

## Specification

## 3D Power Block SoC Device

### FEATURES

- Support Type-C USB Power Delivery
- High-density integration of power switches and inductor
- Buck-Boost topology
- 6A continuous output current capability
- 1-, 2- and 3- cells of Li-on battery
- Operating frequency: 800kHz to 3.0MHz
- Input voltage range: 4V to 30V
- Compliant with typical typ-C charger controllers
- Low electromagnetic noises
- Excellent thermal dissipation
- Low profile of height
- 9.0mm x 14.0mm x 2.0mm QFN 80-Lead package
- Lead free, Halogen free and RoHS compliant

### GENERAL DESCRIPTION

The GRM6103 is a highly integrated power SoC sub-system including one power inductor and four MOSFET devices. It has been made into 9.0mm x 14.0mm x 2.0mm QFN package size, offering low profile for space-constraint charger applications. GRM6103 can operate with a battery charger controller to achieve the type-C changing functions, either in the buck mode, boost mode or Buck-Boost mode. The device has optimized the power switches in their gate charge and conduction resistance. The internal conduction interconnects between the switches and inductor have low resistance, which lower the parasitic impacts and increase efficiency. The device structure has high thermal conductivity and low thermal resistance. During high current charging, the device has very uniformed temperature in 3 dimensions and the reliability is significantly enhanced.

### APPLICATIONS

- Ultrabook, Notebook and Tablet
- Industrial and medical portables
- Space and Height Constrained Designs

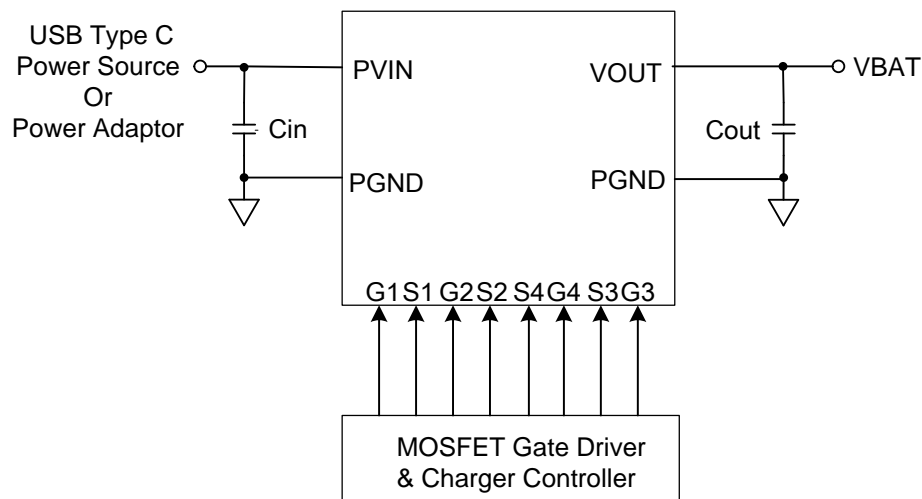


Figure 1. Application circuit

PACKAGE DRAWING

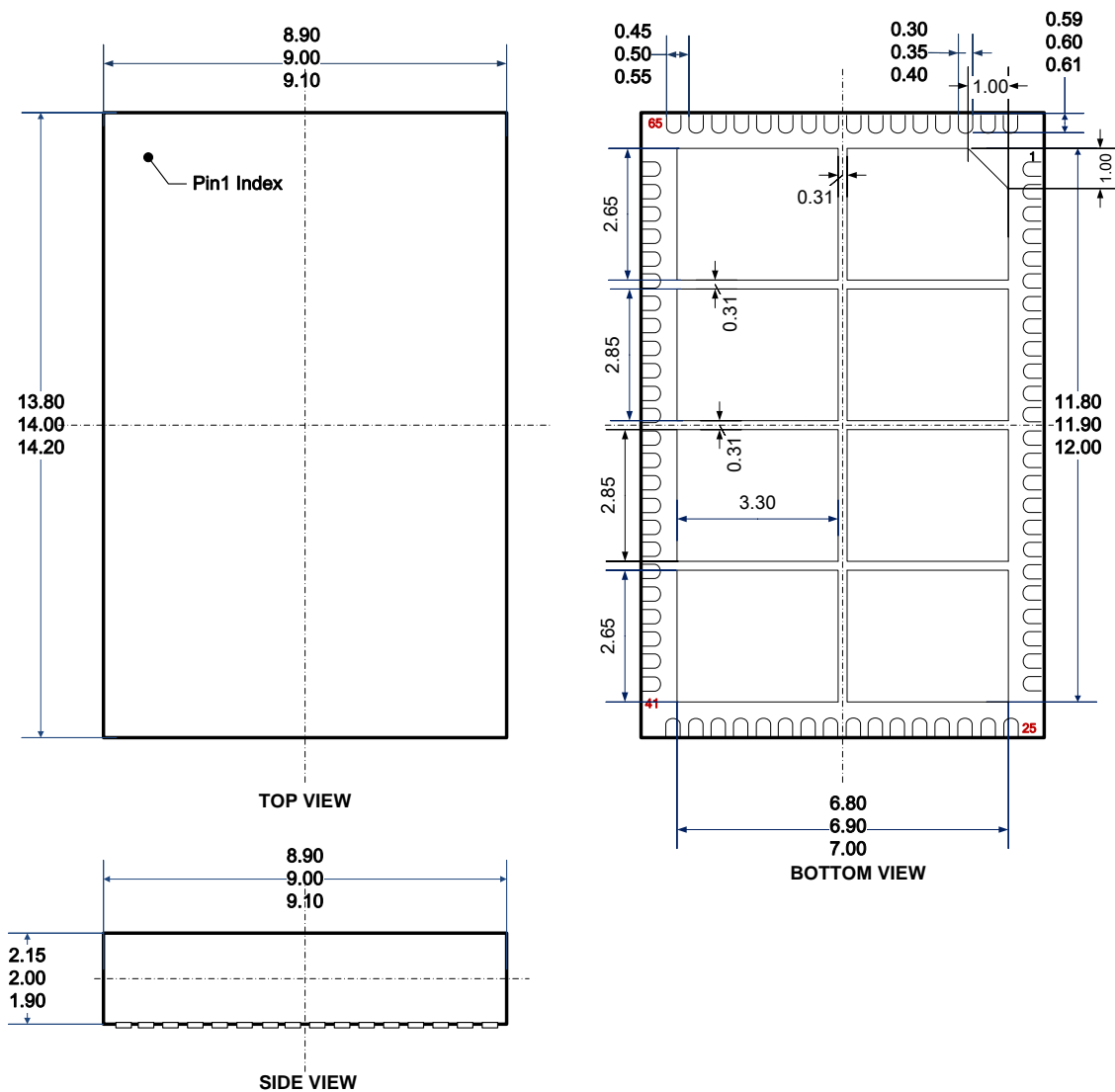


Figure 18. 80-QFN 9.0mm X 14.0mm X 2.0mm

ORDERING GUIDE

Model	Temperature Range	Package Description	Quantity
GRM6103LGZ-R3 <sup>1</sup>	-40°C to +125°C	QFN 80-Lead package	500
GRM6103LGZ-R7 <sup>2</sup>			2500

<sup>1</sup> LG-Package type, Z-lead free, R3-the reel type with 0.5k units per package

<sup>2</sup> LG-Package type, Z-lead free, R7-the reel type with 2.5k units per package