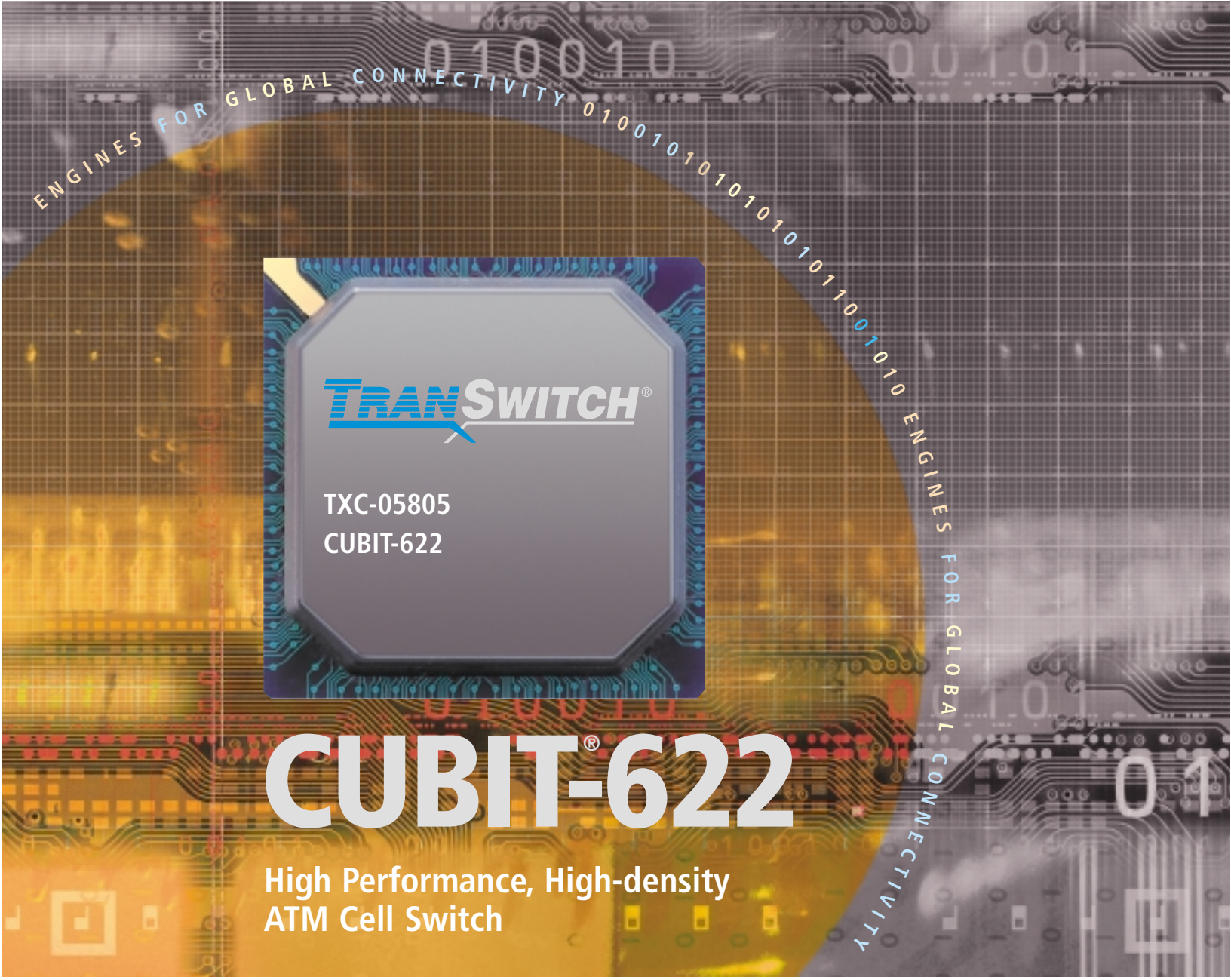


CUBIT®-622

High Performance, High-density ATM Cell Switch

Your Single Chip Solution for *CellBus*® Multi-PHY Access.

The CUBIT-622 supports operation rates of up to 622 Mb/s of unicast or multicast data with port density of up to 64 PHY ports. The CUBIT-622's combination of field-proven CUBIT technology, OC-12 bandwidth and high performance features, simplify your system architecture design decisions - reducing your costs and time-to-market in applications such as:

- **Digital subscriber loop access multiplexers**
- **ATM, IP frame relay switches**
- **Broadband switching systems**
- **Access concentrators**
- **ATM internetworking equipment**
- **Edge switches**

CUBIT-622

High Performance ATM Switch

Field-proven technology.

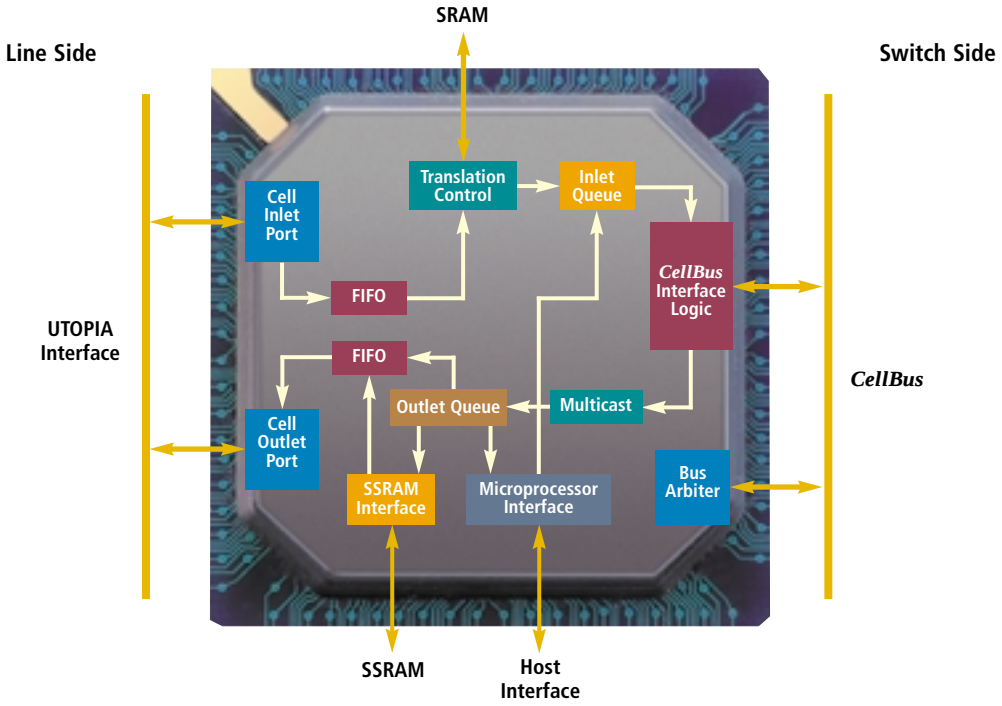
Based on TranSwitch's field-proven CUBIT technology, the **CUBIT-622** is a high performance ATM switch that interfaces directly with UTOPIA level 1/2 (8/16 bit) compliant devices. It supports high-density switching of up to 64 PHY ports with total throughput rates of up to 622 Mb/s. The **CUBIT-622** efficiently incorporates all functions necessary for ATM cell transfer at OC-12 rates including cell address translation, cell routing and outlet cell queuing. Outstanding management capabilities and prioritized service level support for unicast and multicast cell transfers ensures reliable switching through a high bandwidth interface. In combination with other TranSwitch complementary devices, the **CUBIT-622** supports a multitude of system configurations based on TranSwitch's patented *CellBus* switch fabric technology including multiplexing and switching systems. In short, **CUBIT-622** offers both high performance and high throughput in a flexible and cost-effective package.

Built-in flexibility.

The UTOPIA port constitutes the main interface for all cell traffic between the **CUBIT-622** and other physical layer devices. The **CUBIT-622** supports both slave and master modes of operations. In addition, tandem operation is available in master mode. This enables two **CUBIT-622**s, one device the primary UTOPIA master, and the other the secondary master, to be connected to different *CellBus* buses while still having the ability to communicate to the same PHY devices. Tandem operation can provide either backplane redundancy or increased system capacity and lower latency through load sharing. This built-in flexibility enables systems engineers to efficiently tailor their designs to meet their own unique system requirements.

Superior functionality for maximum control.

The **CUBIT-622**'s on-chip memory controller provides a glueless interface to support up to 8 Mbits of external translation RAM and up to 16 Mbits of queuing RAM for a maximum queue size of 30,000 cells.



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Depending upon the requirements of your *CellBus* application, the **CUBIT-622** supports Point-to-Point (unicast) and Point-to-Multipoint (multicast or broadcast) cell routing. Up to 32 **CUBIT-622** devices can be connected by one *CellBus* to provide over 1Gb/s of cell switching and aggregation of over 1000 end-user devices.

Outstanding traffic management capabilities guarantee that allocated bandwidth and QoS requirements are consistently maintained. The **CUBIT-622** supports CBR, VBR-rt, VBR-nrt and UBR/GFR ATM service levels. Features such as Explicit Forward Congestion Indication (EFCI), Generic Flow Control (GFC) field insertion and packet discard contribute to the superior functionality of the **CUBIT-622**. The **CUBIT-622** can send control cells via its microprocessor bus to other *CellBus* devices, thus simplifying control of the individual devices. Loopback cells received from the *CellBus* can be redirected back to the initiating device, which streamlines testing. The **CUBIT-622** can also be configured as a *CellBus* monitor to track and identify all *CellBus* traffic.

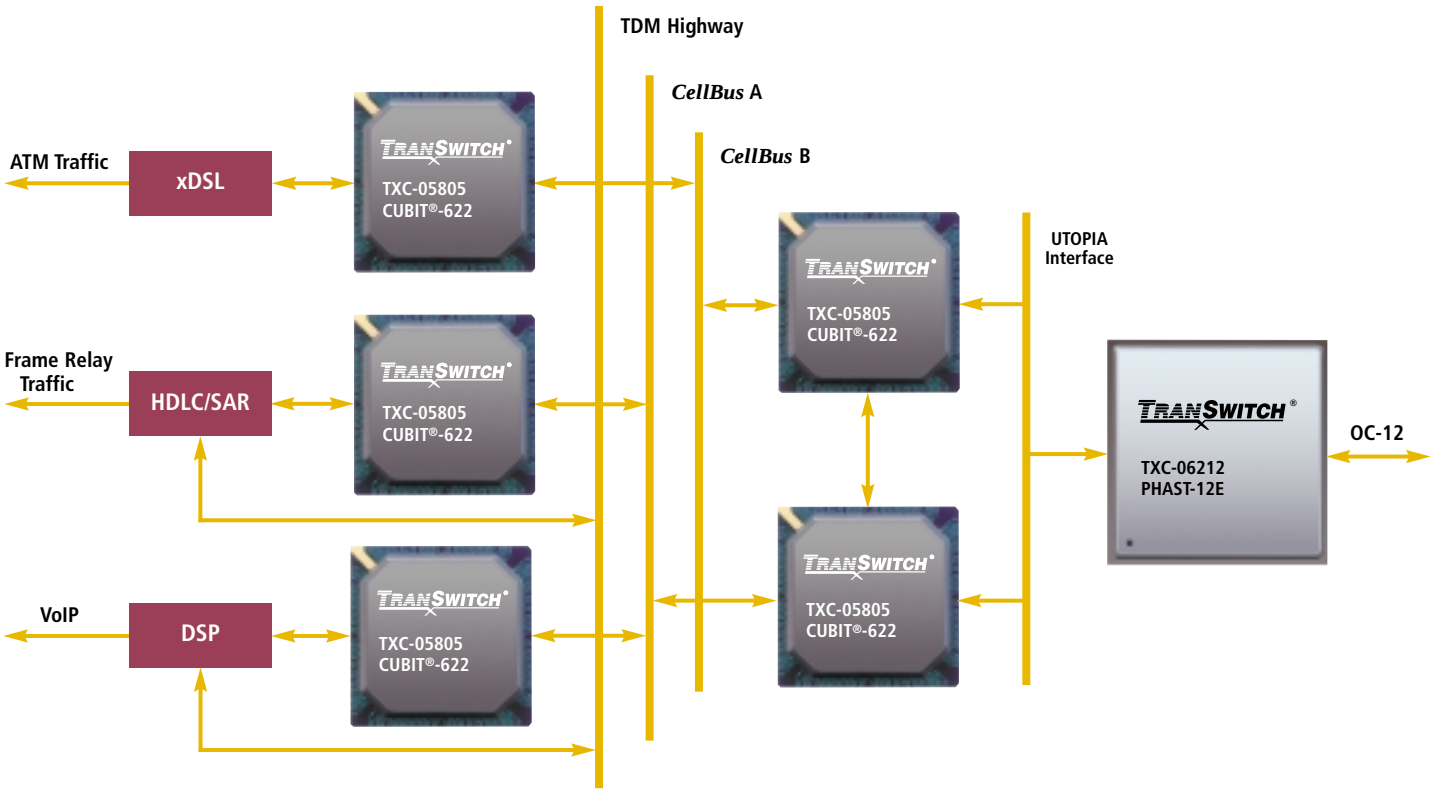
Interoperability simplifies design.

The **CUBIT-622** provides a reliable and cost-effective solution for high-density, OC-12 bandwidth system implementations. When used in conjunction with TranSwitch's PHAST and *CellBus* family devices such as the AsTriX cell and packet switch and the Sertopia serial transceiver chip, a broad range of multi-service access, transport and aggregation applications can be realized quickly and easily.

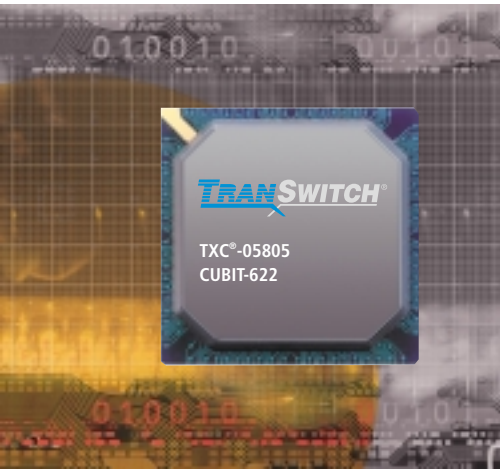
Foundation for success.

TranSwitch provides an extensive array of design support for the **CUBIT-622**, including an easy-to-use API-based device driver, reference designs, BSDL file, IBIS model, customer development boards, and a comprehensive document set - all backed by TranSwitch's world-class customer engineering capabilities.

CUBIT-622: Dual *CellBus* Load Sharing Cell Switch with OC-12 Up-link



TRANSWITCH®



KEY FEATURES of the CUBIT-622 TXC-05805

Interfaces

- Line: 64 port multi-PHY UTOPIA level 1/2 interface
- Control: Motorola and Intel compatible microprocessor interface
- Memory: Translation and buffer RAM
- Test: Boundary scan per IEEE 1149.1

Performance Features

- 622 Mb/s switched cell throughput
- Inlet-side address translation and routing header insertion
- Insertion of Generic Flow Control (GFC) field in real time
- Internal GTL+ transceivers for hot-swappable *CellBus* connection
- Tandem operation supports redundancy or load sharing

Management Functions

- Service level priority management
- Programmable OAM cell routing
- Programmable Explicit Forward Congestion Indication (EFCI) insertion
- *CellBus* traffic monitor mode
- Integrated *CellBus* arbiter circuitry

Physical Characteristics

- Voltage: 2.5v power supply, 3.3v I/O tolerance
- Size: Compact - 23 x 23 mm
- Package: 376-lead PBGA

TranSwitch Corporation is a leading innovator of VLSI solutions for multi-service access and transport applications. TranSwitch serves the Original Equipment Manufacturers (OEMs) who supply three fast-growing communications end markets: Multi-service Access Infrastructure (including Wireless), Broadband Internet Infrastructure, and Converged Public Networks. Our solutions span Asynchronous/PDH, SONET/SDH, and ATM/IP technologies, providing the core functionality for network elements including:

Multi-service Access Devices • DSLAMs • SONET/SDH Add/Drop Multiplexers • Access Concentrators

Edge Switches • Voice Gateways • ATM, IP, and Frame Relay Switches

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