

1.25Gbps CWDM SFP Optical Transceiver, 40KM Reach

Features

- ◆ Data-rate of 1.25Gbps operation
- ◆ 8 CWDM DFB wavelengths laser and APD photodetector for 40KM transmission
- ◆ Compliant with SFP MSA and SFF-8472 with duplex LC receptacle
- ◆ Digital Diagnostic Monitoring
- ◆ RoHS6 compliant
- ◆ +3.3V single power supply
- ◆ Low power dissipation < 1W



Applications

- ◆ Gigabit Ethernet
- ◆ Fiber Channel
- ◆ Switch to Switch interface
- ◆ Switched backplane applications
- ◆ Router/Server interface
- ◆ Other optical transmission systems

Absolute Maximum Ratings

Table 1 - Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Supply Voltage	V _{cc}	-0.5	4.0	V
Storage Temperature	T _s	-40	+85	°C
Operating Humidity	-	0	85	%

Recommended Operating Conditions

Table 2 - Recommended Operating Conditions

Parameter		Symbol	Min	Typical	Max	Unit
Operating Case Temperature	C-temp	T _c	0		+70	°C
	I-temp	T _i	-40		+85	
Power Supply Voltage		V _{cc}	3.13	3.3	3.47	V
Power Supply Current		I _{cc}			300	mA
Data Rate				1.25		Gbps

Diagnostics

Table 5 – Diagnostics Specification

Parameter	Range	Unit	Accuracy
Temperature	0 to +70/-40 to 85	°C	±3°C
Voltage	3.0 to 3.6	V	±3%
Bias Current	0 to 100	mA	±10%
TX Power	0 to +5	dBm	±3dB
RX Power	-30 to -9	dBm	±3dB

Optical and Electrical Characteristics

Table 4 - Optical and Electrical Characteristics

Parameter		Symbol	Min	Typical	Max	Unit	Notes
Transmitter							
Centre Wavelength		λ_c	$\lambda_c-6.5$	λ_c	$\lambda_c+6.5$	nm	
Spectral Width (-20dB)		$\Delta\lambda$			1	nm	
Side Mode Suppression Ratio		SMSR	30			dB	
Average Output Power		P _{out}	0		5	dBm	1
Extinction Ratio		ER	9			dB	
Optical Rise/Fall Time (20%~80%)		tr/tf			260	ps	
Data Input Swing Differential		V _{IN}	250		1200	mV	2
Input Differential Impedance		Z _{IN}		100		Ω	
TX Disable	Disable		2.0		V _{cc}	V	
	Enable		0		0.8	V	
TX Fault	Fault		2.0		V _{cc}	V	
	Normal		0		0.8	V	
Receiver							
Receiver Sensitivity					-30	dBm	3
Receiver Overload			-9			dBm	3
LOS De-Assert		LOS _D			-34	dBm	
LOS Assert		LOS _A	-45			dBm	
LOS Hysteresis			0.5		5	dB	
Data Output Swing Differential		V _{out}	300		800	mV	4
LOS	High		2.0		V _{cc}	V	
	Low				0.8	V	

Notes:

1. The optical power is launched into SMF.
2. PECL input, internally AC-coupled and terminated.
3. Measured with a PRBS 2⁷-1 test pattern @1250Mbps, BER ≤1×10⁻¹².
4. Internally AC-coupled.

Ordering information

MSA Standard:

Part Number	Product Description
SFP-EX-CW47-CC	CWDM 1470nm,1.25Gbps,40KM,0°C~+70°C,With Digital Diagnostic Monitoring
SFP-EX-CW49-CC	CWDM 1490nm,1.25Gbps,40KM,0°C~+70°C,With Digital Diagnostic Monitoring
SFP-EX-CW51-CC	CWDM 1510nm,1.25Gbps,40KM,0°C~+70°C,With Digital Diagnostic Monitoring
SFP-EX-CW53-CC	CWDM 1530nm,1.25Gbps,40KM,0°C~+70°C,With Digital Diagnostic Monitoring
SFP-EX-CW55-CC	CWDM 1550nm,1.25Gbps,40KM,0°C~+70°C,With Digital Diagnostic Monitoring
SFP-EX-CW57-CC	CWDM 1570nm,1.25Gbps,40KM,0°C~+70°C,With Digital Diagnostic Monitoring
SFP-EX-CW59-CC	CWDM 1590nm,1.25Gbps,40KM,0°C~+70°C,With Digital Diagnostic Monitoring
SFP-EX-CW61-CC	CWDM 1610nm,1.25Gbps,40KM,0°C~+70°C,With Digital Diagnostic Monitoring
SFP-EX-CW45-IC	CWDM 1450nm,1.25Gbps,40KM,-40°C~+85°C,With Digital Diagnostic Monitoring
SFP-EX-CW47-IC	CWDM 1470nm,1.25Gbps,40KM,-40°C~+85°C,With Digital Diagnostic Monitoring
SFP-EX-CW49-IC	CWDM 1490nm,1.25Gbps,40KM, -40°C~+85°C,With Digital Diagnostic Monitoring
SFP-EX-CW51-IC	CWDM 1510nm,1.25Gbps,40KM, -40°C~+85°C,With Digital Diagnostic Monitoring
SFP-EX-CW53-IC	CWDM 1530nm,1.25Gbps,40KM, -40°C~+85°C,With Digital Diagnostic Monitoring
SFP-EX-CW55-IC	CWDM 1550nm,1.25Gbps,40KM, -40°C~+85°C,With Digital Diagnostic Monitoring
SFP-EX-CW57-IC	CWDM 1570nm,1.25Gbps,40KM, -40°C~+85°C,With Digital Diagnostic Monitoring
SFP-EX-CW59-IC	CWDM 1590nm,1.25Gbps,40KM, -40°C~+85°C,With Digital Diagnostic Monitoring
SFP-EX-CW61-IC	CWDM 1610nm,1.25Gbps,40KM, -40°C~+85°C,With Digital Diagnostic Monitoring

Cross Platform/OEM Compatible:

Part Number	Product Description
SFP-EX-CW45-CCxx	CWDM 1450nm,1.25Gbps,40KM,0°C~+70°C,With Digital Diagnostic Monitoring
SFP-EX-CW47-CCxx	CWDM 1470nm,1.25Gbps,40KM,0°C~+70°C,With Digital Diagnostic Monitoring
SFP-EX-CW49-CCxx	CWDM 1490nm,1.25Gbps,40KM,0°C~+70°C,With Digital Diagnostic Monitoring
SFP-EX-CW51-CCxx	CWDM 1510nm,1.25Gbps,40KM,0°C~+70°C,With Digital Diagnostic Monitoring
SFP-EX-CW53-CCxx	CWDM 1530nm,1.25Gbps,40KM,0°C~+70°C,With Digital Diagnostic Monitoring
SFP-EX-CW55-CCxx	CWDM 1550nm,1.25Gbps,40KM,0°C~+70°C,With Digital Diagnostic Monitoring
SFP-EX-CW57-CCxx	CWDM 1570nm,1.25Gbps,40KM,0°C~+70°C,With Digital Diagnostic Monitoring
SFP-EX-CW59-CCxx	CWDM 1590nm,1.25Gbps,40KM,0°C~+70°C,With Digital Diagnostic Monitoring
SFP-EX-CW61-CCxx	CWDM 1610nm,1.25Gbps,40KM,0°C~+70°C,With Digital Diagnostic Monitoring
SFP-EX-CW45-ICxx	CWDM 1450nm,1.25Gbps,40KM,-40°C~+85°C,With Digital Diagnostic Monitoring
SFP-EX-CW47-ICxx	CWDM 1470nm,1.25Gbps,40KM,-40°C~+85°C,With Digital Diagnostic Monitoring
SFP-EX-CW49-ICxx	CWDM 1490nm,1.25Gbps,40KM, -40°C~+85°C,With Digital Diagnostic Monitoring
SFP-EX-CW51-ICxx	CWDM 1510nm,1.25Gbps,40KM, -40°C~+85°C,With Digital Diagnostic Monitoring
SFP-EX-CW53-ICxx	CWDM 1530nm,1.25Gbps,40KM, -40°C~+85°C,With Digital Diagnostic Monitoring
SFP-EX-CW55-ICxx	CWDM 1550nm,1.25Gbps,40KM, -40°C~+85°C,With Digital Diagnostic Monitoring
SFP-EX-CW57-ICxx	CWDM 1570nm,1.25Gbps,40KM, -40°C~+85°C,With Digital Diagnostic Monitoring
SFP-EX-CW59-ICxx	CWDM 1590nm,1.25Gbps,40KM, -40°C~+85°C,With Digital Diagnostic Monitoring
SFP-EX-CW61-ICxx	CWDM 1610nm,1.25Gbps,40KM, -40°C~+85°C,With Digital Diagnostic Monitoring

xx=TP, Cisco, Juniper & Ciena compatible

xx=AL, Alcatel compatible