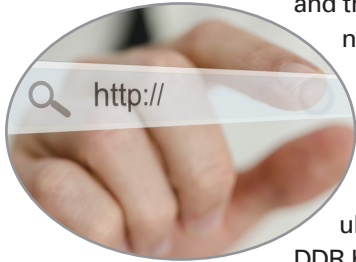# High-Density Quad-Search Network Search Engine Targets Low Latency Applications

Renesas state-of-the-art network search engines provide unprecedented performance for a wide range of high-end packet processing applications. Fueled by the explosion of network traffic generated by mobile and video applications, and the increasing number of rules required for a secured network environment, network equipment makers has to rely on high performance hardware based search technology rather than software alternatives.

Renesas' 40 and 80Mbit NSEs are ideal solutions for high-performance network applications requiring ultra-fast packet lookup results. By employing an 80-bit DDR bus interface optimized for low roundtrip latency, random access performance can improve by a factor of 2 when compared with serial bus interface solutions. The dynamically configurable memory core supports over 1 million records in a single chip and achieves up to 1 billion searches per second (1BSPS) with deterministic latency.

Features include Context Memory for bandwidth optimization and Key Map Engine (KME) to enhance search key processing efficiency. With On-Die Termination (ODT) support and a simple 80-bit bus interface, host ASICs or FPGAs will be able to adapt easily for a wide range of network applications.

Available in pin-out and footprint compatible 40Mbit and 80Mbit density, this family of NSE provides a flexible and scalable solution for system designers who will be able to create multiple platforms to meet a wide range of performance requirements.

Part Number:	R8A20611BG-G/R8A20610BG-G
Density:	40/80Mbits
Interface:	80bit Parallel
Search Speed:	1 BSPS max.
Search Key:	80 / 160 / 320 / 640 bits
Package:	1152 FCBGA, Pb-Free

Features

- High Density
  - 40 and 80Mbits
- High Speed
  - 1 Billion searches per sec.
- Low Latency
  - 80bit parallel Interface
- Low Power Consumption
  - 28nm process
- Flexible & Scalable
  - Dynamic table-size remapping
- Key Map Engine (KME)
- Key Learning
  - Context Registers
- IO Training

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

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

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