

A. Family

Radiall Active Optics and D-Lightsys® are transparent & protocol independent optical transmitters, receivers & transceivers designed for harsh environments, demanding applications and markets. These products operate in a large temperature range [-40 to +90°C] and are available with a variety of options. There are several package options offered including, surface mount, pluggable and multi-source agreements as well as specific custom packages which cover bit rates up to 10 Gbps.



Aerospace
Avionics is a demanding environment where weight and power consumption are critical, especially in cockpit displays or avionics bays.



Defense
Radars and on-board electronic warfare systems use processing capacities that need optical interconnect solutions.



Medical
Signal processing capacities enable very high performances in imaging and diagnostics systems.



Oil & Gas
Oil & gas prospection and extraction require high temperature optical interconnect solutions that are able to handle field operations.

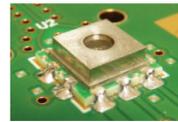
Series



S-Light
Single-port optical transceivers for harsh environment applications are available in transmitter, receiver or transceiver. S-Light transceivers are among the world's smallest transceivers for severe environment applications. They are the perfect match for end-point equipment and sensors, where low power consumption and small board real-estate are key.



D-Light
Multiple channel optical transceivers for harsh environment applications are available in transmitter, receiver or transceiver. Available in 2, 4 or 12 channel counts, the D-Light family offers the highest channel integration density. This family has been designed for direct integration with high-speed FPGAs & SERDES to enable state of the art data & signal processing applications. Several package options are offered from surface mount to pluggable. The D-Light family is available in 40 Gbps, 120 Gbps and above.



F-Light
Designed for short distance communication, the F-Light family enables board-to-board communication at a very high speed without the need to use fiber. They are compatible with automatic solder reflow processes and with large misalignment tolerances and vibrations. The F-Light optical transceivers are the perfect solution for high performance processing boards, mezzanines and in-between cabinets.

Type

S-Light & D-Light families are available as Transmitter (T), Receiver (R) or Transceiver (M). Transceivers must have an equal number of transmitting and receiving channels.

B. Options and Customization

Channel Count

S-Light is a single channel device: either unidirectional (single Tx or Rx) or bidirectional (Tx and Rx). D-Light families are available in 2, 4 or 12 channels as a single transmitter or receiver. A quad channel (4 Tx & 4 Rx) is also available.

Bit Rate (Gbps)

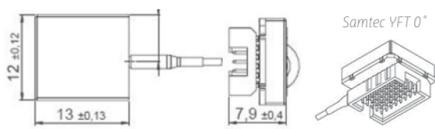
S-Light & D-Light families are available in two bit rate ranges: 0.1 to 4.5 Gbps (251) and 5 to 12 Gbps (1000). Modules are protocol independent and compatible with LVDS & CML-3.3v standards. DC to 10 Mbps devices are only available in the SFF (2x5) package.

Packaging

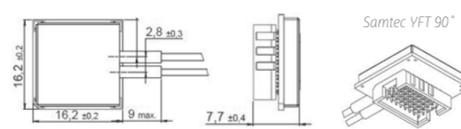
S-Light & D-Light families are available in surface mount or pluggable packages. Surface mount packages are ideal for low profile applications and very harsh environment applications. Pluggable packages simplify module integration and handling. The SFF (2x7) option is only available with electronics revision 2.0 (Bit Rate option 252).

S-Light - Pluggable packages

40-Pin Narrow Plug - IGM option



40-Pin Plug - IGV option



Qualifications

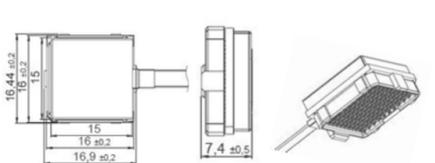
All active solution proposed packages have been extensively qualified through MIL-STD-810 e/g, MIL-STD-883e and ARINC 804 standards.

S-Light and D-Light families are compatible with vibration up to 50G_{RMS} and shocks above 1500 g.

The operating temperature range is -40 to +95°C with humidity up to 90%.

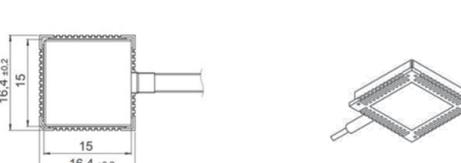
D-Light - Pluggable packages

100-Pin Plug - IGM option



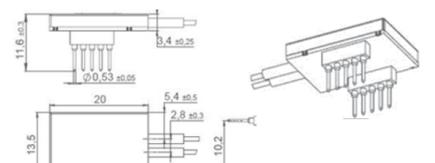
Surface Mount

48-Pin LCC package - IL option



Through Holes

Through Holes - IS option (2x5 only for 251 and 2x7 only for 252 ver)

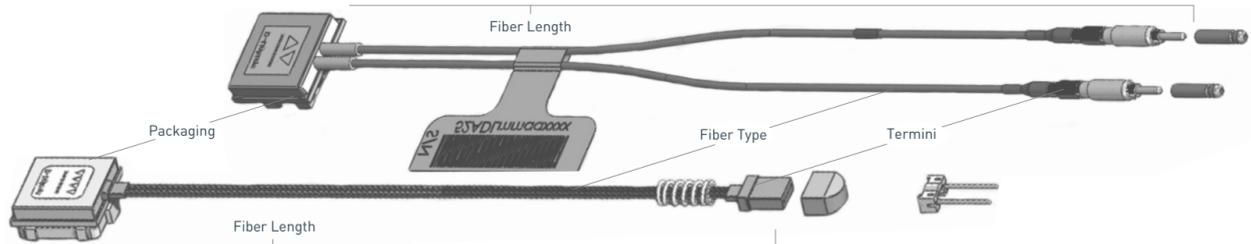


Optical Termini/Connectors

A large variety of termini/connectors are available, ranging from telecom standards (LC, ST, etc) to military specifications (29504-4/5, expanded beam) or avionics (ARINC 801, ABS1379). MT ferrule based connectors are used for the D-Light family (MTP/MPO, VITA 66.7, etc). Single Fiber Optic termini can only be used on individual fiber modules (S-Light or 2 channel D-Light).

Fiber Type

Various fiber options are available. S-Light uses single ruggedized fiber patch cords (Nexans, Gore, etc). D-Light uses bare ribbon fibers that are compatible with high temperatures. Nexans (62.5/125/900 μm) or Gore (G:50 & H:62.5/125/1200 μm) are recommended fiber cables for harsh environments. For additional fiber choices, please contact your local Radiall representative.



Module pigtail lengths are customizable from 10 to 50 cm with a typical tolerance of 15 mm. Tight tolerances are also available with a precision of 5 mm. Pigtails are strongly fixed to the module devices for high level of integration and robustness.

C. Part Numbers

Part Numbers

The pigtail length is expressed in centimeters. There are no decimal values for normal precision (-L25 for 25 cm pigtail) and a resolution of 1 mm is available in a tight tolerance option (-L10T5 for 10.5 cm pigtail in tight tolerances).



A. Family

B. Options and Customization

C. Part Numbers

Series	Type	Channel Count		Bit Rate (Gbps)			Packaging					Optical Termini/Connectors					Fiber Type ^[1]		Part Number							
		Tx	Rx	<0.01	0.1-4.5	5-12 ^[1]	LCC	SFF (2x5)	SFF (2x7)	40-Pin Plug	40-Pin Plug Narrow	100-Pin Plug	ARINC 801	ABS1379	29504 / 4 & 5 ^[2]	LC	MT-Ferrule	VITA 66.7		MTP / MPO	C-MTitan	50 / 125 μm	62.5 / 125 μm			
S-Light	Transmitter	1		■	■	■	■	■	■	■															SLT- www -lx-Pyz-Lvw	
	Receiver		1	■	■	■	■	■	■	■															SLR- www -lx-Pyz-Lvw	
	Transceiver	1	1	■	■	■	■	■	■	■	■														SLM- www -lx-Pyz-Lvw	
Part Number Options				001	251	1000	L	S	S	GY	GN	GM	X	E	2	L	N	M	O	C	G	N or H			SLM-251-IGn-PXN-L25	
D-Light	Transmitter	2 ^[1]		■	■	■	■	■	■	■															DLT-02- www -lx-Pyz-Lvw	
		4		■	■	■	■	■	■	■															DLT-04- www -lx-Pyz-Lvw	
		12		■	■	■	■	■	■	■	■															DLT-12- www -lx-Pyz-Lvw
	Receiver	2 ^[1]		■	■	■	■	■	■	■	■															DLR-02- www -lx-Pyz-Lvw
		4		■	■	■	■	■	■	■	■															DLR-04- www -lx-Pyz-Lvw
		12		■	■	■	■	■	■	■	■															DLR-12- www -lx-Pyz-Lvw
Transceiver	2	2	■	■	■	■	■	■	■	■															DLM-02- www -lx-Pyz-Lvw	
	4	4	■	■	■	■	■	■	■	■															DLM-04- www -lx-Pyz-Lvw	
Part Number Options				001	251	1000	L	S	S	GY	GN	GM	X	E	2	L	N	M	O	C	1	2			DLT-12-251-IGM-PN1-L10T5	

Notes:

^[1] Bit Rate: DC to 10 Mbps devices are only available in the SFF (2x5) package.

^[2] Either standard telecom termini/connector can be made available upon request.

^[3] Contact sales for fiber availability.

For any additional information or specific requests, please contact your local Radiall representative.



Optical Transceivers



area offices
local contacts

Our most important connection is with you.™

It's not just a slogan. It's a statement of our earnest desire to put you at the forefront of all our business practices. As part of Radiall's mission to be available and accessible, we make it a priority to have local offices around the globe ready and able to assist you – wherever you are, whenever you need us.

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Radiall Navigator™

Radiall Navigator™ is a tool designed to assist our partners and customers that provides sharing information about Radiall products as easy as possible in one single document.

With this in mind, we have created Radiall Navigator as a supplemental guide to information available in our catalogs and on our website (www.radiall.com). We recognize that time is a very limited and valuable asset. We are confident that Radiall Navigator will help users understand our products, terminologies, and references better.

Radiall's Vision Statement

Connectivity has a profound and dramatic impact on the lives of people throughout the world. Because of advancements in technology, our lives are more convenient, more secure, more enjoyable and richer than ever. The speed of data enables communication in the most remote areas so people can reach all corners of the globe, allows for important defense and security, and facilitates space exploration. But technology doesn't just happen. It starts in the mind with ideas, making connections never considered in ways that nobody dreamed possible. Seeing the future in ways previously unimagined is the act of innovation and it begins with people – the inventors, the dreamers, the pioneers and the engineers – enriching the lives of billions. At Radiall, we have one single, solitary mission; Empower the people that enrich our lives. Enable their innovation by providing reliability and repeatability. Give them useful information and provide them with valuable guidance when determining the best course for success. We don't invent the future, we enable it. We inspire innovation, we embrace challenges, we challenge the conventional and we collaborate with you to succeed. At Radiall, we're proud to say – Our most important connection is with you.

