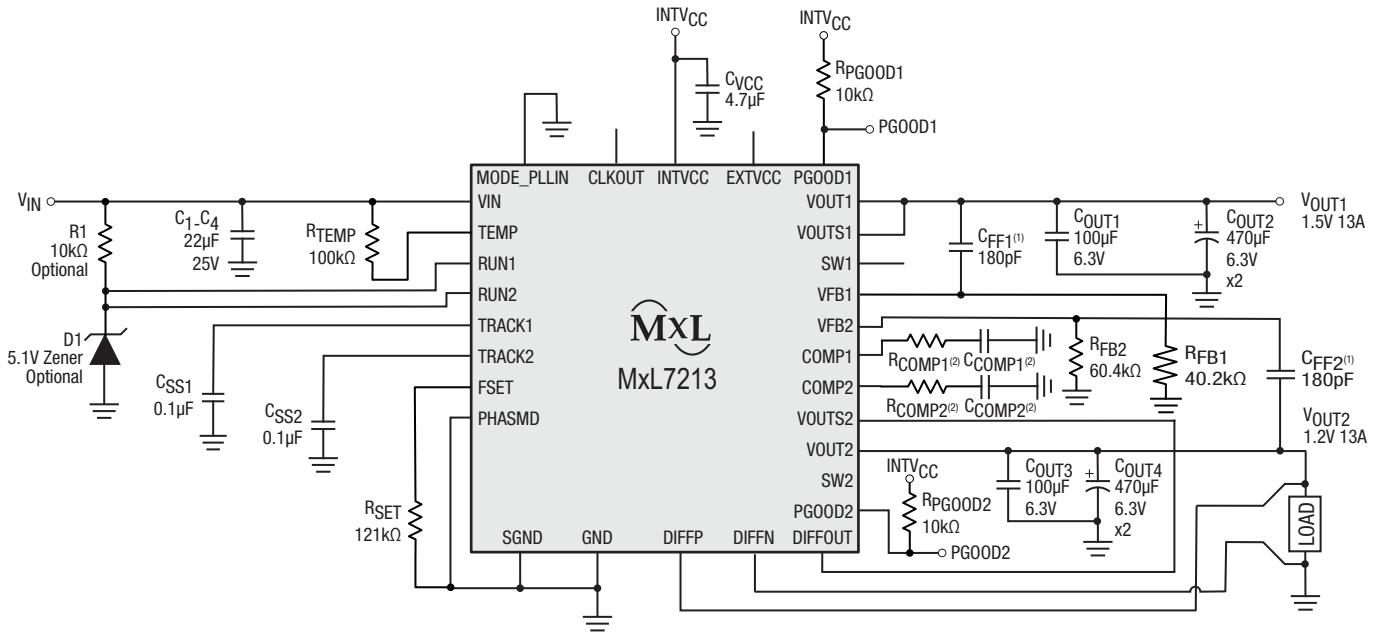


Figure 4: Typical 5V_{IN} to 16V_{IN}, 1.5V and 1.2V Outputs

Pin Configuration

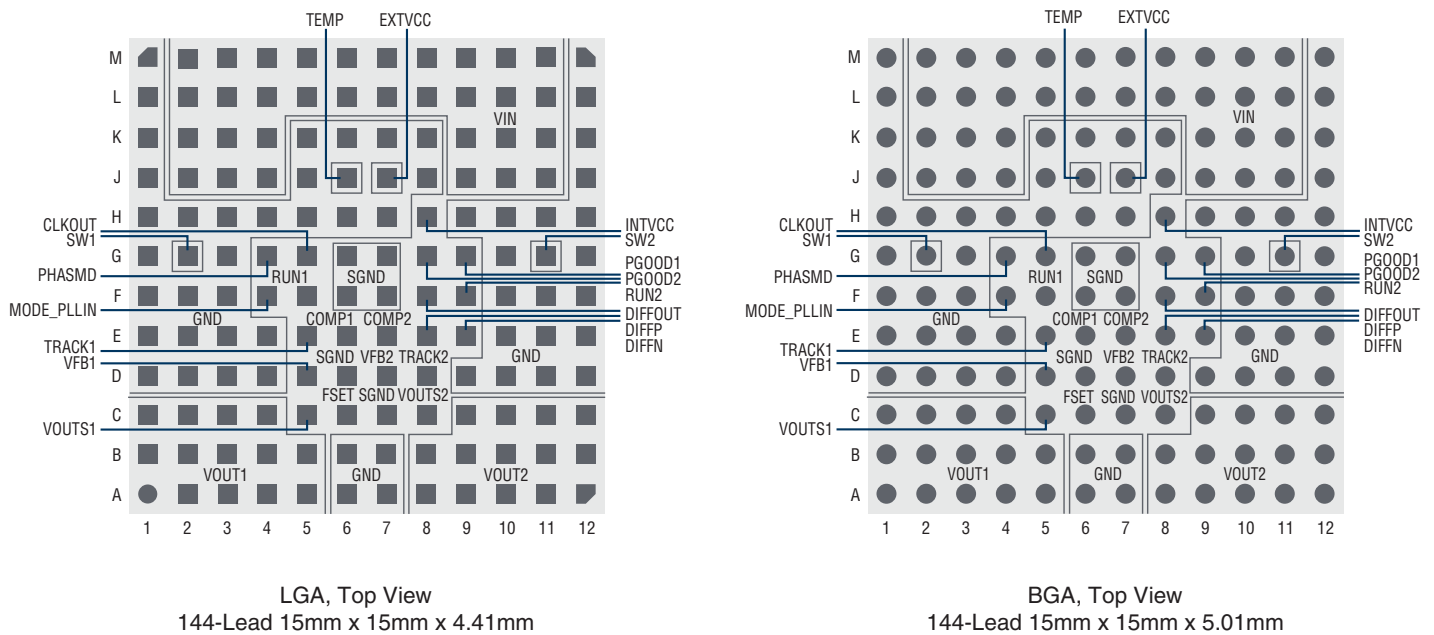


Figure 5: Pin Configuration

Ordering Information

Table 1: Ordering Information⁽¹⁾

Ordering Part Number	Operating Temperature Range	MSL Rating	Lead-Free	Package	Packaging Method
MxL7213-AYA-T	-40°C ≤ T _J ≤ 125°C	3	Yes ⁽²⁾	LGA144 15x15	Tray
MxL7213-ABA-T				BGA144 15x15	
MxL7213-EVK-1	MxL7213 LGA Power Module Dual-Phase EVK				
MxL7213-EVK-3	MxL7213 BGA Power Module Dual-Phase EVK				

1. Refer to www.maxlinear.com/MxL7213 for most up-to-date Ordering Information.
2. Visit www.maxlinear.com for additional information on Environmental Rating.



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