

# PM6010/PM6011 DIGI-G5

FlexE Enabled and Ethernet-Optimized OTN Processor for Terabit-Class Applications

## Summary

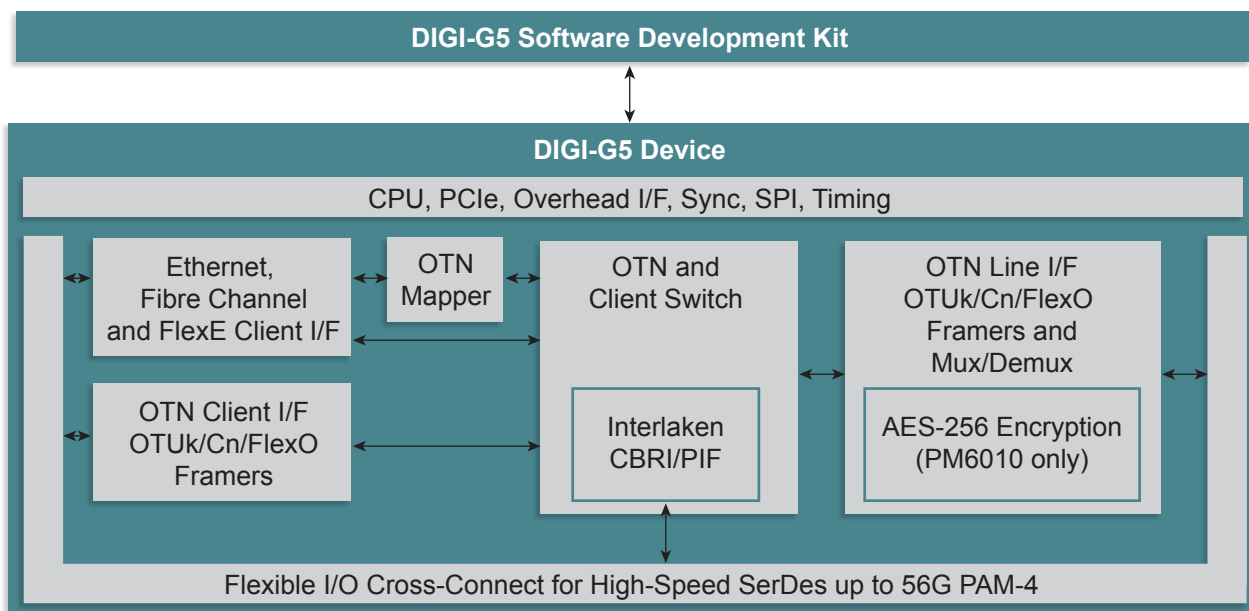
Built for the cloud and 5G mobile transport era, the DIGI-G5 is a Flexible Ethernet (FlexE) enabled and Ethernet-optimized Optical Transport Network (OTN) processor, offering a total interface bandwidth of up to 1.2 Tbps.

Representing five generations of Telecom and Hyperscale Cloud Service Provider-qualified OTN processing innovation, the DIGI-G5 delivers dense Ethernet and FlexE client, and “Beyond 100G” (B100G) OTN transport support for cloud-scale 100G+ packet-optical, OTN switching, DWDM and Data Center Interconnect (DCI) optical networking applications.

DIGI-G5 is complemented by Microchip’s third-generation 100G OTN Software Development Kit (SDK) that enables maximum development leverage across multiple line card designs, applications and equipment platforms, reducing development costs while accelerating time-to-market.

## Applications

- High-density NxOTU4 and NxOTUCn line cards for OTN switches
- High-density line cards for hybrid OTN/packet switches
- Multi-service multi-rate high-density client cards
- Universal line/client cards
- Flexible transponders/muxponders (FlexPonders)
- Add Drop Multiplexers (ADMs)
- High-density FlexE capable data center interconnect
- Distributed OTN switches



## DIGI-G5 Device Family

- PM6010: DIGI-G5 with encryption support
  - PM6011: DIGI-G5 without encryption support
- Contact Microchip for the full ordering part number.

## Highlights

- OTN processor for terabit-class applications
- FlexE support
- Next-generation IEEE compliant Ethernet client support from 10 GbE to 400 GbE
- OTUk, OTUCn and Flexible OTN (FlexO) support
- Provides transparent and packet mapping of Ethernet over OTN
- Supports transparent mapping of Fibre Channel clients over OTN
- Enables transport of greater than 100G packet flows (B100G)
- All SerDes support up to 56G PAM-4
- FIPS 197 certified AES-256 OTN payload encryption
- LLDP monitoring for Ethernet and FlexE clients
- Flexible Interlaken system interface
- Integrated packet test set enabling a wide-array of in-service test capabilities
- Integrated synchronization support including IEEE 1588v2/PTP, SyncE and IRIG/ToD

## Benefits

- Scales line card capacity by 3x while reducing power by up to 50% per 100G port
- Provides seamless connectivity with next generation coherent DSPs, optical transceivers, and Fabric Interface Chips (FICs)
- Enables WAN topology mapping in DCI and SDN applications
- Enables a single-chip solution across multiple applications
  - Packet-optical line and client cards
  - Transponders and muxponders
  - Data center interconnect platforms
- Integrated OTN switch with DIGI-Mesh-Connect architecture enables fabric-less compact OTN switching platforms
- Third-generation 100G OTN SDK reduces deployment risk and lowers development costs with field-proven API libraries and firmware
- On-chip processor enables 1 Tbps application performance

