40 and 80Mbit Dual-Port Interlaken-LA NSEs Achieve 2BSPS Deterministic Lookups

System engineers at network equipment makers rely on high-performance hardware-based search technology instead of software alternatives to meet dual challenges; i.e., the huge volumes of traffic being generated by mobile and video applications and the transition from IPv4 addresses to the more complex IPv6 protocol.

Renesas enables ultra-fast search engine designs with the top-quality, industry-leading S-series 28nm true TCAM devices. Our latest serial-interface network search engines provide unprecedented performance for a wide range of high-end packet processing applications.

These new 40 and 80Mbit NSEs are ideal solutions for high-performance network applications requiring ultra-fast deterministic packet lookup results – especially Edge and Core routers, as well as Enterprise, Datacenter and Carrier Ethernet switches. Their optimized, dynamically configurable memory core supports over one million records in a single chip and achieves up to two billion searches per second (2BSPS) with deterministic latency.

Why Choose Renesas?

- Global network memory supplier, worldwide support
- Extremely fast memory cell performance
- 28nm process technology for high density, low power
- Proven First-in-Class quality and reliability

Because reliable S-series NSEs have two independent request ports, each search engine can be shared by two host processors and can handle two simultaneous request threads. By adopting the industry-standard Interlaken-LA serial interface, the S-series NSEs eliminate the need for a custom memory controller in the host ASIC or FPGA, drastically reducing the time and cost of developing higher-bandwidth next-generation network equipment.

Features

- High Density
  - 40 and 80Mbits
- High Speed
  - 2 Billion searches per sec.
  - 12.5 Gbps SerDes for 150 Gbps per port
- Low Power Consumption
  - 28nm process
- Flexible & Scalable
  - Two Interlaken-LA ports
  - Fully configurable SerDes lanes
  - Dynamic table-size remapping
  - Multi-bank architecture
- Key Map Engine (KME)

System engineers creating packet-processing equipment with Renesas 40/80Mbit NSEs also benefit from the chips' dynamically configurable memory array and high-speed SerDes lanes. Support for 80-, 160-, 320- and 640-bit search keys and low-power requirements are among the other design features that make these flexible, scalable devices ideal solutions for multiple, eco-friendly platforms that have to meet a wide range of performance requirements.

Part Number:	R8A20646BG-G/R8A20686BG-G
Density:	40/80Mbits
SerDes Speed:	10.1325 Gbps and 12.5 Gbps
Search Speed:	2 BSPS max.
Search Key:	80 / 160 / 320 / 640 bits
Package:	1292-pin FCBGA, Pb-Free

Please contact your local sales rep for more information or visit **renesas.com**

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