12-Bit ANALOG MONITORING AND CONTROL SOLUTION with Multichannel ADC, DACs, and Temperature Sensors

FEATURES

- **12, 12-Bit DACs with Programmable Outputs:**
  - **0V to 5V**
  - **0V to 12.5V**
- **DAC Shutdown to User-Defined Level**
- **12-Bit, 500kSPS ADC with 16 Inputs:**
  - **16 Single-Ended or Two Differential + 12 Single-Ended**
- **Two Remote Temperature Sensors:**
  - **–40°C to +150°C, ±2°C Accuracy**
- **Internal Temperature Sensor:**
  - **–40°C to +125°C, ±2.5°C Accuracy**
- **Input Out-of-Range Alarms**
- **2.5V Internal Reference**
- **Eight General-Purpose Input/Outputs**
- **Configurable I²C™/ SPI™ Interface with 5V/3V Logic**
- **Power-Down Mode**
- **Wide Temperature Range:**
  - **–40°C to +105°C**
- **Small Package: QFN-64, 9 x 9 mm**

APPLICATIONS

- **RF Power Transistor Gate Bias Control**
- **Industrial Control**
- **General Analog Monitoring and Control**

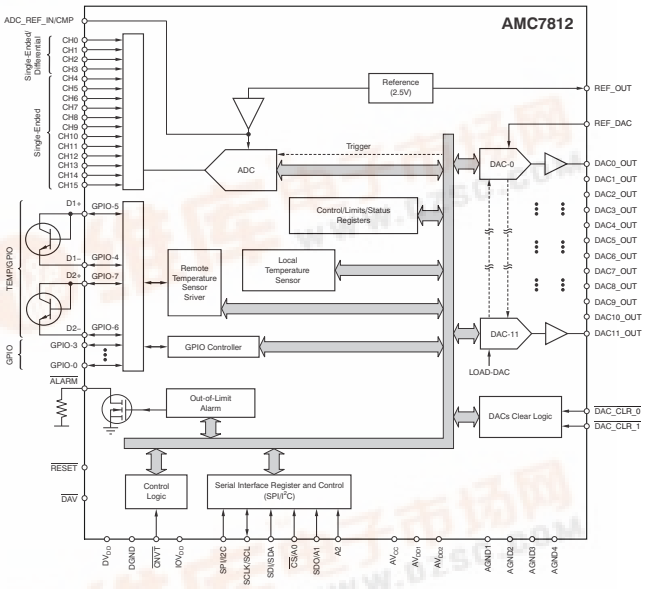
DESCRIPTION

The AMC7812 is a complete analog monitoring and control solution that includes a sixteen-channel, 12-bit analog-to-digital converter (ADC), twelve 12-bit digital-to-analog converters (DACs), eight GPIOs, and two remote/one local temperature sensor channels.

The AMC7812 has an internal reference of +2.5V that can configure the DAC output voltage to a range of either 0V to +5V or 0V to +12.5V. An external reference can be used as well. Typical power dissipation is 70mW. The AMC7812 is ideal for multichannel applications where board space, size, and low power are critical.

The AMC7812 is available in a 64-lead QFN package and is fully specified over the –40°C to +105°C temperature range.

For the complete AMC7812 data sheet, contact your TI representative.



PRODUCT PREVIEW

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PACKAGING INFORMATION

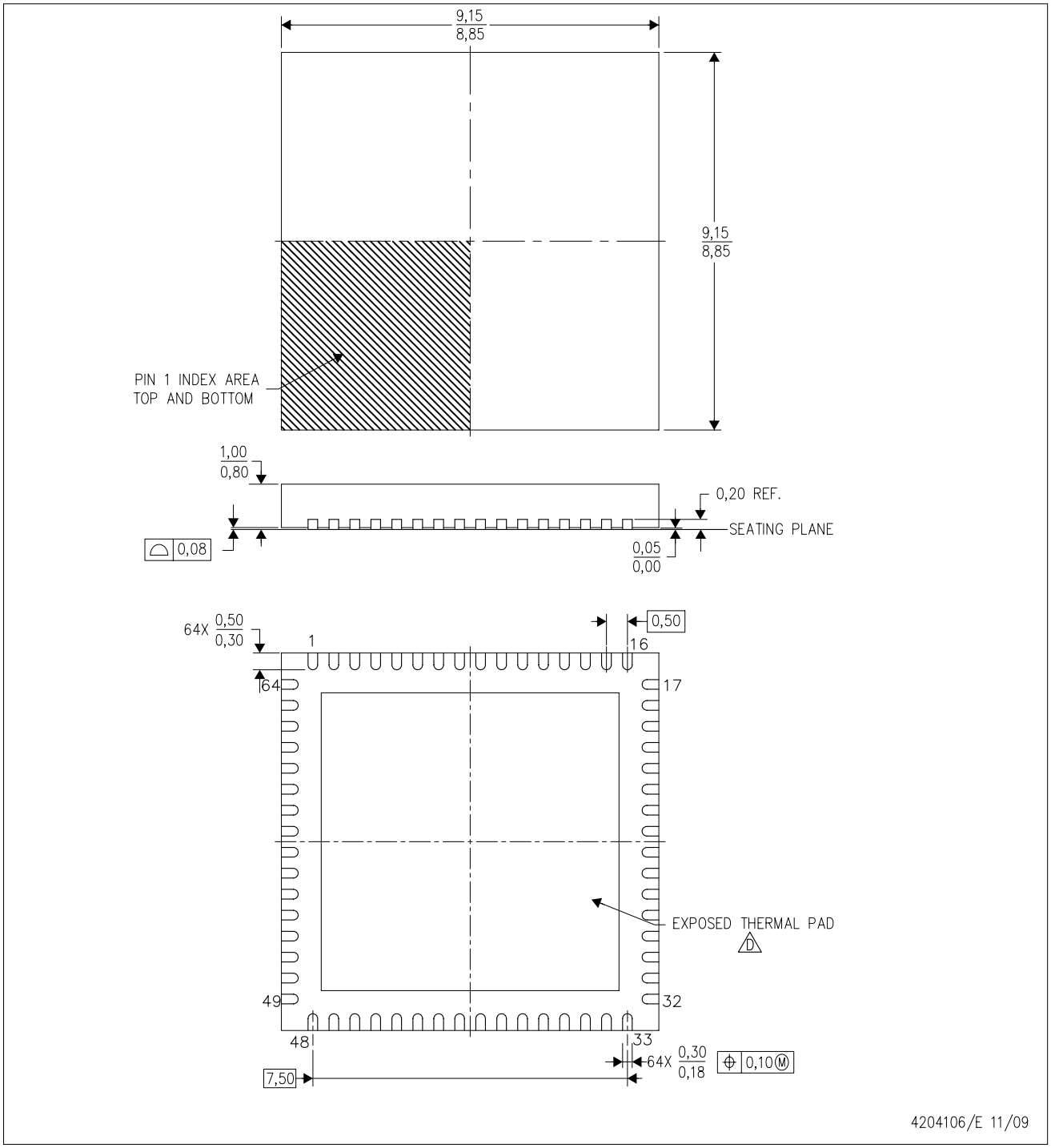
Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/ Ball Finish	MSL Pea
AMC7812SRGCR	PREVIEW	VQFN	RGC	64		TBD	Call TI	Call TI

(1) The marketing status values are defined as follows:
ACTIVE: Product device recommended for new designs.
LIFEBUY: TI has announced that the device will be discontinued, and a lifetime-buy period is in effect.
NRND: Not recommended for new designs. Device is in production to support existing customers, but TI does not recommend using this part in a new
PREVIEW: Device has been announced but is not in production. Samples may or may not be available.
OBSOLETE: TI has discontinued the production of the device.

(2) Eco Plan - The planned eco-friendly classification: Pb-Free (RoHS), Pb-Free (RoHS Exempt), or Green (RoHS & no Sb/Br) - please check http://www.
information and additional product content details.
TBD: The Pb-Free/Green conversion plan has not been defined.
Pb-Free (RoHS): TI's terms "Lead-Free" or "Pb-Free" mean semiconductor products that are compatible with the current RoHS requirements for all
lead not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, TI Pb-Free products are suitable fo
Pb-Free (RoHS Exempt): This component has a RoHS exemption for either 1) lead-based flip-chip solder bumps used between the die and package,
the die and leadframe. The component is otherwise considered Pb-Free (RoHS compatible) as defined above.
Green (RoHS & no Sb/Br): TI defines "Green" to mean Pb-Free (RoHS compatible), and free of Bromine (Br) and Antimony (Sb) based flame retard
in homogeneous material)

(3) MSL, Peak Temp. -- The Moisture Sensitivity Level rating according to the JEDEC industry standard classifications, and peak solder temperature.

RGC(S–PVQFN–N64) CUSTOM DEVICE PLASTIC QUAD FLATPACK NO–LEAD



NOTES:
A. All linear dimensions are in millimeters. Dimensioning and tolerancing per ASME Y14.5–1994.
B. This drawing is subject to change without notice.
C. Quad Flatpack, No–leads (QFN) package configuration.
D. The package thermal pad must be soldered to the board for thermal and mechanical performance. See the Product Data Sheet for details regarding the exposed thermal pad dimensions.

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