

# **Upgraded version of low insertion loss shunt for power systems**





## Overview

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TI's new EZShunt technology brings the benefits of simplicity, cost, low drift and small size to a current-sensing space that is proliferating with advancements across many market segments. / Products / RF Switches / Low Insertion Loss RF Switches View the pSemi 2025-2026 Product Catalog to see our complete RF and power products portfolio. Abstract—A low-cost current shunt based on a flexible polyimide printed circuit board (PCB) design is presented. Key ATL431 features and the benefits that it presents to common adjustable shunt regulator. In this paper, the authors explore the potential of an exotic multi-graphene layer/Si nanowire (MGL/SiNW) pin device as a switch in the THz frequency domain.



## Upgraded version of low insertion loss shunt for power systems

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### **Low Insertion-Loss Single-Pole-Double-Throw Reduced**

This paper proposes a circuit topology which reduces the chip size of single-pole-double-throw (SPDT) quarter-wavelength bandpass filter-integrated

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### **A Packaged THz Shunt RF MEMS Switch With Low Insertion Loss**

This paper demonstrates a packaged THz shunt capacitor micro-electromechanical systems (MEMS) switch with low insertion loss. In-line shunt switch is used to achieve a low loss in THz band, which is

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## **Ultrafast Current Shunt (UFCS): A Gigahertz Bandwidth Ultra-Low**

In an effort to reduce switching loss, increase switching frequencies, and shrink passive component sizes, power device switching times are being pushed into nanosecond and

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## **Design and Development of a Low Insertion Loss RF MEMS Shunt**

However, the insertion loss of the usual series ohmic switches is higher than the capacitive switches due to contact resistance. In this article, a new concept for a shunt ohmic switch with low insertion loss

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## **A Physical Approach to High-Bandwidth, Low Insertion Impedance**



These variations feature two different current sensors, firstly the established coaxial shunt (CSR) and secondly the novel Infinity Sensor, a specifically optimized Rogowski coil, developed and sold by the

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## **Design and investigation of a low insertion loss, broadband**

This paper presents a low insertion loss capacitive shunt RF-MEMS switch. In the presented design, float metal concept is utilized to reduce the capacitance in up-state of the device.

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## **Designing with the "Advanced" TL431, ATL431**

With the lower operating current making this device a good choice in applications that need better power efficiency and the improved overall accuracy helping users to have more precision in their system.

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## **Bringing design simplicity, low drift, and small size to integrated**

Bringing design simplicity, low drift, and small size to integrated-shunt solutions Mubina Toa Fueled by the demand for automation, convenience and sustainability, advancements in electrification are

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## **A compact low loss high isolation DC-45GHz SPST switch**

A compact low loss high isolation wideband single-pole-single-throw (SPST) switch that operates from DC to 45 GHz is analyzed and implemented in 0.13-um CMOS process. Based on

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## **Maximum powers of low-loss series-shunt FET RF switches**



Maximum switching powers achievable with these types of switches depend on nonlinearities occurring both in series and shunt transistors. We describe a monolithically integrated

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## **Reducing the Insertion Loss of a Shunt PIN Diode**

Application Note 957-2 shunt PIN diode is often used as a switch or attenuator. The upper frequency limitation is determined by the increase in insertion loss as the diode capacitance starts to short out

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## **A Packaged THz Shunt RF MEMS Switch with Low Insertion Loss**

Abstract This paper demonstrates a packaged THz shunt capacitor micro-electromechanical systems (MEMS) switch with low insertion loss.

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## **A multiband RF MEMS switch with low insertion loss and CMOS**

In this paper, we present a novel design of a shunt capacitive, multiband, micro-machined RF switch. The concept of float metal is utilized to reduce the overlap area and therefore the

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## **Shunt-LDO basics**

In particular, the device can be configured in Shunt-LDO mode for application in serially powered systems (current based), or in LDO and partial shunt mode for use in conventional voltage

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## **A novel design for low insertion loss, multi-band RF-MEMS switch with**



The other approach is to combine series and shunt switches to realize multi-band devices. However, higher insertion loss and the large chip area make them unsuitable for future compact

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## **Impacts of Shunt Reactors on Transmission Line Protection**

Abstract--Shunt reactors are installed to offset the capacitive effect of transmission lines and therefore improve the voltage profiles of transmission lines. In addition, they also help regulate

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## **Design and Development of a Low Insertion Loss RF MEMS Shunt**

In this article, a new concept for a shunt ohmic switch with low insertion loss has been designed and characterized. The contact resistance term is removed from the switch in the ON state.

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## **Design and fabrication of a low insertion loss capacitive RF MEMS**

In order to achieve a low actuation voltage, large actuation area is necessary when the stiffness and the air gap have been decided, but larger actuation area means higher up-state

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## **Design and investigation of a low insertion loss, broadband, enhanced**

This paper presents a low insertion loss capacitive shunt RF-MEMS switch. In the presented design, float metal concept is utilized to reduce the capacitance in up-state of the device.

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## **Bringing design simplicity, low drift, and small size to**



**integrated**

The portfolio spans a range of voltages, currents, output types (analog and digital), and accuracy to help meet your design needs - whether you are optimizing the full-scale range or reducing power

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## **(PDF) Optimal Placement of Shunt Compensator for**

In this study, shunt compensation is controlled using a capacitor. To examine the efficacy of the proposed approach, two benchmark models of power

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## **Mm-wave single-pole single-throw m-HEMT switch with**

Abstract This Letter presents a single-pole single-throw (SPST) switch for high-power applications in the mm-wave frequency band. A stacked-FET

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## **Shunt reactors improve voltage stability and power quality**

High-voltage shunt reactors are designed and optimized according to customers' specifications. Besides the basic design parameters, such as voltage, rated power, linearity etc. limits to losses and sound

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## **MANAGING TRANSMISSION VOLTAGES IN POWER SYSTEMS WITH AIR CORE SHUNT**

At low system loading, operating voltages increase due to the capacitive nature of the grid. Shunt reactors are then used to absorb this excess reactive power generated by the grid's capacitances

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## **Extending Current Shunt Bandwidth for Accurate Switching**



## Loss

Dominated by the zero formed by current shunt resistance and equivalent series inductance, the bandwidth of low-resistance current shunt is difficult to improve, which impedes accurate switching

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## Gigahertz, Low-Cost Current Shunt with Retrofitting Capability for

Abstract--A low-cost current shunt based on a flexible polyimide printed circuit board (PCB) design is presented. With low insertion inductance in the range of 300 pH and bandwidth in excess of 1 GHz,

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## LOW-INSERTION LOSS PIN DIODE SWITCHES USING

Abstract, Two SPDT switches that have low insertion loss with impedance-transformation networks are presented. The proposed SPDT switches are comprised of two shunt PIN s



and two quarter

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## **A broadband low-loss SPDT RF switch using a new off-chip**

An off-chip compensation technology for low-loss and broadband characteristics of radio frequency (RF) switches is proposed based on mathematical analysis of series shunt single pole

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## **Frontiers , MGL/SiNW-based exotic pin switch with low**

After developing the MGL/SiNW exotic pin device, the authors have designed and analyzed the switching performance of series shunt and shunt

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