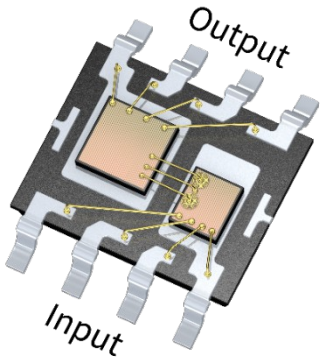
Customer Connector
- Solid State Isolators_150mil

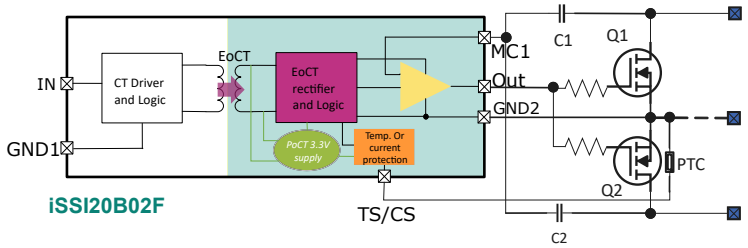


Infineon Technologies AG

May 2026

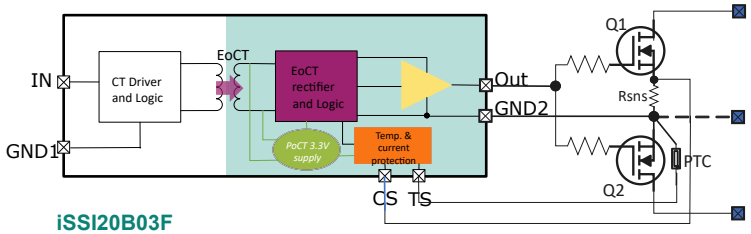
Restricted

Infineon solid state isolators overview:



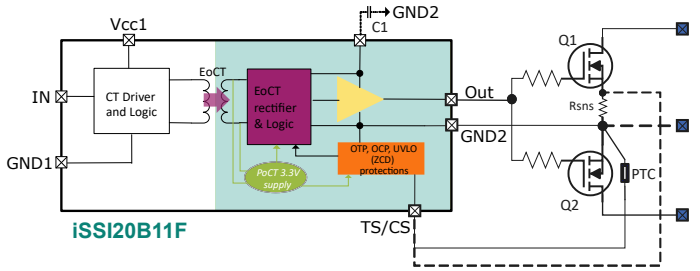
iSSI20B02F

- Miller Clamp
- Combined TS/CS pins



iSSI20B03F

- No Miller Clamp
- Separate TS/CS pins



iSSI20B11F

- Fast turn-on
- No Miller Clamp
- Combined TS/CS pins

Key Specifications

Product ID	Turn On	Package	V_{ISO}	UL1577	Vin range	Ioutcc Typ	Vout typ	features	Status
iSSI20B0xF	Standard Turn On	DS08 150mil	3 kV (rms)	✓	2.85 V – 3.5 V (clamped)	175 uA	13 V @Vin = 2.6 V 17 V @ Vin= 3.3 V	DMC / OCP / OTP	Production
iSSI20B11F	Fast Turn On	DS08 150mil	3 kV (rms)	✓	2.85 V – 3.5 V (clamped)	400 mA	13 V @Vin = 2.6 V 17 V @ Vin= 3.3 V	OCP, OTP	Production

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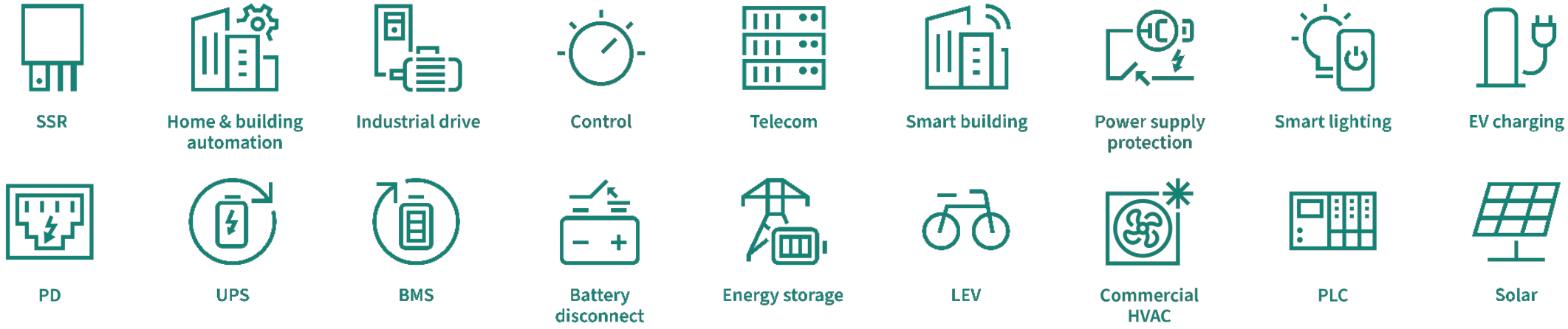
Application Benefits and Applications list

SSI Product Features	SSI Product Benefits	Application Benefits
No moving parts or contact degradation Protection features	**Reliability**: Longer switching life Increased switch and system lifetime	**No** arcing. **Longer** uptime / **Lower** maintenance / **reduced** Total Cost of Ownership, no need for additional fuses and sizing of fuses in the field
Lower Power Dissipation Energy Transfer across isolation barrier	**Reduces** heat sink size or **Eliminates** the need for it No isolated power supply on output needed	**Smaller** and **reduced** BOM results in **lower** Total Cost of Ownership, space for more channels / higher channel density
Fast Switching	**Fast** turn-off for safe switches' SOA operation, allows the use of latest generation switches	**No** oversizing of MOSFETs, **reduced** cost

Infineon SSI: Coreless-transformer based advanced solid-state isolators
Reliable, low power, fast switching

Applications:

Relays are everywhere



And so many more…..

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Guiding questions for solid state isolators

Summary of key arguments

- Increased reliability over EMR & PVI/PVR
- Lower total cost of ownership
- Low power dissipation
- Reduced component count and board space over alternative solutions
- Safe turn-on and turn-off of the power switches
- Low turn-on energy

FAQs

- **Are Solid State Relays (SSR) more expensive than Electromagnetic Relays (EMR)?**
  - Dependent on the use case, SSRs can be less expensive than EMR's concerning the total cost of ownership. In remote and high-use applications, maintenance and system downtime could greatly increase the total cost of less reliable EMR's.
- **Do SSRs have high power consumption and require heat sinks?**
  - Historically, photovoltaic solutions that drive SCRs or TRIACs can have high power consumption and require large heat sinks. Infineon solid state isolators drive MOSFETs with very low RDSoN and thus lower power dissipation, reducing and often eliminating the need for Heat Sinks.
- **What is the difference between solid state isolators and isolated gate driver and which do I promote?**
  - Solid state isolators offers energy transfer which eliminates need for an isolated power supply on the output stage as well as integrated temperature protection.

Questions to ask (to customers)

1. **Does your application currently use relays?**
2. **Does your application suffer from increased failure rates?**
   Solid state isolators enable much higher system-level reliability.
3. **How would you prioritize cost vs. reliability?**
   Total cost of ownership should be considered in all applications, as in the cases of high use or remote access, maintenance and system downtime could be quite expensive.
4. **Is EMI or switching speed important in your design?**
   EMRs will bounce while switching,hing creating EMI noise and also re the switching speed.
5. **Would the environment for your switching application be considered hazardous?**
   EMRs often spark when switching which could be explosive in a hazardous environment.
6. **Is audible noise important for your design?**
   In applications where there are multiple switches present, the noise can be detrimental to workers.
7. **What isolation voltage is necessary for your design?**
   Solid state isolators product family is available in both 300 mil and 150 mil packages with and without reinforced isolation with 8 mm and 4 mm creepage.
8. **Are there board space or volume restrictions?**
   Solid state isolators and Infineon MOSFET solutions of CoolMOS™ S7 and OptiMOS™ 5 Linear FET reduce or even eliminate heatsinks.

   CT energy transfer eliminates the need for an isolated supply, increasing BOM and board space.
9. **Is energy efficiency important in the application?**
   Infineon solid state isolators drive the lowest RDSon Infineon CoolMOS™ S7 and OptiMOS™ 5 Linear FETs that even go below the contact resistance of EMRs and also do not degrade over time.

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Ordering information

OPN Ordering part number	SP number Ordering Code	MDQ/MQQ/MOQ*	Registerable	Package	GBP in Eur per 100	GBP in USD per 100
ISSI20B02FXUMA1	SP006149805	100/100/1000	YES	PG-DSO-8-72	55.21	63.5
ISSI20B03FXUMA1	SP006149807	100/100/1000	YES	PG-DSO-8-72	55.36	63.66
ISSI20B11FXUMA1	SP006149809	100/100/1000	YES	PG-DSO-8-72	57.42	66.03

Note:
The information presented is valid from 01 February 2026. Please check the latest Distribution Price Book for current prices and minimum quantities.

* MDQ: Minimum Design Quantity
MQQ: Minimum Quote Quantity
MOQ: Minimum Order Quantity

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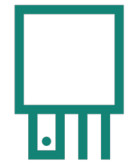
Solid State Isolators and Relays Support Materials

Product family webpages	– Solid state isolators – Datasheet including application note
Technical trainings (note must log-in for some material)	– Introduction to solid-state isolators and relays – Solid-state relays: Improving robustness with SSI's overtemperature protection – SSI with advanced protection features: How to use the overcurrent protection – Solid-state relays with channel selective protection – Solid-state isolators with advanced protection features: Cooking recipe for PLC output – Infineon Solid-State Isolators: Features, Benefits, and Applications – Application-focused training on Solid-State Isolators – Solid-state isolators – Infineon Tech Champion Program
Cross-reference Tool	– https://www.infineon.com/search/cross-reference-search#q=search
MyInfineon Presentations (note must log-in)	– https://www.infineon.com/assets/row/restricted/documents/60/156/disti/infineon-solid-state-isolators-productpresentation-en.pptx
Boards	– EVAL-ISSI20R02HCS, EVAL-ISSI20R02HTS, EVAL-ISSI20R03H, EVAL-ISSI20R11H, EVAL-ISSI30R11H, EVAL-ISSI30R12H, REF_SSR_AC_DC_2A





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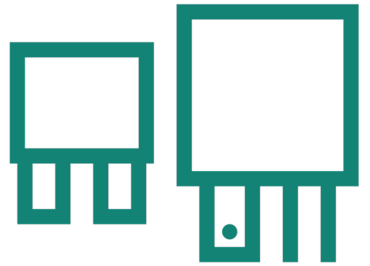
Training Resources

Further Training Courses:

Introduction to Solid-State Isolators and Relays (8-min. video)
Solid-state relays: Improving robustness with SSI's overtemperature protection (8-min. video)
SSI with advanced protection features: How to use the overcurrent protection (13-min. video)
Solid-state relays with channel selective protection (8-min. video)
Solid-state isolators with advanced protection features: Cooking recipe for PLC output (8-min. video)
SSI deep dive: Application cookbook for solid-state relays (E2) (45-min. presentation)
GIP: SSI deep dive: Get into the details of application engineering (E2) (40-min. presentation)
Next-Gen SSR Solutions: CoolMOS™ with Integrated Temperature Sensor (34-min. presentation)
Infineon Solid-State Isolators - Evaluation boards for the SSI product family (33-min. presentation)
SSI: Game-changing reliability and speed for high power solid state switching (30-min. presentation)
Infineon Solid-State Isolators: Features, Benefits, and Applications (60-min. presentation)
Application-focused training on Solid-State Isolators (27-min. presentation)



Solid-state isolators – Infineon Tech Champion Program (59-min. curriculum)

- Combination of the 5 short courses above on SSI and SSR
- 1 assessment of key learnings at the end
- Get a passing certificate after successful completion
- Available in the Infineon Academy for products and application learning



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