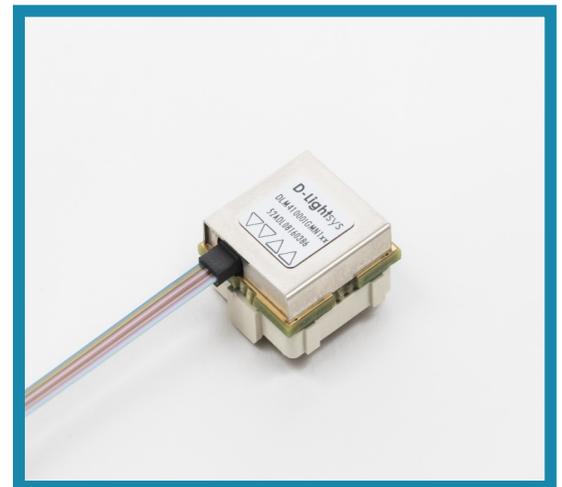


PRODUCT BRIEF

D-Lightsys® 10+ Gbps multi-channel transceivers

- Several configurations in a single package
 - Four channel transceiver (4Tx + 4Rx)
 - Twelve channel emitters (12 Tx)
 - Twelve channel receivers (12 Rx)
- 1 to 10 or 12 Gbps per channel @ 850 nm (depending on package)
- Extra small pigtailed package
- Pluggable or solderable electrical interface
- Low power consumption
- Internal temperature compensation for qualified operational temperature range of [-40; +90 °C]
- Performance monitoring and control functions



PRODUCT BRIEF

D-Lightsys® 10+ Gbps multi-channel transceivers



PAGE: **1/4**

REVISION: **1.0**

ISSUE: **20-12-2018**

PART NUMBER: **Du-xx-1000-w-yz-vv**

Product Description

- D-Lightsys® multi-channel 10+G range provides integrated devices for converting between high speed optical and electrical I/O
- Optimized for short distance, high data rate optical communication over multimode fiber
- The devices are compatible with various differential electrical signals such as LVDS, CML and PECL and can stand many digital balanced protocols as 10 Gigabit Ethernet, Fiber Channel, Infiniband, etc.

Designed for high reliability and performance in harsh environments, the D-Lightsys® 10+ G multi-channel transceiver has been qualified for following demanding standards such as Mil-STD-883 and Mil-STD-810 and fully complying with ARINC 804.

Markets and Applications

D-Lightsys® optoelectronic modules are designed for applications not addressed by commercial off-the-shelf telecom components, where massive data transfer is required.

- Optical XMC mezzanine board
- Camera data transfer / Cockpit display video transmission
- Board-to-Board communication for embedded computers
- Massive parallel data processing for radars
- Sensors interconnection

Customer Benefits

- D-Lightsys® modules are state-of-the-art active components for demanding environments and show the best in class technical performances in the smallest package available on the market
- These devices show a high link budget due to our proprietary technology where the internal optical path is free of any intermediate optics, disconnect and air gap, ensuring an optimal matching between fiber and laser/photodetectors
- The D-Lightsys® technology is mature and has been flying since 2007

PRODUCT BRIEF

D-Lightsys® 10+ Gbps multi-channel transceivers



PAGE: 2/4 REVISION: 1.0 ISSUE: 20-12-2018 PART NUMBER: Du-xx-1000-w-yz-vv

Key Specifications

D-Lightsys® modules can be used in two driving modes, to be selected by the end user:

- A stand-alone mode where internal parameters of the modules are pre-set in factory for ease of use. User accesses main control parameters as well as internal monitoring data thanks to the module's IN/OUT pins control. In that mode, the module implements a temperature compensation mode against external temperature variations thanks to the internal microcontroller.
- A remote control mode where the internal parameters of the modules are set by the user through a serial interface (I²C type).

Parameter		Symbol	Min	Typ.	Max	Unit
Supply voltage ⁽¹⁾		V _{CC1&2}	3.0	3.3	3.6	V
Power consumption ⁽²⁾	Per channel	P _{ch}	-	90	135	mW
Data rate per channel		B	1.0	-	12.0	Gbps
Qualified temperature		T _{op}	-40	-	+90	°C
Center wavelength		λ _c	830	850	860	nm
Core diameter of optical fiber pigtail		D _c	-	50	-	μm
Optical output power (Tx)	Per channel	P _{out}	-2	-	+3	dBm
Receiver Sensitivity (Rx) ⁽³⁾	5 Gbps	P _{inMin}	-	-16	-	dBm
	10.3 Gbps	P _{inMin}	-	-14	-12	dBm

Notes:

- 1- Minimum supply voltage is 3.2V for multi-channel receivers
- 2- Power consumption when operating at full speed over all the temperature range and for V_{cc}= 3.3V
- 3- For a 10⁻⁹ BER with a PRBS 2⁷-1 and a total jitter source of 10ps at module inputs

PRODUCT BRIEF

D-Lightsys® 10+ Gbps multi-channel transceivers

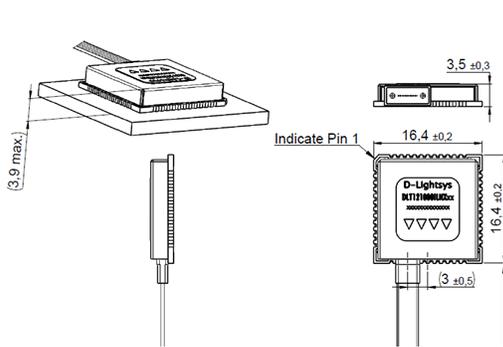


PAGE: 3/4 REVISION: 1.0 ISSUE: 20-12-2018 PART NUMBER: Du-xx-1000-w-yz-vv

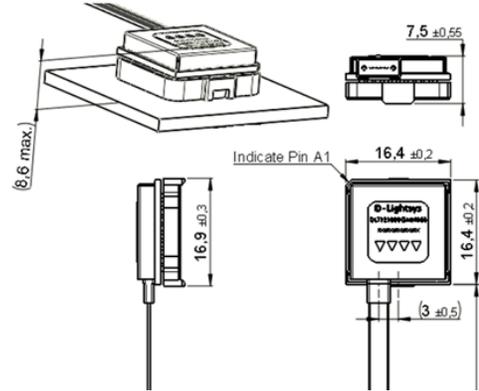
Package and Interfaces

Mechanical

D-Lightsys® multi-channel modules are available in two packages: a pluggable and a solderable one, both with extra small form factors. The solderable package is especially thin, with an on-board height of less than 4 mm.



Solderable 48 pins package



Pluggable 100 pins package

Optical

D-Lightsys® multi-channel module's optical output is made of a 12-channel ribbon fiber, ending with an MT ferrule. C-MTitan™ and Q-MTitan™ contacts can be set on the MT ferrule to fit a wide range of circular and rectangular connectors.

<p>N option: MT ferrule</p>	
<p>Q option: ARINC 846 Q-MTitan™ contact</p>	
<p>C option: C-MTitan™ contact</p>	
<p>O option: MPO/MTP connector</p>	

PRODUCT BRIEF

D-Lightsys® 10+ Gbps multi-channel transceivers

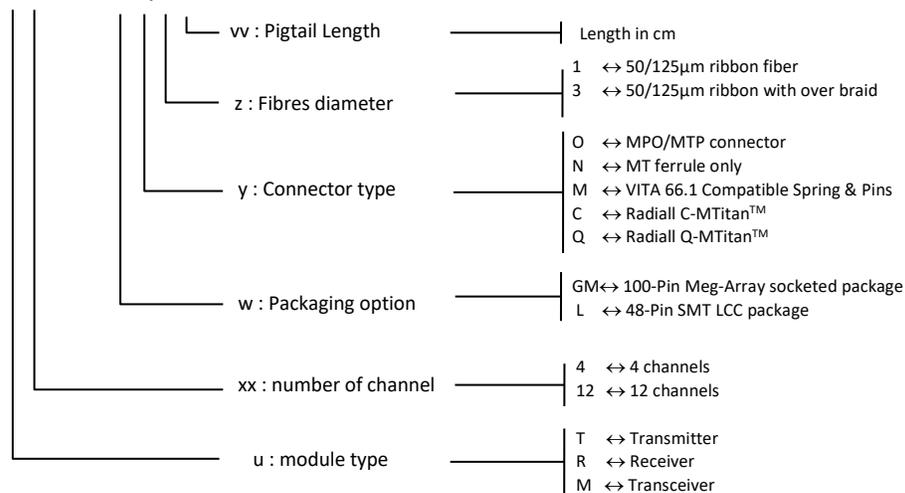


PAGE: 4/4 REVISION: 1.0 ISSUE: 20-12-2018 PART NUMBER: Du-xx-1000-w-yz-vv

Ordering Information

Several versions of D-Lightsys® 10 Gbps multi-channel modules are currently available. For other configurations, please contact Sales.

Du-xx-1000-w-yz-vv



Contacts

Sales:

For Europe: info@radiall.com

For USA: infousa@radiall.com

For Asia: infohk@radiall.com