

IBC04-36S12

1/8th Brick Bus Converter

Data Sheet

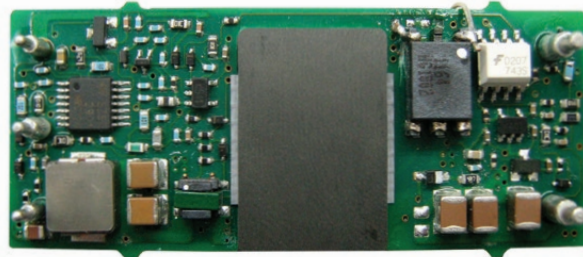
Total Power: 50 W
Input Voltage: 18 - 60 V
Single Output: 12 V

SPECIAL FEATURES

- Ultra wide input range
- Optimised for contact cooling
- Low ripple and noise
- Fixed switching frequency
- High capacitive load capability
- Pre-bias start-up capability
- Basic insulation system
- Through-hole termination
- Open frame construction

SAFETY

- UL 60950-1
- CE Mark



The IBC04-36S12 is the latest wide-range input isolated DC-DC converter specifically designed to supply non-isolated converter architectures. It operates from an ultra-wide input range of 18 Vdc to 60 Vdc and provides a regulated output voltage of 12 V. The output is rated to a power level up to 50 W.

Its protection features include non-latching OCP and OTP with non-latching OVP. It also has an enable pin on the primary side of the converter. The unit is an open frame design that is optimised for either contact-cooled applications or forced airflow applications.

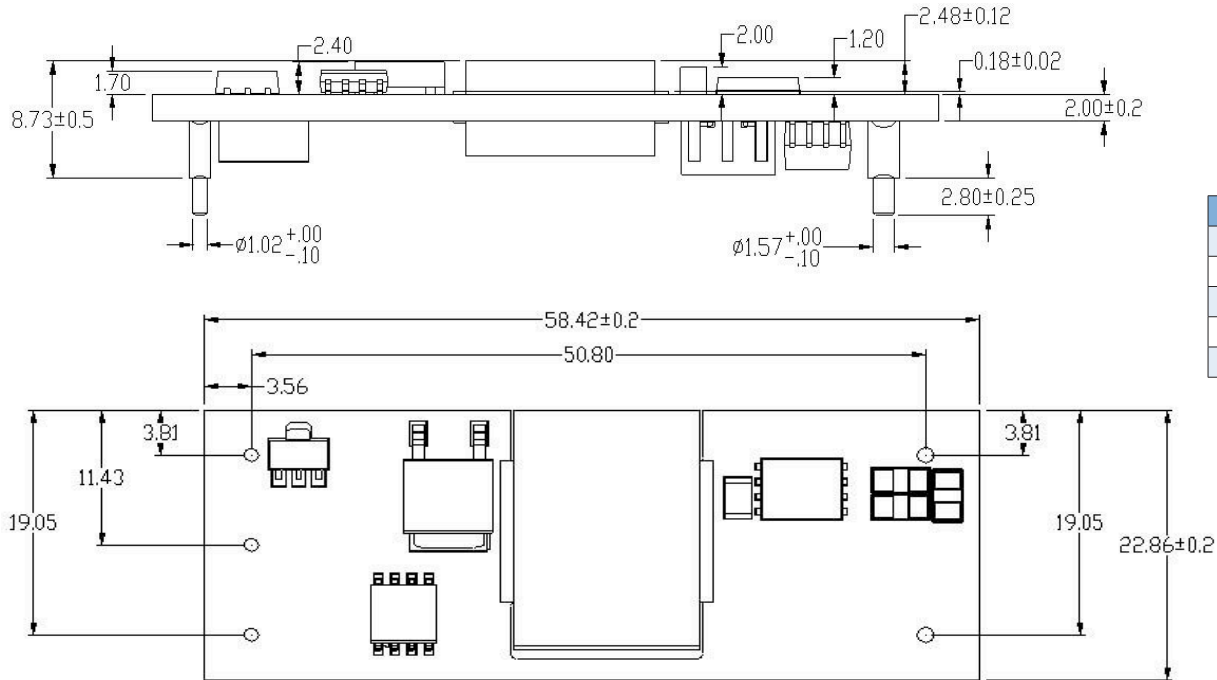
Electrical Specifications

Input	
Input range	18 Vdc to 60 Vdc
Input surge	100 V for 100 mSec
Efficiency	92% typ (> 89.5% @ 2.8 A out - 4 A out & 18 Vin - 55 Vin)
Control	
Enable:	TTL compatible positive or negative enable
Output	
Output voltage	12 Vdc
Output current	0 A to 4 A
Ripple and noise	50 mV rms, 200 mV pk-pk
Regulation (total error band)	±5% Vout
Over current protection	5 A
Over voltage protection	15 V
Output overshoot	10% (Iout = Imax, Temperature = 25 °C)
Over temp protection	115 °C Typical
Output capacitance	0 µF to 2000 µF
Switching frequency	Fixed switching frequency 300 KHz Nominal (265 KHz min to 335 KHz Max at 25 °C)
Isolation voltage	1500 Vdc
Transient response	600 mV deviation 600 uS recovery (25% - 75% Iout)
UVLO Turn-on	18 Vdc
UVLO Turn-off	16 Vdc

Environmental Specifications

Storage temperature	-40 to +105 °C
Operating temperature	-40 to +85 °C (ambient)
MTBF	>1 Million hours target

Mechanical Specifications



Pin #	Designation
PIN 1	+V _{IN}
PIN 2	Enable
PIN 3	-V _{IN}
PIN 4	-V _{OUT}
PIN 5	+V _{OUT}

Ordering Information

Input Voltage	Output Voltage	Output Current	Efficiency	Part Number
18 - 60 Vdc	12 V	4 A	91%	IBC04-36S12 (-SJ/-J)

Note:

- Standard converter is negative enable
- '-SJ' = surface mount option RoHS-6 compliant
- '-J' = RoHS-6 compliant

Notes

- 20 Mhz bandwidth. External 100 uF electrical capacitor and 1 uF ceramic capacitor placed across +Vout and -Vout; 150 uF e-cap or equivalent placed across +Vin and -Vin.
- Efficiency measurements taken at full load and nominal line and Tamb = 25 °C
- All specifications taken at nominal line, full load and Tamb = 25 °C unless otherwise noted
- Mechanical dimensions are for reference only. Dimensions are in MM. Mechanical tolerance = ±0.5 mm
- Technical reference notes should be consulted for detailed information when available.
- All specifications are subject to change without notice
- Warranty 2 years
- The through-hole terminated modules are intended for wave-soldering process – special request for other manufacturing processes to be made to Artesyn.

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