



HESC104-HV - 60 Watt High Efficiency UPS PC/104

FEATURES

- 60 Watt output
- 6V to 40V DC input range
- Charging voltage: 9.5 - 19.5V
- UPS operation with battery pack
- Multistage charging SLA, NiCd, NiMh
- SMBus Level 3 compatible charger
- Extended temperature: -40°C to +85°C
- Option: HESC104-HV - UPS PC/104 Power Supply w/ Smart Charging



FUNCTIONAL DESCRIPTION

The HESC104 is a 60W DC-DC converter that includes a flash based microcontroller and 4 amp charger for advanced power management and smart battery charging. Combined with a standard battery pack or super cap module, the HESC104 can be used as an Uninterruptible Power Source (UPS) for a PC/104 system. The HESC104 is designed for low noise embedded computer systems, has a wide input range of 6-40V (>6:1) and is ideal for battery or unregulated input applications. The HESC104 is specifically designed for vehicular applications and has heavy-duty transient suppressors (5000W) that clamp the input voltage to safe levels, while maintaining normal power supply operation. The +/-5V DC and +/-12V DC outputs are controlled by a constant off-time current-mode architecture regulator that provides excellent line and load transient response.

The HESC104 provides up to four stages of battery charging and can charge SLA, NiCd, and NiMh batteries and level two and three SMBus compatible batteries. Charge currents are up to 4A, and battery charging voltages from 9.5 to 19.5V. The HESC104 has advanced power management functions that allows timed on/off control of the HESC104, notification of changes to main power and changes in the battery status. For example, the HESC104 can be programmed to power off the main outputs in 60 seconds and then turn them on again 12 hours later. In addition to smart charging and power management the HESC104 can monitor up to 16 different temperatures using digital I²C digital temp sensors. The HESC104 is available as RoHS, is PC/104 compliant and -40°C to +85°C is standard.



Specifications

Electrical Specifications

- +5V output* 12.0A
- +12V output 2.5A
- -5V output 0.4A
- -12V output 0.5A

Input Voltage

- 6 to 40VDC

Charger Rating

- Charge Current 0A to 4.0 A
- Charging Voltage 9.5V to 19.5V

Mechanical/Environmental

- Size (W x L x H)**** 3.55" x 3.75" x 0.55"
- Weight 6.56oz / 185.92g
- Temperature Range -40 to +85°C

Performance Characteristics

- Peak to Peak ripple* <20mV
- Load Regulation** <60mV
- Line Regulation** 40mV
- Output Temp. Drift** <40mV
- Output Ripple** 20mV
- Quiescent Current*** 2mA
- Soft Start: 5V start up risetime = 10 msec
- Efficiency up to 95%

* Current rating includes current supplied to 12V and -12V regulators

** Measured on the 5V output

*** LEDs disabled and power supply is in shutdown mode

**** Not including pass through pins

Ordering Information

HESC104	60 Watt, +5V@12A, +12V@2.5A, -5V@400mA, -12V@500mA, (-40 to +85°C)
HESC104-HV	60 Watt, +5V@12A, +12V@2.5A, -5V@400mA, -12V@500mA, wide input range, +6VDC~+50VDC, (-40 to +85°C)

Options

TS-12C	Additional digital temperature sensor
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