Protec HighRel Components

SPACE COMPONENTS NEWSLETTER March 2026

Europe's Leading Distributor for HighRel Components

European Timing solutions!!

Protec GmbH Becomes Official European Distributor for Magics Radiation-Tolerant Timing Solutions

MAGICS

About Magics

Magics is located in Belgium and builds on a decade of nuclear industry heritage, translating deep expertise in radiation-hardened IC design into highly reliable semiconductor solutions. Its radiation-tolerant timing portfolio provides a strong European, ITAR-free alternative for space and other high-reliability applications.

Focus on Space Applications

The partnership is mainly focused on the space market, with emphasis on Magics' Time Series portfolio, including radiation-tolerant, ITAR-free time-to-digital converters (TDCs) and precision clock-generation ICs designed for mission-critical timing in harsh environments.

Regions

Protec will represent Magics in the United Kingdom, Ireland, France, BeNeLux, DACH, Spain, Portugal, the Nordic Countries, Poland, Baltics, Czech Republic, Slovakia, Slovenia, Bulgaria, Romania and Greece.

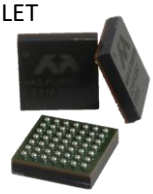
Rad-tolerant integrated frequency synthesizer

MAGICS

The MAG-PLL000X2-SP is a radiation tolerant wideband frequency synthesizer.

Key features:

- 1 MHz – 5 GHz Output frequency range
- Phase noise of -120 dBc/Hz at 1 MHz offset with 5.0 GHz carrier
- Integrated jitter 200 fs typ.
- Integer and Frac-N modes supported
- User selectable input reference
- 4-Channel clock outputs at 1.8 V – 3.3 V
  - 1 MHz – 1 GHz
  - LVDS/LVCMOS/CML/LVPECL compatible
- 2 dedicated RF drivers at 2.5 V / 3.3 V:
  - 1 GHz – 5GHz
  - DC-CML compatible
  - AC CML/LVDS/LVPECL compatible
- External crystal or internal clock generator
- Radiation hardness:
  - TID: > 100 krad(Si) (PLL00002)
  - TID: > 30 krad(Si) (PLL00012)
  - SEL/SEU: 62 MeV.cm²/mg LET
- Supply voltage: 1.8 V – 3.3 V
- Independent driver voltage
- Power: 330 mW typ
- Temp range: -40 °C to 125 °C
- Eval Board, EMs, EQMs available
  FMs Q4/2026; ESCC-9030 FMs mid 2027



Rad-hard Time-to-Digital Converter

MAGICS

The MAG-TDC00002-Sx is a Time-to-Digital Converter used for accurate time measurements.

Key features:

- Core performance parameters
  - Resolution: < 8 ps
  - Standard Deviation (SSP): < LSB (in ps)
  - Zero dead-zone: 0 ps to 3 s measurement range
- Additional features
  - Multi-stop mode up to 5 pulses
  - Internal self-calibration routing correcting drifts
- Clocking options
  - 10, 20, 30 and 40 MHz reference input
- Interfaces
  - SPI Host Interface for Configuration and Readout
- Radiation hardness:
  - TID: > 100 krad
  - SET/SEU: > 60 MeV·cm²/mg
- IO voltage: 1.8 - 3.3V
- Core voltage: 1.2V
- Power: 26mW typ
- Temp range:
  -40°C to 125°C
- Eval Board, EMs, EQMs and FMs available
- Recorded Webinar