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## **Solid-State Isolators Offer Compact Option For Industrial Automation**

[Infineon Technologies'](#) ISSI20BxxF Solid State Isolator (SSI) family brings solid-state isolation technology into high-volume applications traditionally served by photovoltaic isolators (PVI), photovoltaic relays (PVRs), and electromechanical relays (EMRs). Housed in a compact PG-DSO-8 150-mil package (Fig. 1) with a footprint comparable to existing PVI solutions, the family gives designers a direct upgrade path to SSI technology in space-constrained designs while benefiting from higher drive capability, integrated protection features and flexibility in power-switch selection.

Target applications include solid-state relay modules, PLC input/output, industrial automation, laboratory dc power supplies, automated test equipment, low-voltage building automation, and telecom infrastructure.

The ISSI20BxxF family is built on Infineon's proprietary coreless-transformer technology, which transfers both signal and energy across the isolation barrier to drive external power switches without requiring a dedicated isolated gate supply. According to the vendor, this approach delivers higher output-drive capability than conventional PVI-based solutions, enabling compatibility with a broad range of external power switches.

Integrated protection guards against overcurrent and overtemperature, while also providing fast fault turn-off, and latch-off capability, reducing the need for external protection circuitry and improving system robustness. Selected variants additionally support dynamic Miller clamp and fast turn-on functionality for applications with more demanding switching requirements (Fig. 2).

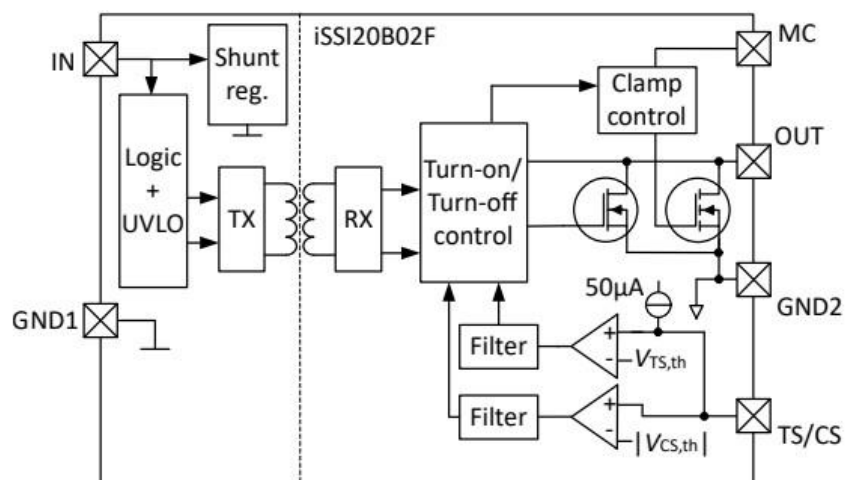
The family comprises three devices, the ISSI20B02F, ISSI20B03F, and ISSI20B11F, all housed in the PG-DSO-8 150-mil package. All three devices provide 3-kVrms isolation, 4-mm creepage, and UL-1577 certification, covering applications where basic isolation is appropriate under applicable safety standards. The ISSI20BxxF family complements Infineon's previously introduced ISSI20RxxH and ISSI30RxxH families, extending the SSI portfolio to designs where a smaller footprint is required.

Compared with electromechanical relays, SSI-based solid-state relays eliminate mechanical wear, contact bounce, and arcing, enabling silent operation and long service life, characteristics that are increasingly valued in high-cycle applications.

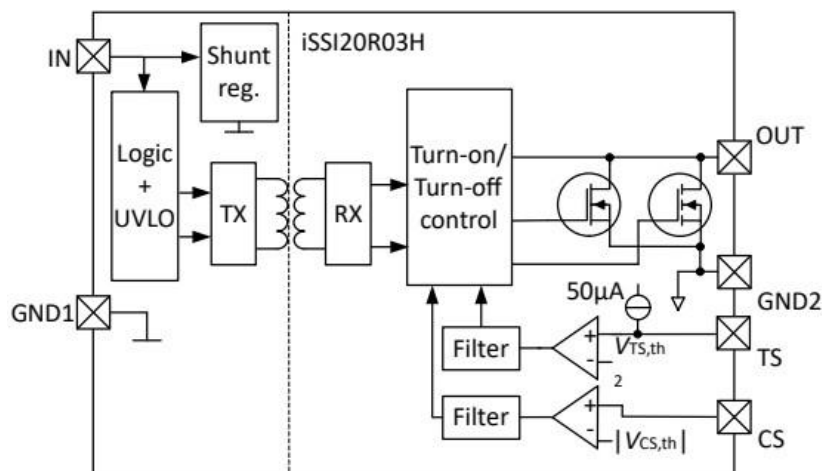
The ISSI20B02F, ISSI20B03F, and ISSI20B11F are available now. Evaluation hardware, application notes, technical training materials, and design support resources are available. For more information, see the Solid state isolators [page](#).



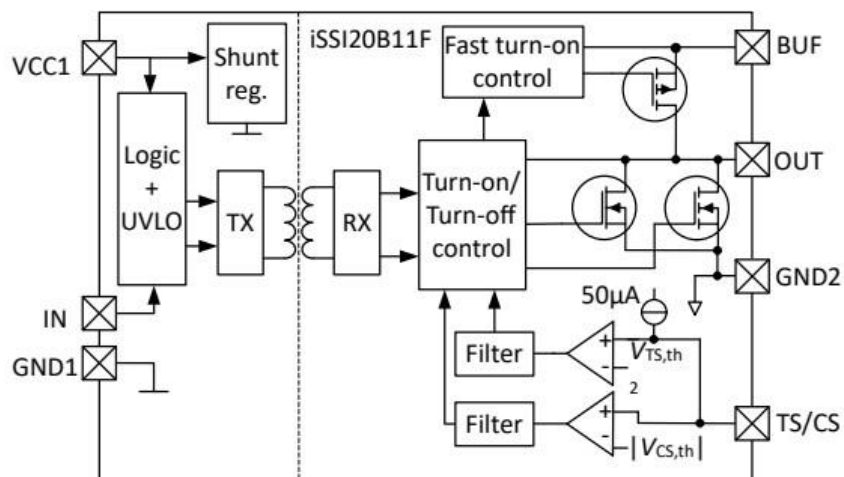
*Fig. 1 Alternatives to photovoltaic isolators (PVI), photovoltaic relays (PVRs), and electromechanical relays (EMRs), Infineon's iSSI20B02F, iSSI20B03F and iSSI20B11 coreless-transformer solid-state isolators provide powerful energy transmission over a galvanic isolation barrier to drive the gates of MOS-controlled power transistors, such as CoolMOS, OptiMOS, or TRENCHSTOP IGBT. The output side of the isolators does not require a dedicated voltage supply to drive the power transistor's gate and offers advanced control functions such as fast turn-on, fast turn-off, overcurrent protection and overtemperature protection.*



(a)



(b)



(c)

Fig. 2. The three family members are differentiated by their control features. The iSSI20B02F (a) has a dynamic Miller Clamp, while the iSSI20B11F (c) has fast turn-on.