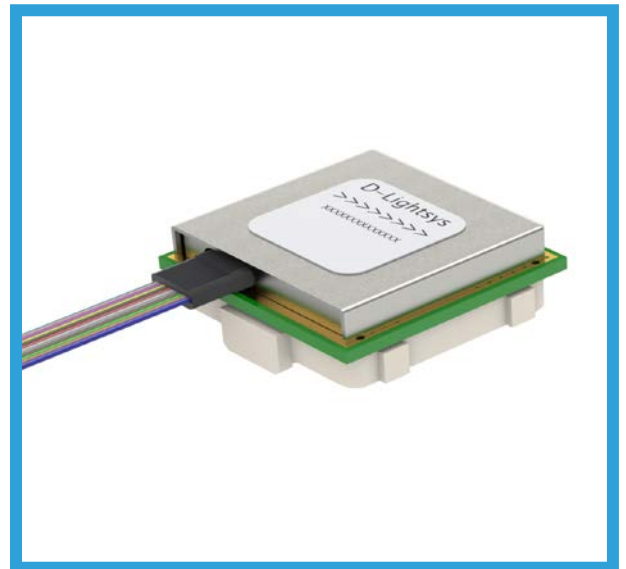# PRODUCT BRIEF

D-Lightsys® 12-channel transmitter DT-12

- 12-channel optical transmitter
- 1 to 10.31 Gbps per channel
- Protocol agnostic
- Pluggable electrical socket interface
- Pigtailed optical ribbon
- Qualified for industrial temperatures from -40 to +90 °C
- Temperature compensation for performance optimization in severe environments
- Qualified per MIL-STD-810 and MIL-STD-883

PRODUCT BRIEF
D-Lightsys® 12-channel transmitter DT-12

Product Description

DT-12 parallel optoelectronic modules transmit high data rate signals on 12 independent channels.
- Optimized for short distance, high data rate optical communications on multimode ribbon fiber and compliant with ARINC 804 and MIL-STD standards
- Protocol independent and can be applied to 10 Gigabit Ethernet (both 1 GBE and 10 GBE), Fibre Channel, InfiniBand QDR, DDR, XAUI or any specific communication application
- Operates within the temperature range [-40 to +90 °C]
- Integrates state-of-the-art 850 nm GaAs VCSEL arrays and is optimized for low power consumption
- Available with 50/125 and 62.5/125 µm fiber ribbon pigtail termination around the standardized MT ferrule

Markets and Applications

D-Lightsys® DT-12 modules are embedded in many defense and aeronautic applications:
- Digital video transmissions
- Interconnect sensors
- Radar
- Data processing
- Industrial data links

Customer Benefits

- Very compact packaging (16.4 x 16.4 x 8.6 mm)
- High optical power: > -2 dBm
- Ribbon length and optical contact upon request
- Hot pluggable (plug and play)
- Supports non-standard protocols
- No mandatory heat sink for customer
- Programmable input equalizer function that enables the module to handle long trace transmission
- Very low power consumption: typical 90 mW per channel

Key Specifications

General Specifications

Parameter		Symbol	Min	Typ.	Max	Unit	Notes
Supply voltage (VCC1&2)		$V_{CCT\&R}$	3.0	3.3	3.6	V	-
Supply current		I_{CC}	-	380	420	mA	-
Power consumption	12 channels	P_{tot}	-	1080	-	mW	-
	Per channel	P_{ch}	-	90	-	mW	-
Data rate per channel DT-12-255		B	1.0	-	4.25	Gbps	-
Data rate per channel DT-12-1000		B	1.0	-	10.31	Gbps	-
Qualified temperature		T_{op}	-40	-	+90	°C	-

Optical Specification

Parameter	Symbol	Min	Typ.	Max	Unit	Notes
Center wavelength	λ_c	840	850	860	nm	-
Core diameter of the optical fiber ribbon	D_c	50	-	62.5	µm	OM1/OM2/OM3
Tx optical output power per channel	P_{out}	-2	-	3	dBm	Class 1 laser products according to IEC 60825-1/2 standard
Tx optical output power variation over the specified temperature range	ΔP_{out}	-	2	-	dB	-
Tx optical modulation amplitude	OMA	-	750	-	µW	-

Package and Interfaces

Indicate Pin A1

D-Lightsys
DLT121000GAB255

Pigtail Length

Non contractual visual

Ordering Information

DT12 Functionality	XXX Data rate	WW Package option	y Optical interface	Z Optical fiber	VV Pigtail length
12-channel transmitter	**255** 1 - 4.25 Gbps	**GM** 100-pin MEG-Array connector	**MT ferrule**	**Multimode fiber** OM1/OM2/OM3	**Length**
	1000 1 - 10.31 Gbps		**C-MTitan™**		
			Q-MTitan™		
			MPO/MTP connector		
			VITA66.1 compatible		
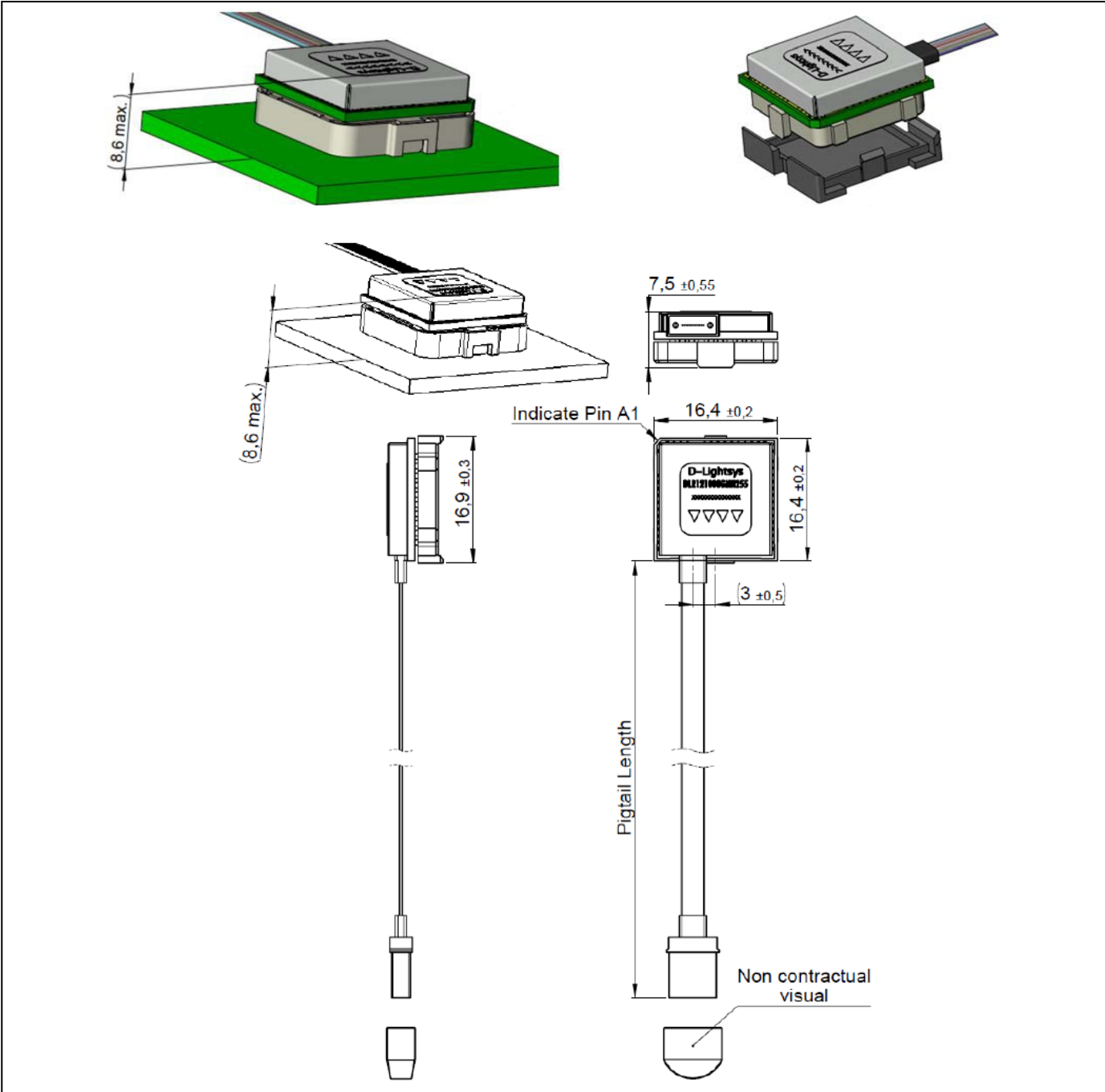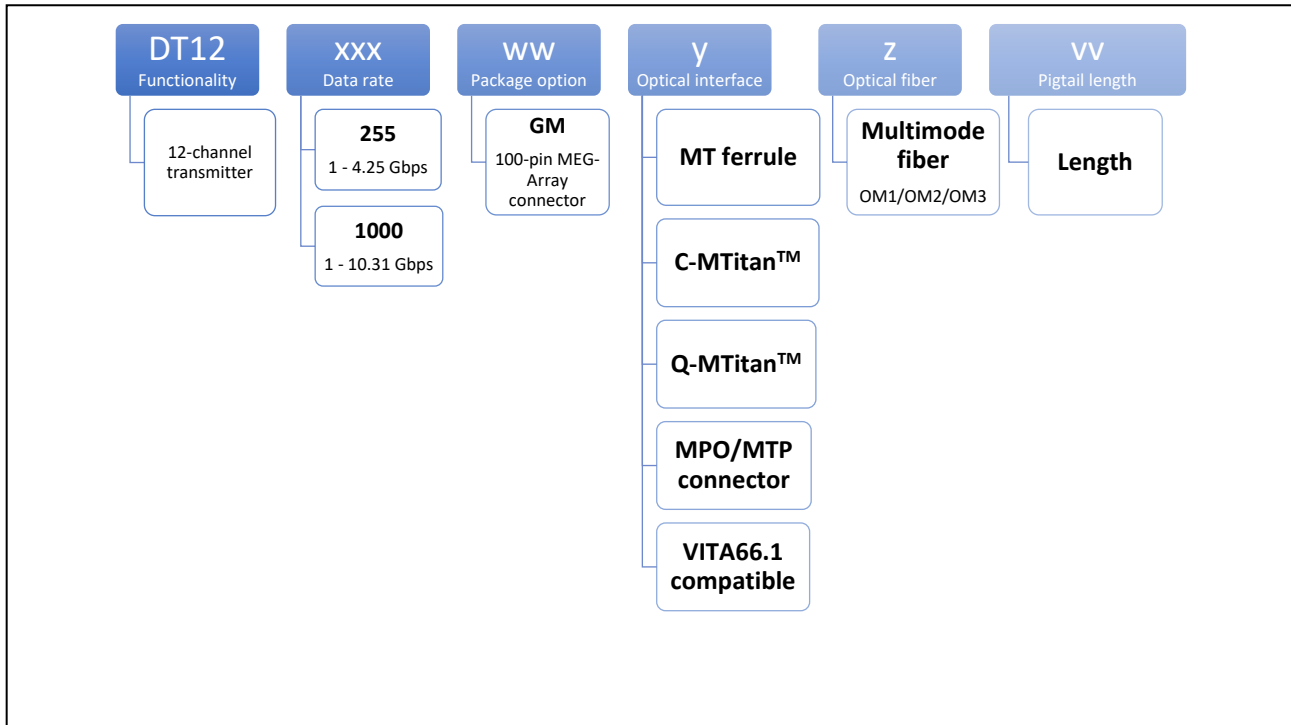
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