DATA SHEET

CISCO DWDM GBICS

The Cisco Dense Wavelength-Division Multiplexing (DWDM) Gigabit Interface Converter (GBIC) pluggables allow enterprise companies and service providers to provide scalable and easy-to-deploy Gigabit Ethernet services in their networks.

Figure 1. Cisco DWDM GBICs

Main features of the Cisco DWDM GBICs:

- Support ITU 100-GHz wavelength grid
- Matches wavelength plan of Cisco 100-GHz ONS product family
- Fixed wavelength GBICs, with 32 different GBIC models
- Hot-swappable input/output device that plugs into Gigabit Ethernet GBIC ports or slots of a Cisco switch or router, linking the port with the network
- Cisco DWDM GBICs can be used and interchanged on a wide variety of Cisco products and can be intermixed in combinations of 1000BASE-SX, 1000BASE-LX/LH, or 1000BASE-ZX on a port-by-port basis

PERFORMANCE

- Gigabit Ethernet 1.25-Gbps full-duplex links
- Optical link budget of 28 decibels (db)

PLATFORM SUPPORT

The Cisco DWDM GBICs are supported across a variety of Cisco switches, routers, and optical transport devices. For more details, see the document *Cisco DWDM GBIC Compatibility Matrix*.

CONNECTORS AND CABLING

Equipment: Standard GBIC interface Network: Dual SC/PC connector

Note: Only connections with patch cords with PC or UPC connectors are supported. Patch cords with APC connectors are not supported. All cables and cable assemblies used must be compliant with the standards specified in the standards section.

ENVIRONMENTAL CONDITIONS AND POWER REQUIREMENTS

- Operating temperature range: 32 to 122°F (0 and 50°C)
- Storage temperature range: –40 to 185°F (–40 to 85°C)

Dimension

Cisco GBIC's typically weigh less than 75 grams.

Table 1 describes the electrical power interface details, and Table 2 describes optical parameters.

Table 1. Electrical Power Interface Data

Parameter	Symbol	Minimum	Typical	Maximum	Units
Supply Current	Is		250	350	mA
Surge Current	ISurge			+0	mA
Input Voltage	Vmax	4.75	5.0	5.25	V

Table 2. Optical Parameters

Parameter	Symbol	Minimum	Typical	Maximum	Units	Notes/ Conditions
Spectral Width	•λ20			0.3	Nm	Full width, –20 dB from max
Transmitter Center Wavelength	λc	x-100	X	X+100	pm	See Table 3 for center wavelengths
Side-Mode Suppression Ratio	SMSR	30			dB	
Transmitter Extinction Ratio	OMI	9			dB	
Transmitter Optical Output Power	Pout	0.0		3.0	dBm	Average power coupled into single-mode fiber
Receiver Optical Input Power (BER <10-12 with PRBS 2-7–1)	Pin	–28.0		–7.0	dBm	1.25 Gbps
Receiver Optical Input Wavelength	λin	1450*		1620	Nm	See Note a)
Power Penalty				3	dB	See Note b)
OSNR Penalty				0	dB	See Note b)

Note: Parameters are specified over temperature and at end of life unless otherwise noted.

a Receiver sensitivity is –25.0 dB for 1270–1450 Nm window

b Measured at 3600 ps/Nm dispersion at 1.25 Gbps, 20 dB OSNR (0.1 Nm RBW)

Note: When shorter distances of single-mode fiber are used, it might be necessary to insert an in-line optical attenuator in the link to avoid overloading the receiver.

WARRANTY

- Standard warranty: 90 days
- Extended warranty (option): Available under a Cisco SMARTnet® support contract for the Cisco switch or router chassis

ORDERING INFORMATION

Refer to Table 3 for details on ordering Cisco DWDM GBICs.

Table 3. Cisco DWDM GBIC Product Information

Product Number	Description	ITU Channel
DWDM-GBIC-60.61	1000BASE-DWDM 1560.61 Nm GBIC (100 GHz ITU grid)	21
DWDM-GBIC-59.79	1000BASE-DWDM 1559.79 Nm GBIC (100 GHz ITU grid)	22
DWDM-GBIC-58.98	1000BASE-DWDM 1558.98 Nm GBIC (100 GHz ITU grid)	23
DWDM-GBIC-58.17	1000BASE-DWDM 1558.17 Nm GBIC (100 GHz ITU grid)	24
DWDM-GBIC-56.55	1000BASE-DWDM 1556.55 Nm GBIC (100 GHz ITU grid)	26
DWDM-GBIC-55.75	1000BASE-DWDM 1555.75 Nm GBIC (100 GHz ITU grid)	27
DWDM-GBIC-54.94	1000BASE-DWDM 1554.94 Nm GBIC (100 GHz ITU grid)	28
DWDM-GBIC-54.13	1000BASE-DWDM 1554.13 Nm GBIC (100 GHz ITU grid)	29
DWDM-GBIC-52.52	1000BASE-DWDM 1552.52 Nm GBIC (100 GHz ITU grid)	31
DWDM-GBIC-51.72	1000BASE-DWDM 1551.72 Nm GBIC (100 GHz ITU grid)	32
DWDM-GBIC-50.92	1000BASE-DWDM 1550.92 Nm GBIC (100 GHz ITU grid)	33
DWDM-GBIC-50.12	1000BASE-DWDM 1550.12 Nm GBIC (100 GHz ITU grid)	34
DWDM-GBIC-48.51	1000BASE-DWDM 1548.51 Nm GBIC (100 GHz ITU grid)	36
DWDM-GBIC-47.72	1000BASE-DWDM 1547.72 Nm GBIC (100 GHz ITU grid)	37
DWDM-GBIC-46.92	1000BASE-DWDM 1546.92 Nm GBIC (100 GHz ITU grid)	38
DWDM-GBIC-46.12	1000BASE-DWDM 1546.12 Nm GBIC (100 GHz ITU grid)	39
DWDM-GBIC-44.53	1000BASE-DWDM 1544.53 Nm GBIC (100 GHz ITU grid)	41
DWDM-GBIC-43.73	1000BASE-DWDM 1543.73 Nm GBIC (100 GHz ITU grid)	42
DWDM-GBIC-42.94	1000BASE-DWDM 1542.94 Nm GBIC (100 GHz ITU grid)	43
DWDM-GBIC-42.14	1000BASE-DWDM 1542.14 Nm GBIC (100 GHz ITU grid)	44
DWDM-GBIC-40.56	1000BASE-DWDM 1540.56 Nm GBIC (100 GHz ITU grid)	46
DWDM-GBIC-39.77	1000BASE-DWDM 1539.77 Nm GBIC (100 GHz ITU grid)	47

Table 4. Cisco DWDM GBIC Product Information

Product Number	Description	ITU Channel
DWDM-GBIC-38.98	1000BASE-DWDM 1538.98 Nm GBIC (100 GHz ITU grid)	48
DWDM-GBIC-38.19	1000BASE-DWDM 1538.19 Nm GBIC (100 GHz ITU grid)	49
DWDM-GBIC-36.61	1000BASE-DWDM 1536.61 Nm GBIC (100 GHz ITU grid)	51
DWDM-GBIC-35.82	1000BASE-DWDM 1535.82 Nm GBIC (100 GHz ITU grid)	52
DWDM-GBIC-35.04	1000BASE-DWDM 1535.04 Nm GBIC (100 GHz ITU grid)	53

Product Number	Description	ITU Channel
DWDM-GBIC-34.25	1000BASE-DWDM 1534.25 Nm GBIC (100 GHz ITU grid)	54
DWDM-GBIC-32.68	1000BASE-DWDM 1532.68 Nm GBIC (100 GHz ITU grid)	56
DWDM-GBIC-31.90	1000BASE-DWDM 1531.90 Nm GBIC (100 GHz ITU grid)	57
DWDM-GBIC-31.12	1000BASE-DWDM 1531.12 Nm GBIC (100 GHz ITU grid)	58
DWDM-GBIC-30.33	1000BASE-DWDM 1530.33 Nm GBIC (100 GHz ITU grid)	59

REGULATORY AND STANDARDS COMPLIANCE

Compatible with 1000BASE-X standard as specified in IEEE 802.3z

GR-20-CORE: Generic Requirements for Optical Fiber and Optical Fiber Cable

GR-326-CORE: Generic Requirements for Singlemode Optical Connectors and Jumper Assemblies

GR-1435-CORE: Generic Requirements for Multi-Fiber Optical Connectors

SAFETY

- Laser Class I 21CFR1040
- Network Equipment Building Standards (NEBS) Level 3

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