

GSR - switching regulator modules

High-efficiency step-down switching regulator modules



The GSR family provides the complete voltage-regulation function in a proven circuit architecture and high-efficiency design. Based on an ST device, the non-isolated GSR gives you accurate voltage regulation in a variety of applications.

Designed for distributed power architectures, GSR is a cost-effective and space-efficient solution for Industrial control systems, networking equipment, point of sales and portable instruments.

Features GS-R12(24)F

- MTBF 1000 000 hours (TA = 25 °C)
- 2 A max output current
- 16(35) V max input voltage
- 1.5V max drop-out voltage
- Remote logic inhibit / enable
- Synchronization
- Non-latching overload and short circuit protection
- Thermal shutdown
- Fixed or adjustable output
- No heatsink required
- Operating temperature range -40 °C to 85 °C

Main applications

- Industrial control
- Distributed power system
- Consumer: STB, DVD, LCD monitor, VCR
- Computer and peripherals: printer, audio
- Graphic cards, optical storage, memories
- Networking: modems, XDSL, fax
- Portable instruments

Features GS-R12(24)FP

- MTBF 1 000 000 hours (TA = 25 °C)
- 1.9(1.8) A max output current
- 16(35) V max input voltage
- 1.5 V max drop-out voltage
- Remote logic inhibit/enable
- Synchronization
- Non-latching overload and short circuit protection
- Thermal shutdown
- Fixed or adjustable output
- No heatsink required
- Operating temperature range -40 °C to 85 °C

Based on an ST device, this non-isolated family of regulators is suitable for the full spectrum of applications including telecom, industry, computer and distributed power systems having a wide input voltage range.

The input voltage range is compatible with the most common bus voltages (5/12/24 V) and the output voltage for the programmable version ranges from 1.235 V to 5.5 V.

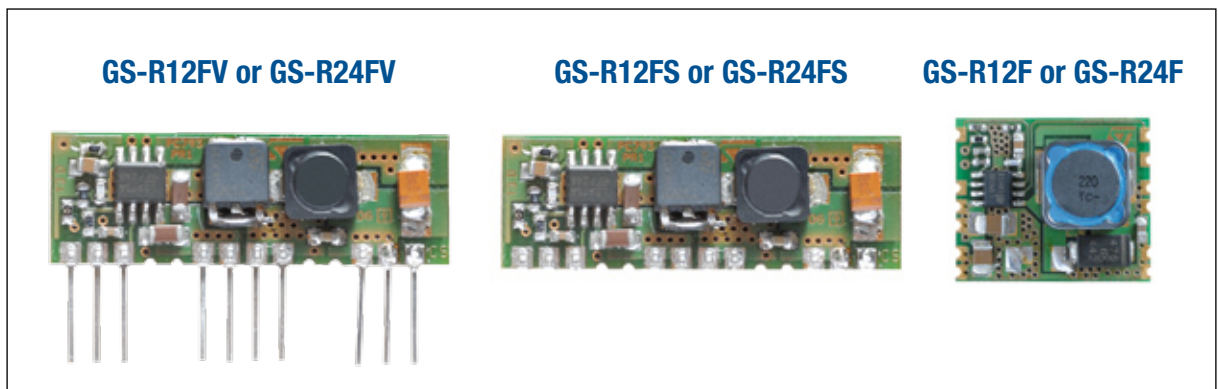
The GSR packages are designed for different space constraints. The GS-R12FV reduces footprint on the motherboard, and the SMD solution meets height constraints, either in square (GS-R12F) or rectangular (GS-R12FS) form.

The technology used gives best overall efficiency in different output power conditions by minimizing current consumption: the quiescent current is guaranteed

to be below 2.7 mA and the typical standby current consumption is 50µA.

The switching frequency is internally fixed at 250 kHz for GS-R12F and 500 kHz for GS-R12FP. The GSR modules include all the components required to drive the ST embedded regulator, providing a plug and play-like point of regulation.

The main features common to the GSR family are: pulse-by-pulse and frequency foldback current protection, overvoltage protection, thermal shutdown and protection against feedback disconnect, and an inhibit function to put the device in standby mode. The voltage reference at 3.3 V does not require a capacitor for stability. The switching frequency may be synchronized by using more than one unit on the same circuit the unit with the higher frequency becomes the master.



Sales type	Output voltage [V]	Input voltage [V]	Output ripple [mVpp]	Efficiency [%]	Package	Notes
GS-R12F0002.0	1.235 to 5.5	4.5 to 15	20	68 to 85	SMD	Programmable output voltage
GS-R24F0002.0	1.235 to 5.5	16 to 35	25	68 to 85	SMD	Programmable output voltage
GS-R12FV0001.9	1.235 to 5.5	4.5 to 15	25	61 to 83	Vertical TH	Programmable output voltage
GS-R12FS0001.9	1.235 to 5.5	4.5 to 15	25	61 to 83	SMD	Programmable output voltage
GS-R24FV0001.8	1.235 to 5.5	16 to 35	40	56 to 83	Vertical TH	Programmable output voltage
GS-R24FS0001.8	1.235 to 5.5	16 to 35	40	56 to 83	SMD	Programmable output voltage



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Full product information at www.st.com

Order code: FLGSR1107

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