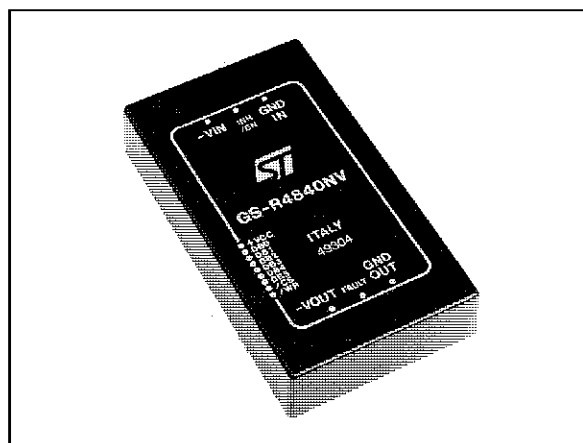


36 W NEGATIVE SWITCHING REGULATOR

Type	V _{in}	V _{out}	I _{out}
GS-R4840NV	-40 to -60 V	-22 to -60 V	-600 mA

FEATURES

- Digital input for voltage selection
- Short-circuit protection
- Overvoltage protection
- Thermal protection
- Softstart
- Fault signal indication output
- High efficiency (>80%)



DESCRIPTION

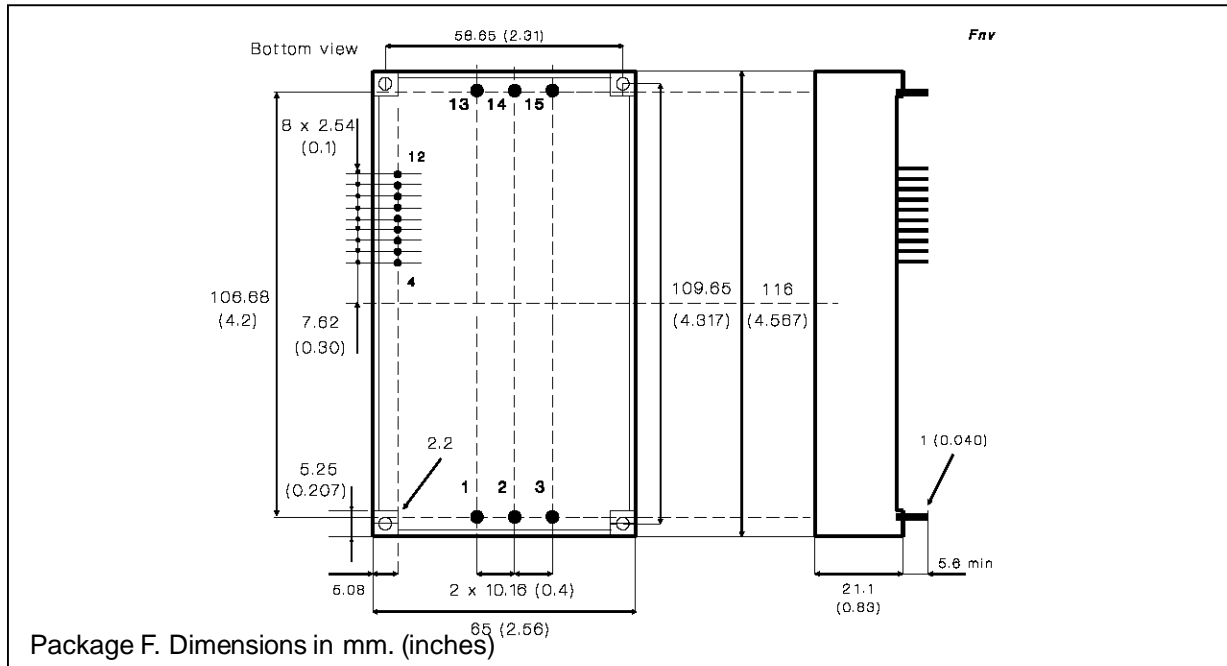
The GS-R4840NV is a negative input, negative output switching voltage regulator that provides up to 36W output power without input-output isolation.

The output voltage is programmable by input logic signals that allow 64 steps (6 bit) of regulated output, from -22 to -60V.

ELECTRICAL CHARACTERISTICS (T_{amb} = 25°C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
V _i	Input Voltage	V _o = -22 to -60V I _o = -10 to -600mA	-40	-48	-60	V
V _{ir}	Input Ripple Voltage	V _i = -40 to -60V I _o = -600mA			20	mVpp
V _o	Output Voltage	V _i = -40 to -60V I _o = -10 to -600mA	-22		-60	V
V _{or}	Output Ripple Voltage	V _o = -22 to -60V I _o = -600mA		4	10	mVpp
V _{oov}	Output Overvoltage Protection	V _i = -40 to -60V I _o = -10 to -600mA	V _o +5%		V _o +10%	V
I _o	Output Current	V _i = -40 to -60V V _o = -22 to -60V	-10		-600	mA
I _{ol}	Current Limit	V _i = -40 to -60V Overload Condition			-900	mA
I _{osc}	Output Average Short Circ. Current	V _i = -40 to -60V			-80	mA
f _s	Switching Frequency			100		kHz
η	Efficiency	V _i = -48V I _o = -600mA V _o = -48V	80	82		%
R _{th}	Thermal Resistance	Case to Ambient		4		°C/W
T _{cop}	Operating Case Temperature Range		0		+85	°C
T _{stg}	Storage Temperature Range		-20		+105	°C

CONNECTION DIAGRAM AND MECHANICAL DATA



PIN DESCRIPTION

Pin	Function	Description
1	-Vin	Negative input voltage.
2	Inhibit/ $\overline{\text{Enable}}$	Remote Inhibit/Enable logically compatible with CMOS or open collector TTL. The converter is OFF (Inhibit) when this pin is unconnected or the voltage applied is in the range of 2 to 5V (referred to GND). The converter is ON (Enable) for a control voltage in the range of 0 to 0.8V maximum.
3	GND IN	Return for input voltage source and +5V logic supply voltage. Internally connected to pin 15.
4	+5V IN	+5V logic supply voltage. Maximum voltage must not exceed 7V.
5	DB0	Data bit 0 (LSB).
6	DB1	Data bit 1.
7	DB2	Data bit 2.
8	DB3	Data bit 3.
9	DB4	Data bit 4.
10	DB5	Data bit 5 (MSB).
11	$\overline{\text{CS}}$	Chip select. An active low input control which is the device enable input terminal.
12	$\overline{\text{WR}}$	Write control. An active low control which enables the microprocessor to write data to the DAC.
13	-Vout	Negative output voltage.
14	FAULT	FAULT indication output (referred to GND). The FAULT signal is high (TTL compatible level) when: - the INHIBIT is ON (high) - an output overload is present ($V_o < 18V$ typ.) - an overtemperature is present - an overvoltage is present ($V_o > V_o + 5\%$)
15	GND OUT	Return for output voltage source. Internally connected to pin 3.

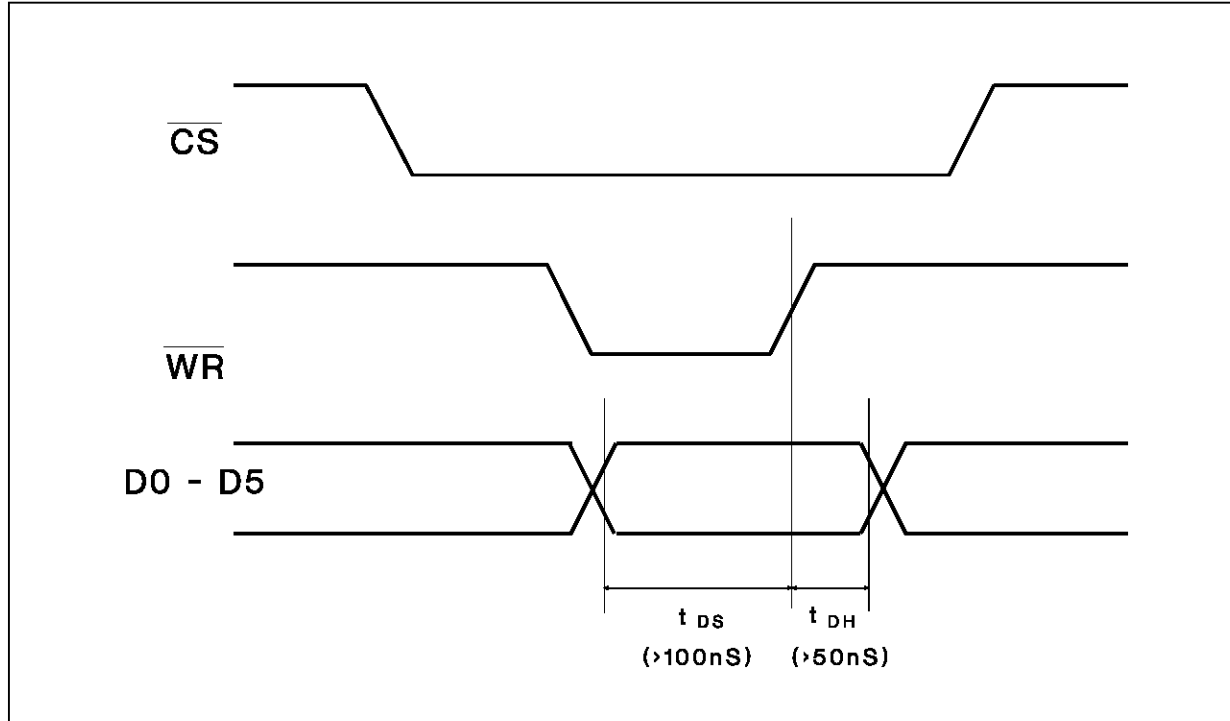
Note: Case internally connected to Ground.

USER NOTES**Digital Information**

The GS-R4840NV accepts 6 bit binary at the data inputs DB0 to DB5. Data are transferred when CS is low and during the rising edge of WR signal.

t_{DS} and t_{DH} have to be 100ns and 50ns minimum respectively (see fig. 1).

Figure 1 - Signals Timing.



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