

DATASHEET 5.0

DS-32G-IR-Dxxxx

SFP28, 32/16/8G FC, DWDM 100GHz grid, 192.00 - 196.00THz (41ch), 10km, 7dB, LC, D2955-D6142

OVERVIEW

The DS-32G-IR-Dxxxx is a versatile DWDM transceiver in SFP28 form-factor supporting a wide range of Fiber Channel (FC) services (8G to 32G). The transceiver is provided in versions covering all C-band channels in the 100GHz DWDM grid as specified in the ITU-T G.694.1 standard. The transceiver has been layer-1 tested and approved by Cisco.

The transceiver has an inbuilt 3-mode CDR (Clock Data Recovery) function; - High data rate mode for 32G FC - Low data rate mode for 16G FC - Bypass mode for 8 GFC

The optical performance provides a bridgeable distance of up to 10km (without dispersion compensation) for 32G FC.

This transceiver provides digital diagnostic functions via a 2-wire serial interface as defined by the SFF-8472 specification.

The transceiver module is compliant to RoHS-6/6.

¹⁾@ 28.05 Gbps (32G FC)

²⁾@ BER < 1E-6 using PRBS 2³¹-1



TECHNICAL DATA

Technology	DWDM 100GHz SFP28
Transmission media	SM (2x LC)
Typical reach	10 km
Nominal wavelengths	191.50 - 196.10 THz
Bit rate range	28.05 Gbps 14.025 Gbps 8.500 Gbps
Protocol support	FC: 32G FC 16G FC 8G FC
Power budget	0 - 7.0 dB
Dispersion tolerance	-170 to +170 ps/nm ¹⁾
Temperature range	0°C to +70°C
Power consumption	< 2.0W
Transmitter data:	
Output power (avg):	Min: -3.0 dBm ¹⁾ Max: +2.0 dBm ¹⁾
Tx wavelengths	192.15 - 196.10 THz in 100GHz steps ITU-T G.694.1
Receiver data:	
Minimum input power	-10.0 dBm ¹⁾²⁾
Max input power	+2.0 dBm
Wavelength range	1480 - 1580 nm
DDM	Yes
MSA compliance	SFF+ MSA

Regulatory compliance	
EMC CE	EN 55022:2010 EN 55024:2010
UL/Safety	UL 60950-1
FCC	47 CFR PART 15 OCT, 2013
TUV	EN60950-1:2006 +A11+A1+A12+A2
	EN 60825-1:2014
	EN 60825-2:2004+A1+A2
Storage temp.	-40°C to 85°C

ORDERING INFORMATION

Part Number	ITU channel	λ nm
DS-32G-IR-D6142	192.00	1561.42
DS-32G-IR-D6061	192.10	1560.61
DS-32G-IR-D5979	192.20	1559.79
DS-32G-IR-D5898	192.30	1558.98
DS-32G-IR-D5817	192.40	1558.17
DS-32G-IR-D5736	192.50	1557.36
DS-32G-IR-D5655	192.60	1556.55
DS-32G-IR-D5575	192.70	1555.75
DS-32G-IR-D5494	192.80	1554.94
DS-32G-IR-D5413	192.90	1554.13
DS-32G-IR-D5333	193.00	1553.33
DS-32G-IR-D5252	193.10	1552.52
DS-32G-IR-D5172	193.20	1551.72
DS-32G-IR-D5092	193.30	1550.92
DS-32G-IR-D5012	193.40	1550.12
DS-32G-IR-D4932	193.50	1549.32
DS-32G-IR-D4851	193.60	1548.51
DS-32G-IR-D4772	193.70	1547.72
DS-32G-IR-D4692	193.80	1546.92
DS-32G-IR-D4612	193.90	1546.12

Part Number	Freq. THz	λ nm
DS-32G-IR-D4532	194.00	1545.32
DS-32G-IR-D4453	194.10	1544.53
DS-32G-IR-D4373	194.20	1543.73
DS-32G-IR-D4373	194.30	1542.94
DS-32G-IR-D4214	194.40	1542.14
DS-32G-IR-D4135	194.50	1541.35
DS-32G-IR-D4056	194.60	1540.56
DS-32G-IR-D3977	194.70	1539.77
DS-32G-IR-D3898	194.80	1538.98
DS-32G-IR-D3819	194.90	1538.18
DS-32G-IR-D3740	195.00	1537.40
DS-32G-IR-D3661	195.10	1536.61
DS-32G-IR-D3582	195.20	1535.82
DS-32G-IR-D3504	195.30	1535.04
DS-32G-IR-D3425	195.40	1534.25
DS-32G-IR-D3347	195.50	1533.47
DS-32G-IR-D3268	195.60	1532.68
DS-32G-IR-D3190	195.70	1531.90
DS-32G-IR-D3112	195.80	1531.12
DS-32G-IR-D3033	195.90	1530.33
DS-32G-IR-D2955	196.00	1529.55

DEFINITIONS

Technology	Grey; Transceiver type for non-WDM applications. Electrical or optical. CWDM; Transceiver type for CWDM applications using G.694.2 channel grid. WDM; Transceiver type for DWDM applications using G.694.1 channel grid. BiDi; Transceiver pair using two different wavelength channels operating on a single-fiber.
Transmission Media	Type of fiber, e.g. Multimode (MM) or Singlemode (SM). Number of and connector type within brackets (e.g. 2x LC, 1x MPO).
Typical reach	Nominal distance performance based on dispersion and power budget properties, i.e. w/o dispersion compensation and optical amplification.
Bit rate range:	Supported bit rate range in Gigabit or Megabit per second (Gbps or Mbps).
Protocols:	Protocols within supported bit rate range.
Nominal wavelength	Typical wavelength from transmitter.
Interface standards	Referenced interface standards e.g. IEEE 802.3 standard for 10GbE services.
Power budget	Min and max power budget between Transmitter and Receiver. Excluding any dispersion penalty.
Dispersion tolerance/penalty	Maximum amount of tolerated dispersion and required reduction of power budget to maintain BER better than 1E-12. Defined at a specific bit rate.
Temperature range	Max operating case temperature range. Standard temperature range: Typically 0°C to +70°C (32°F to +158°F) Extended temperature range (E-temp): Typically -20°C to +75°C (-4°F to +167°F) Industrial temperature range (I-temp): -40°C to +85°C (-40°F to +185°F)
Power consumption	Worst case power consumption.
Transmitter Output power	Average output power. Provided in min and max values.
Receiver minimum input power	Minimum average input power at specified BER, normally 1E-12.
Receiver max input power	Maximum average input power giving a BER, normally 1E-12.
DDM	Digital Diagnostic Monitoring functionality as defined in SFF-8472 MSA.