Network Search Engine Development Board for the Intel® IXDP2401, IXDP2801 and IXDP2851 Development Platforms

Product Brief
75KTA162134

Introduction

IDT™ provides proven, industry-leading network search engines (NSEs) and a comprehensive suite of software that enable and accelerate the intelligent processing of network services in communications equip-ment. As a part of the complete IDT classification subsystem that includes content inspection engines, the IDT family of NSEs delivers high-perfor-mance, feature-rich, easy-to-use, integrated search accelerators.
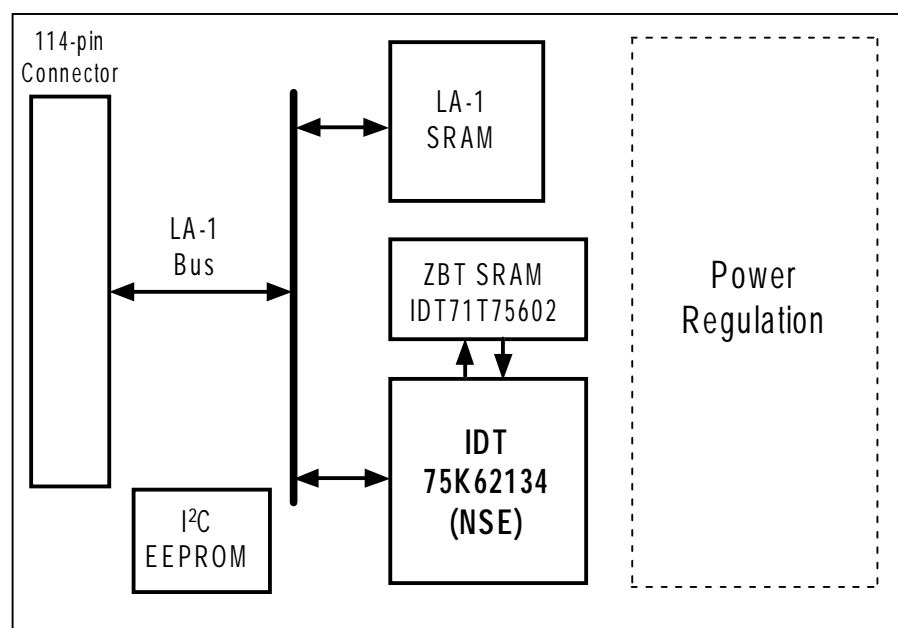
Development Board Description

IDT provides the IDT75KTA162134 development board to further accelerate your application software development. The 75KTA162134 compliments the Intel IXDP2401, IXDP2801, and IXDP2851 development platforms that support the Advanced Telecom Computing Architecture (Advanced TCA) specification to provide a complete hardware search accelerated network processing development platform. Utilizing the IDT 9M NSE with a LA-1 interface (IDT75K62134), the 75KTA162134 enables your Intel IXDP2401/2801/2851 development platform to achieve 100 million searches per second (MSPS) using a 200 MHz QDR II bus frequency. Additionally, resources on the module include an onboard ZBT® SRAM allowing for the storage of NSE associated data, and a QDR SRAM is integrated for auxiliary NPU memory.

The 75KTA162134 is bundled with a comprehensive software suite that consists of control plane, data plane, diagnostic, and development software, including the System Level Architecture Model (SLAM™). The complete software package is fully integrated with the Intel IXA Microengine and control plane software development environments, enabling custom-ers to enjoy lower development costs and improved time-to-market.

Both the 75KTA162134 and its accompanying software are easy to install. The 75KTA162134 directly plugs into the QDR II memory slot via a 114-pin Mictor connector on the Intel IXDP2401/2801/2851 develop-ment platforms.
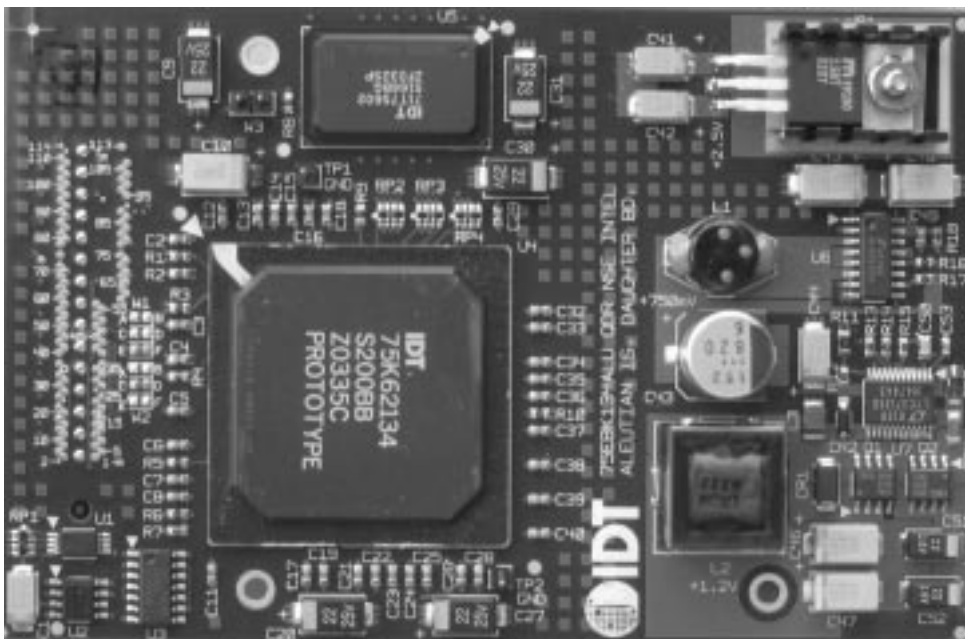
IDT75KTA162134 Block Diagram

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Features

- 100 MSPS at 200 MHz QDR™ II
- 256Kx36 entries of full ternary content addressable memory (TCAM)
- 75K62134 NSE device with integrated LA-1 interface
- 512K x 32 associated data memory on board (ZBT® and/or QDR II SRAM)
- Supports entry widths up to 576 bits
- 16 independently controlled databases
  - Independent width selection
  - Independent depth selection
  - Independent aging
  - Dynamic Database Management™ for up to 70% power savings

- Bundled IDT software for the Intel IXDP2401/2801/2851 development platforms, including:
  - Initialization, Management, and Search (IMS) Software Library – A set of software components that operate in the network processing control plane to support NSE component initialization, advanced database configuration, associated data management, and Global Mask Register (GMR) management.
  - Data Plane Macros (DPM) Library – Data plane macros for each NSE instruction.
  - Intel Lookup Library – Additional control plane and data plane software support that conforms to the Intel Internet Exchange Architecture (IXA) Portability Framework.
  - Diagnostic software for testing the NSE-LA-1 device.
  - System Level Architecture Model (SLAM) – A cycle- and data-accurate simulation model that allows customers to evaluate packet-processing solutions prior to system availability.

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