1. **News Release**

No.: REN0787(A)

**Renesas Electronics Simplifies Satellite Subsystem Design with Precision Current Sources for Sensing Applications**

*Rad-Hard ISL70591SEH and ISL70592SEH Deliver Ultra-High Spaceflight Performance in a Small Package*

Düsseldorf, October 15, 2018 – Renesas Electronics Corporation (TSE:6723), a premier supplier of advanced semiconductor solutions, today announced the ISL70591SEH and ISL70592SEH radiation-hardened precision current sources designed to provide current excitation to the more than 300 resistive sensors that monitor the health of a satellite’s subsystems. The two new Renesas devices are the first current source ICs in its line of space products, and are ideally suited for telemetry, tracking & command, attitude & orbital control, and electrical power subsystem applications.

The ISL70591SEH and ISL70592SEH come in 4-lead ceramic flatpack packages and provide 100µA and 1mA of output current, respectively. They offer a smaller footprint than competitive devices, and replace the discrete solutions that typically require three to five components. The smaller package size boosts reliability by placing the excitation source closer to the sensor. The Renesas current source ICs also reduce system errors by delivering ultra-low noise for higher accuracy over temperature and radiation. Their high output impedance rejects voltage variations on the supply line, and lets designers parallel multiple current sources if they need higher current.

The ISL70591SEH and ISL70592SEH deliver ultra-high performance in the most demanding environments by leveraging Renesas’ proprietary silicon on insulator process, which provides single event latch-up (SEL) and single event burn-out (SEB) robustness in heavy ion environments. Both devices are radiation assurance tested to 100krad(Si) at high dose rate and 75krad(Si) at low dose rate. In addition, Renesas’ innovative floating design lets users create a current source or sink with no ground connection.

“Our new precision current source devices give satellite customers the high performance, ease of use, and small footprint they need for their designs,” said Philip Chesley, Vice President of Industrial Analog and Power Business Division, Renesas Electronics Corporation. “The ISL70591SEH and ISL70592SEH provide a scalable and highly reliable solution that simplifies the sensor health monitoring of critical spaceflight subsystems.”

**Key Features of ISL70591SEH and ISL70592SEH**

* Wide operating range of 3V to 40V allows operation off unregulated 28V power rails
* High initial accuracy (+V = 20V at 25°C)
  + ISL70591SEH: ±0.34%
  + ISL70592SEH: ±0.30%
* Low temperature coefficient of 2.25nA/°C
* Radiation hardness wafer-by-wafer assurance:
  + High Dose Rate (HDR) (50-300rad(Si)/s):100krad(Si)
  + Low Dose Rate (LDR) (0.01rad(Si)/s): 75krad(Si)
* SEE hardness assurance: no SEB/SEL to LETTH,+V =35V, 86MeV•cm2/mg
* Temperature operating range: -55°C to +125°C

The ISL70591SEH and ISL70592SEH can be combined with the following Renesas space parts to form an analog signal chain that includes power management and communications devices: [ISL71590SEH](https://www.renesas.com/products/space-harsh-environment/rad-hard-analog/rh-temperature-sensors/device/ISL71590SEH.html) temperature sensor, [ISL71840SEH](https://www.renesas.com/products/space-harsh-environment/rad-hard-analog/rh-multiplexers/device/ISL71840SEH.html) 16-channel multiplexer, [ISL70517SEH](https://www.renesas.com/products/space-harsh-environment/rad-hard-analog/rh-instrumentation-amplifiers/device/ISL70517SEH.html) instrumentation amplifier, [ISL71090SEH25](https://www.renesas.com/products/space-harsh-environment/rad-hard-analog/rh-voltage-references/device/ISL71090SEH25.html) low-noise voltage reference, 6A synchronous buck regulator, and [ISL72026SEH](https://www.renesas.com/products/space-harsh-environment/rad-hard-analog/rh-can-bus-transceivers/device/ISL72026SEH.html) 3.3V CAN transceiver.

**Availability**

The ISL70591SEH and ISL70592SEH radiation-hardened precision current sources are available now in 4-lead CDFP packages or in die form. For more information on the ISL70591SEH, please visit: [www.renesas.com/products/isl70591seh](https://www.renesas.com/products/space-harsh-environment/rad-hard-analog/rh-current-sources/device/ISL70591SEH.html). For more information on the ISL70592SEH, please visit: [www.renesas.com/products/isl70592seh](https://www.renesas.com/products/space-harsh-environment/rad-hard-analog/rh-current-sources/device/ISL70592SEH.html).

(Note) Renesas branding policy will continue to apply the Intersil brand for military and aerospace products.

**About Renesas Electronics Corporation**

Renesas Electronics Corporation ([TSE: 6723](https://www.jpx.co.jp/english/)) delivers trusted embedded design innovation with complete semiconductor solutions that enable billions of connected, intelligent devices to enhance the way people work and live—securely and safely. A [global](https://www.renesas.com/en-hq/about/company/profile/global.html) leader in microcontrollers, analog, power, SoC products and integrated platforms, Renesas provides the expertise, quality, and comprehensive solutions for a broad range of Automotive, Industrial, Home Electronics, Office Automation and Information Communication Technology applications to help shape a limitless future. Learn more at [renesas.com](https://www.renesas.com/en-us/).

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