




# PM5991 ☆

## DIGI-G4 OTN Processor (no Encryption)

Status: In Production

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### Features:

- High-density 400G single-chip line card solution for OTN switching on P-OTP/P-OTNs
- Sub-wavelength Layer 1 OTN encryption solution to secure the cloud
- 25G granularity flexible OTN framer to DSP
- High density 10G, 40G and 100G multi-service support, including Ethernet, storage, IP/MPLS and SONET/SDH
- Transport SDN-ready features, enabling OpenFlow extensions such as network element neighbor discovery

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Overview

Documents

# Device Overview

## Summary

DIGI-G4 is Microchip's fourth-generation OTN processing solution for next-generation OTN switching and packet-optical transport (POTP/P-OTN), WDM/ROADM, and hyperscale data center interconnect (DCI) equipment. Building on the innovations in Microchip's DIGI-120G, which is widely deployed in service provider and hyperscale data center WAN networks today, DIGI-G4 is a 4x100G multi-service OTN processor, scaling line card capacity by 4x, while reducing power per port by 50 percent,as compared to previous generation OTN processors. DIGI-G4 addresses the requirements of SDN-ready, encrypted optical transport infrastructure. Reusing Microchip's proven, service provider-qualified DIGI family OTN switching software development kit (SDK), DIGI-G4 can be leveraged across multiple applications and equipment platforms, providing OEMs with the lowest risk, fastest time-to-market and lowest cost of development.

Variants available with OTN encryption (PM5990) and without OTN encryption (PM5991).

**Benefits for Service Providers & OEMs**

- Lowers CAPEX & OPEX of service provider 100G deployments
  - High-capacity hybrid packet/OTN switching & aggregation maximizes 100G wavelength utilization
  - Universal line card solution simplifies line card inventory management
- Supports hyperscale data center interconnect transport requirements
  - Flexible, low latency, protocol agnostic Layer 1 OTN payload encryption
  - Flexible on-chip OTN switch & Interlaken interconnects enable design of compact, scalable, 'rack-and-stack' data center interconnect WAN transport platforms
- Supports transition to transport SDN-based network architectures
  - Flexible hybrid packet/OTN mapping, aggregation & switching enables virtualization of 100G optical infrastructure
  - Hitless, on-demand scaling of optical connections
  - Features to enable OpenFlow extensions such as network element neighbor discovery
- Accelerates time-to-market & lowers development costs for OEMs
  - High-performance, field-proven OTN-SDK built upon the DIGI family code base, allowing OEMs to reuse existing software investments
  - 'Application-centric' APIs reduce time-to-market by up to 6 months.
- Optimizes power, footprint and cost of line cards:
  - Integrated 100G gearbox for direct connect to CFP2, CFP4 and QSFP28 transceivers.
  - Connects directly to many off-the-shelf Network Processors & Switch Fabrics
  - Integrated PLLs & GCC processor reduces the need for auxiliary components

## Additional Features

**High-density 400G single-chip line card solution for OTN switching on P-OTP/P-OTNs**

**ncryption solution to secure**

**the cloud**

**25G granularity flexible OTN framer to DSP**

**High density 10G, 40G and 100G multi-service support, including Ethernet, storage, IP/MPLS and SONET/SDH**

**Transport SDN-ready features, enabling OpenFlow extensions such as network element neighbor discovery**

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