

PRODUCT BRIEF

D-Lightsys® transceiver SM

PAGE: 1/4 REVISION: 1.0 ISSUE: PART NUMBER:

Product Description

SM optoelectronic modules are full duplex transceivers.

- Optimized for short distance, high data rate optical communications 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, XAU1 or any specific communication application
- Operates within the temperature range [-40 to +90 °C]
- Integrates state-of-the-art 850 nm GaAs VCSEL and is optimized for low power consumption
- Available with 50/125 and 62.5/125 μm fiber and various optical contacts

Markets and Applications

SM 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 9 mm)
- High optical budget link: > 8 dB @ 10.31 Gbps
- Cable length and optical contact upon request
- Hot pluggable (plug and play)
- Supports non-standard protocols
- No mandatory heat sink for customer
- Programmable input equalizer and output swing/pre-emphasis functions that enable the module to handle long trace transmission
- Very low power consumption: typical 200 mW

PRODUCT BRIEF

D-Lightsys® transceiver SM

PAGE: 2/4 REVISION: 1.0 ISSUE: PART NUMBER:

Key Specifications

General Specifications						
Parameter	Symbol	Min	Typ.	Max	Unit	Notes
Supply voltage (V _{CCr} &V _{CCR})	V _{CCt&R}	3.0	3.3	3.6	V	-
Supply current	I _{CC}	-	60	75	mA	-
Power consumption	Tx + Rx P _{tot}	-	200	250	mW	-
Data rate per channel SM-255-GM	B	1.0	-	4.25	Gbps	-
Data rate per channel SM-1001-GM	B	1.0	-	10.31	Gbps	-
Qualified temperature	T _{op}	-40	-	+90	°C	-

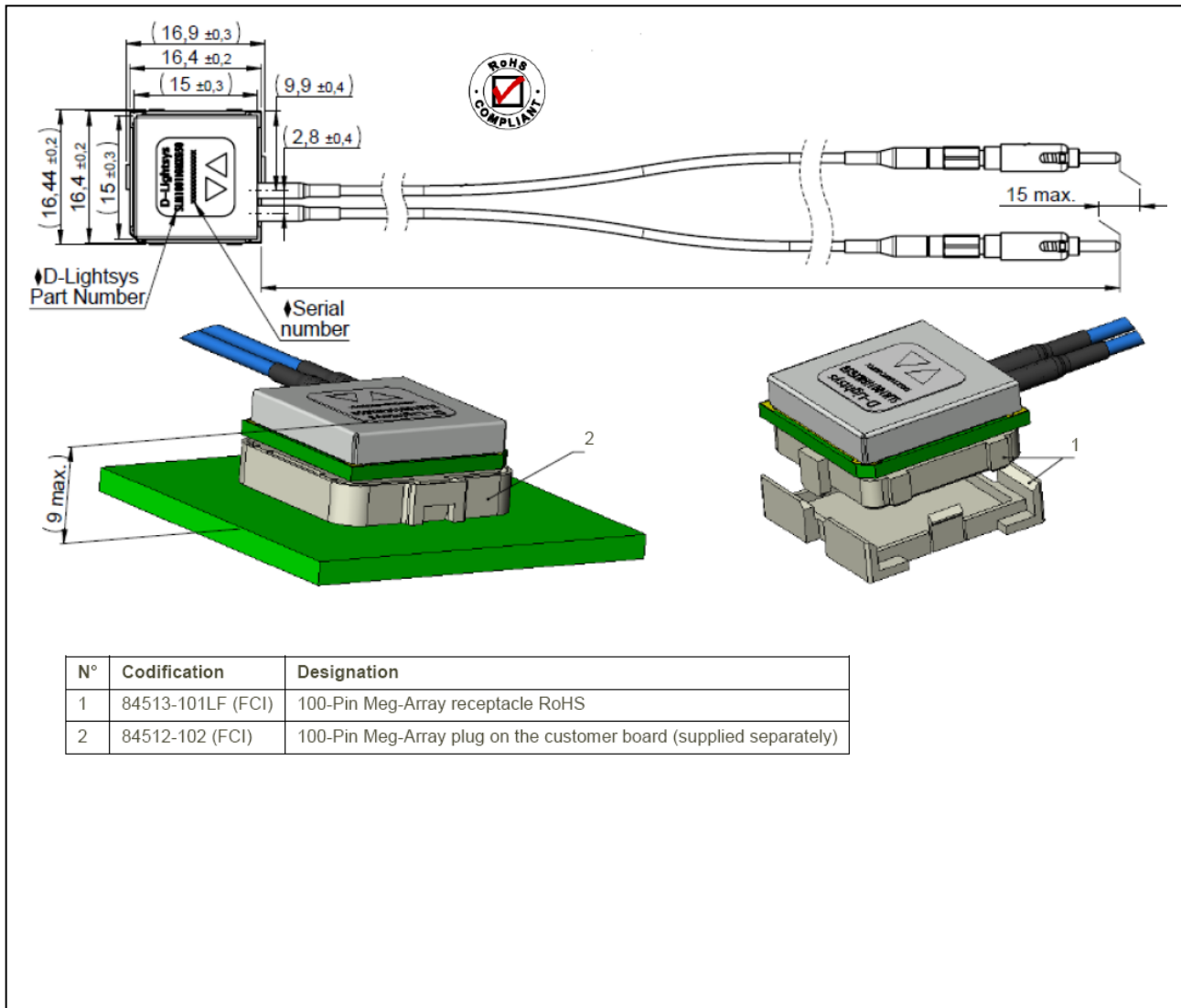
Optical Specification						
Parameter	Symbol	Min	Typ.	Max	Unit	Notes
Center wavelength	λ _c	840	850	860	nm	-
Core diameter of the optical fiber ribbon	D _c	50	-	62.5	μm	OM1/OM2/ OM3
Tx optical output power per channel	P _{out}	-2	-	3	dBm	Class 1 laser products according to IEC 60825- 1/2 standard
Tx optical output power variation over the specified temperature range	ΔP _{out}	-	2	-	dB	-
Tx optical modulation amplitude	OMA	-	750	-	μW	-
Receiver Sensitivity	10.31Gbps	P _{inMin}	-12	-10	dBm	BER<10 ⁻¹²
	4.25Gbps	P _{inMin}	-14	-12	dBm	

PRODUCT BRIEF

D-Lightsys® transceiver SM

PAGE: 3/4 REVISION: 1.0 ISSUE: PART NUMBER:

Package and Interfaces



Technical drawing of the D-Lightsys transceiver SM. The drawing includes a top view with dimensions: (16,9 ±0,3) mm total width, (16,4 ±0,2) mm width of the main body, (15 ±0,3) mm width of the connector area, (9,9 ±0,4) mm height of the connector area, (2,8 ±0,4) mm height of the main body, (16,44 ±0,2) mm total height, (16,4 ±0,2) mm height of the main body, and (15 ±0,3) mm height of the connector area. A RoHS COMPLIANT logo is present. A cable with a length of 15 max. is shown. Two assembly views are shown: view 1 shows the transceiver mounted on a 100-Pin Meg-Array receptacle (part 1), and view 2 shows the transceiver mounted on a 100-Pin Meg-Array plug (part 2) on a customer board. The plug height is indicated as 9 max. Labels for 'D-Lightsys Part Number' and 'Serial number' are also present.

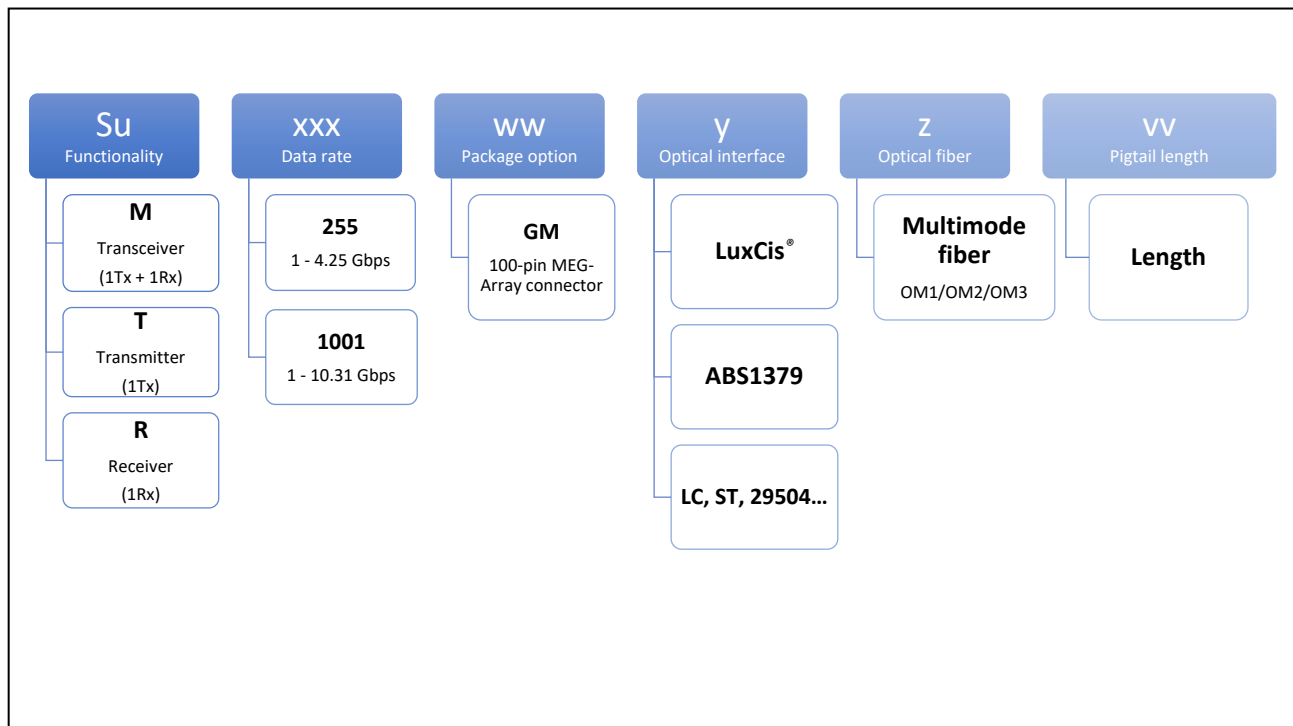
N°	Codification	Designation
1	84513-101LF (FCI)	100-Pin Meg-Array receptacle RoHS
2	84512-102 (FCI)	100-Pin Meg-Array plug on the customer board (supplied separately)

PRODUCT BRIEF

D-Lightsys® transceiver SM

PAGE: 4/4 REVISION: 1.0 ISSUE: PART NUMBER:

Ordering Information



Contacts

Sales:

For Europe: info@radiall.com

For USA: infousa@radiall.com

For Asia: infohk@radiall.com

DOC
ISSUE
DATE OF EDITION