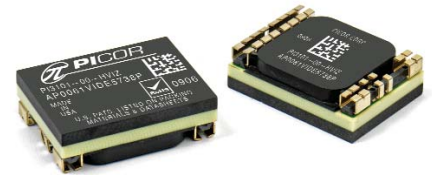


PI3101 Features

- Wide Input Voltage Range (36 V – 75 Vdc)
- Withstands Input Voltage Transients 100 V / 100 ms
- 3.3 V Regulated Output (+/-3% over line / load / temperature)
- 18 A / 60 W Output Power
- Very small footprint (0.57 in² / 3.6cm²), enabling over 50% space savings
- High Density (400 W/in³ / 25W/cm³), up to 3x versus conventional solutions
- Very low profile (0.265" / 6.7mm)
- Up to 87% Efficiency
- +/- 10% Output Voltage Trim
- 900 kHz Switching Frequency, minimizes input filtering and reduces output capacitance
- Programmable soft-start, remote on/off ENABLE, accurate temp. monitor function
- Over-temperature and output over-voltage protection with auto-restart
- Protection against short circuits & overload conditions
- 2250 V Input-to-Output Isolation

PI3101



Thermally Enhanced, Surface-Mount Power-System-in-Package (PSiP)
0.87" x 0.65" x 0.265"
22mm x 16.5mm x 6.7mm

Product Description

The Cool-Power™ PI3101 is a very high density isolated DC-DC converter built on a proprietary ZVS topology using advanced control silicon integration, state of the art planar magnetics and high performance power semiconductor technology enabling high switching frequencies.

The PI3101 operates over a wide range input of 36 V to 75 Vdc, delivering 60 W of output power (3.3V @ 18 A), yielding an unprecedented power density of 400 W/in³. The PI3101 is available in a thermally enhanced, surface-mount Power-System-in-Package (PSiP) that is just 0.57in² and very low profile (0.265"), enabling space savings of over 50% versus conventional solutions.

The high switching frequency of the PI3101 allows for small input and output filtering components, further reducing size and cost of the overall system solution.

The PI3101 is fully equipped with a variety of programmable features including: +/-10% output voltage trimming, programmable soft-start capability, remote on / off ENABLE and an accurate temperature monitor function that provides an analog output voltage proportional to the internal temperature of the product, serving also as a fault alarm. The PI3101 is self-protected against various fault conditions including: input over-voltage and under-voltage lockout with auto-restart capability, over-temperature and output over-voltage protection with auto-restart capability and a dual current limit threshold to protect against short circuits and overload conditions.

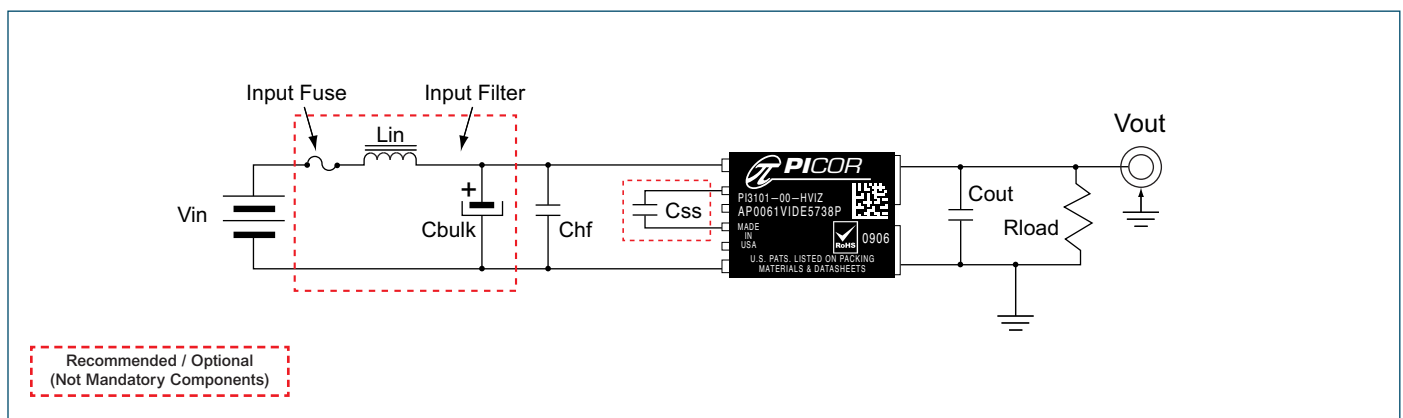
Applications

- Power Over Ethernet (PoE)
- Communications
- Telecom Systems
- Network Power

Part Numbering

Part Number	Input Voltage	Output Voltage	Continuous Output Current	Input-to-Output Isolation	Operating Temp.	Package Information
PI3101-00-HVIZ	36 – 75 V (withstands 100Vdc / 100ms transients)	3.3 V (+/-3% over line / load / temp)	18 A (T _{case} < 100°C)	2250 V	-40 to +125°C Junction Temp. (T _J)	0.87" x 0.65" x 0.265" 22mm x 16.5mm x 6.7mm Surface Mount Power-System-in-Package (PSiP)

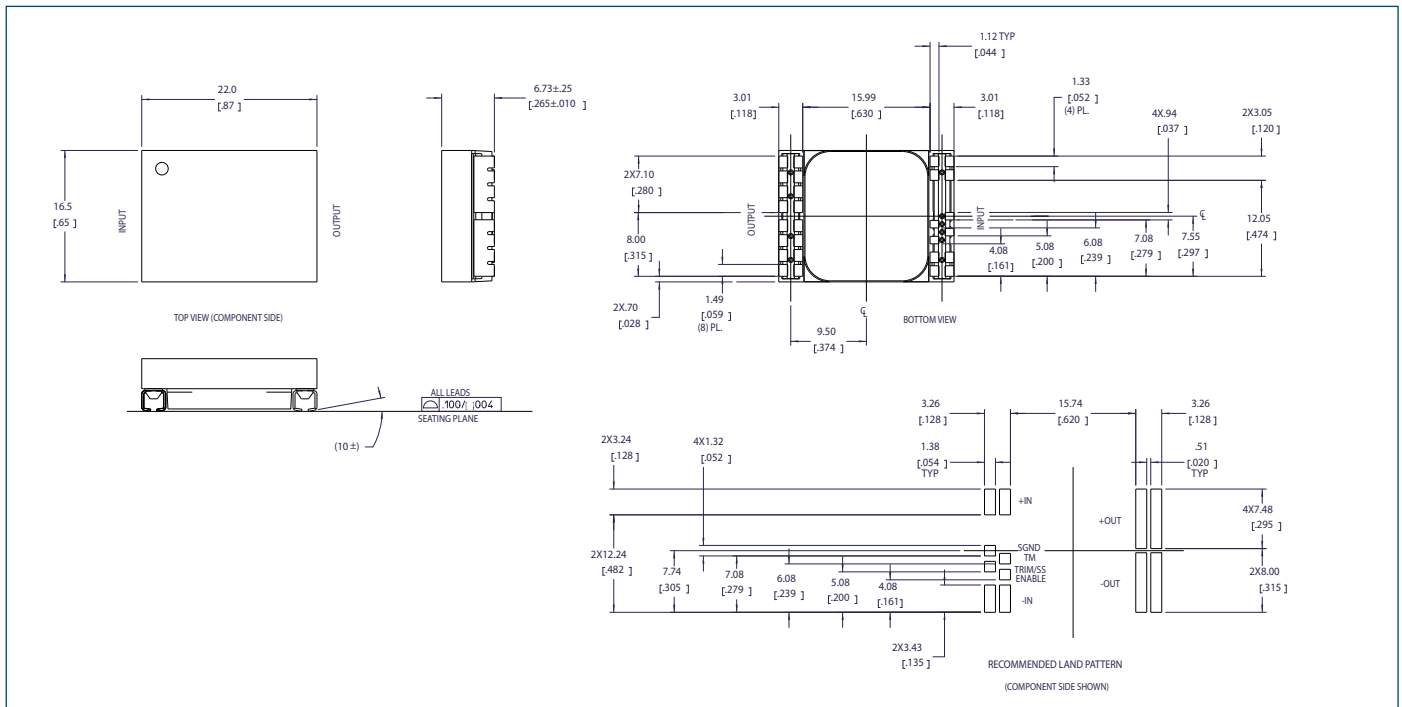
Typical Application Schematic



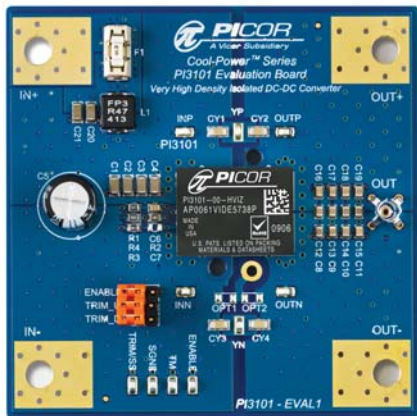
PI3101 Pin Configuration



Package Outline & Recommended PCB Land Pattern



Evaluation Board, PI3101-EVAL1



Efficiency Curve

