

Integrated Power Supply Module



AI Overview

An Integrated Power Supply Module (IPSM) is a compact unit that consolidates multiple power management functions, providing regulated power to various components in vehicles or electronic systems. Overview An Integrated Power Supply Module serves as a centralized power distribution and management unit. In automotive applications, such as BMW vehicles, it is often referred to as the Integrated Supply Module (IVM). This module supplies power to multiple electrical accessories, houses fuses, and ensures stable voltage to critical systems. Failures in the IVM can lead to issues like transmission malfunctions or the vehicle not starting due to interrupted electrical supply (BMW models: 120i, 328i, 535i, X3, X5, etc.). In electronics, integrated power modules combine FETs, controllers, inductors, and passive components into a single package. These modules, often using advanced packaging like MagPack™, provide high power density, improved thermal performance, and reduced electromagnetic interference (EMI). They simplify design, reduce component count, and allow the power supply to be placed close to the load, minimizing parasitic losses.

Automotive Applications

Function: Distributes power to multiple circuits, protects against overcurrent via internal fuses, and ensures reliable operation of vehicle electronics.

Common Issues: Cold solder joints or internal corrosion can cause intermittent failures, preventing the car from starting or affecting transmission performance.

Location: Typically installed under the cabin air filter box on the passenger side of the engine bay.

Replacement: Modern IVMs are designed for straightforward replacement without coding, making DIY repairs feasible with proper safety precautions.

Electronic Applications

Function: Provides regulated DC power to electronic circuits, integrating multiple components to reduce board space and improve efficiency.

Benefits: High power density and compact size Reduced design complexity and faster time to market Improved thermal management and EMI perfo...

Article Content

Infypower – Power Electronics & Smart Energy Solutions

Infypower is a world leading power module supplier with over 5 million modules in stable operation globally already. Featuring exceptional power density, reliability,

A Look into Commercially Available IVRs

Reducing PDN impedance improves power supply stability, while decreasing parasitic inductance enables a much faster response to current

nRF54L15 ultra-low-power wireless SoC

Modules feature the necessary external circuitry and are either partly or fully qualified (with/without integrated antenna) towards relevant wireless standards.

Revolutionizing Power Supplies: The Advantages of

The integration of essential power components marks an important development for achieving more efficient and compact power supply designs. MPS is leading the

Power modules (integrated inductor) | TI

In this training series, we discuss the high level of integration of our power modules and the significant implications that this has on power-supply design with respect to solution size, EMI, design time and

PSiP Power Module for Integrated Design | Huawei

A next-generation fully integrated power supply unit that adopts the industry-leading packaging technology. It greatly improves power density and reduces parasitic

INTEGRATED POWER DEVICES SIMPLIFY AN EMBEDDED DC-DC POWER SUPPLY

The paper also details how treating integrated devices as power supply modules instead of co-packaged components significantly improves the system performance and long-term reliability, and reduces the

Revolutionizing Power Supplies: The Advantages of Integrated Power Modules

MPS power modules integrate passive components such as the bootstrap (BST) capacitor, VCC decoupling capacitor, input decoupling capacitor, and feedback resistive divider. This allows

Power Integrated Modules (PIMs)

These onsemi module solutions offer users a fully-integrated supply chain for silicon and packaging, ensuring high quality and cost efficiencies. The Power Integrated Modules have power

Power modules (integrated inductor) | TI

Power modules with integrated inductors and innovative packaging technology, like those that utilize our new MagPack™ package, are designed to enable a small solution size, high power density and

Intelligent Power Modules (IPMs): Concepts, Features,

Intelligent power modules are most closely associated with motor control, but they're also used in uninterruptible power supplies, inverters, and

Power modules

OptiMOS™ dual- and quad-phase smart power modules integrate OptiMOS™ power stages with proprietary inductors, capacitors and optimized packaging on

Power Modules | MPS | Monolithic Power Systems

The MPM3695-100 is a 100A, scalable, fully integrated power module with a PMBus interface. The device offers a complete power solution that achieves up to 100A

What Is A Integrated Power Module

What is an Integrated Power Module (IPM)? A Deep Dive into Design, Applications, and Advantages Integrated Power Modules (IPMs) represent a significant advancement in power

Power BI

Microsoft Power BI is a business intelligence platform that helps you visualize data and infuse insights into your existing Microsoft 365 apps. Try it for free.

Power Modules | MPS | Monolithic Power Systems

MPS power modules are ultra-efficient and easy-to-use. The modules integrate the maximum number of components, including the inductor, in a single package

TI Reference Designs Library

Accelerate your system design and time to market with tested schematics, BOMs and design files from TI's reference design library.

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DC/DC power modules

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Intelligent Power Module (IPM) Devices

Reduce design time and effort with the STPOWER portfolio of highly integrated, high-efficiency power modules for flexible, compact, and robust solutions ranging

be quiet! Announces Dark Power 14 Power Supply Series

be quiet!, the German manufacturer for premium PC components, announces the launch of the Dark Power 14 power supply series. Available in

DC-DC Integrated Switching Power Modules

Our highly integrated power modules contain a controller, power switches and the necessary passive components—all of which are fully tested and pre

Dynamics 365 Finance & Operations Modules List 2026

Full list of Dynamics 365 Finance, Supply Chain Management, Commerce, Project Operations & HR modules. Features, license tier, integration with Power Platform.

Contact Us

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