OHPC3G-xxxx40NCR

Non-MSA 3Gb/s Digital Video SFP Dual Channel Optical Transmitter,CWDM 1271nm-1611nm,40km

Features

- SMPTE 297-2006 Compatible Features
- Speed from 50 Mbps to 3Gbps
- Distance up to 40km for 3G-SDI over Single-mode Fiber
- Support Video Pathological Patterns for SD-SDI, HD-SDI & 3G-SDI
- Dual Channel 18 Wavelength CWDM DFB Transmitter
- Hot-pluggable SFP
- Non-MSA compliant Pinout
- Single +3.3V power supply
- Low Power Consumption
- RoHS compliant
- Operating case temperature: 0 to +70°C

Applications

- SMPTE 424M/297M (2.97Gb/s)
- SMPTE 292M/297M (1.485Gb/s)
- SMPTE 259M/297M (270/360Mb/s)
- High-density Video Router
- Broadcast cameras

Description

The OHPC3G-xxxx40NCR are high performance, cost effective dual channel CWDM optical modules for video transmission application over single mode fiber (SMF). The CWDM optical transmitter module is designed for data rates from 50Mbps to 2.97Gbps and is specifically designed for robust performance in the presence of SDI pathological patterns for SMPTE 259M, SMPTE 344M, SMPTE 292M and SMPTE 424M serial rates. It provide maximum transmission distance of 40km over single mode fiber under worst case conditions and 3Gbps pathological signals. The OHPC3G-xxxx40NCR uses dual CWDM DFB laser transmitters with wavelength options from 1271nm to 1611nm to provide error-free transmission of signals from 50Mbps to 2.97Gbps. It help the system designer and end user save much more fiber cables.The OHPC3G-xxxx40NCR is Class 1 laser product per FDA 21CFR 1040.10, 1040.11 and IEC-60825 standards.

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Units	Note
Storage Temperature	Ts	-40	85	℃	-
Power Supply Voltage	Vcc	-0.5	4	V	-
Soldering Temperature	-	-	260	℃	10 seconds on leads only

Input Voltage	Vin	GND	Vcc	V	-

Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Units
Power Supply Voltage	Vcc	3.1	3.3	3.5	V
Operating Temperature	Top	0	-	70	℃
Data Rate	-	-	2970	-	Mbps
Power Supply Current	Icc	-	200	300	mA

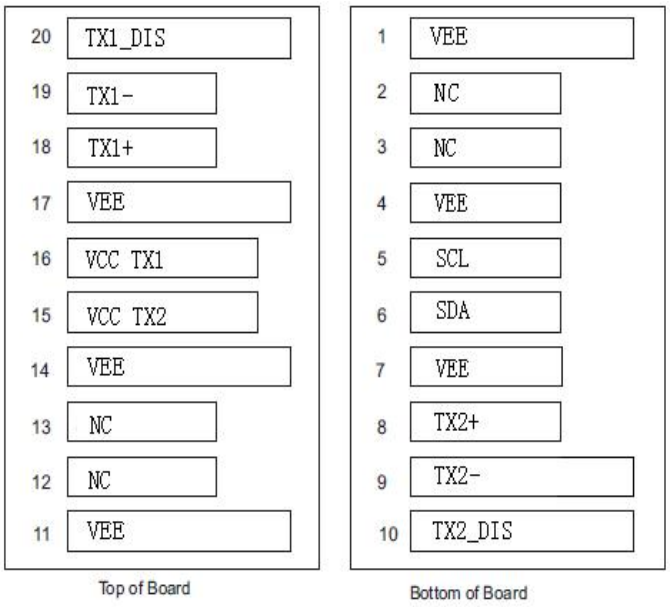
Transmitter Specifications (0°C < Top < 70°C, 3.1V < Vcc < 3.5V)

Parameter	Symbol	Min.	Typ.	Max.	Units
Optical					
Optical Transmit Power	Po	-2	-	3	dBm
Optical Center Wavelength	λ_C	λ-6.5	λ	λ+6.5	nm
Spectral Width (-20dB)	σ	-	-	1	nm
Extinction Ratio	E_R	6	-	-	dB
Optical Rise Time/Fall Time	tr/tf	-	-	135	Ps (1)
Electrical					
Differential Input Voltage	V_{IH}-V_{IL}	0.3	-	2.2	V
TX Disable Input Voltage–Low	$T_{DIS,L}$	0	-	-0.8	V
TX Disable Input Voltage–High	$T_{DIS,H}$	2.0	-	V_{CC}	V
TX Disable Assert Time	T_{ASSERT}	-	-	10	μs
TX Disable Deassert Time	$T_{DEASSERT}$	-	-	1	ms
TX Fault Output Voltage -- Low	$T_{FAULT,L}$	0	-	-0.8	V
TX Fault Output Voltage -- High	$T_{FAULT,H}$	2.0	-	V_{CC}	V

Note:

1. 20%~80%, Measured @2.97Gb/s and differential input data

Pin Assignment



Pin Descriptions

Pin No.	Name	Function	Note
1	VEE	Signal Ground	
2	NC	No Connection	
3	NC	No Connection	
4	VEE	Signal Ground	
5	SCL	SCL Serial Clock Signal	
6	SDA	SDA Serial Data Signal	
7	VEE	Signal Ground	
8	TX2+	Positive Transmitter Data In (2)	2
9	TX2-	Negative Transmitter Data In (2)	2
10	TX2_DIS	Transmitter Disable (2)	1
11	VEE	Signal Ground	
12	NC	No Connection	
13	NC	No Connection	
14	VEE	Signal Ground	
15	VCC TX2	Power Supply (2)	
16	VCC TX1	Power Supply (1)	
17	VEE	Signal Ground	
18	TX1+	Positive Transmitter Data In (1)	2
19	TX1-	Negative Transmitter Data In (1)	2
20	TX1_DIS	Transmitter Disable (1)	1

Notes:

1. TX Disable is an input that is used to shut down the transmitter optical output. It is pulled up within the module with a 4.7K~10KΩ resistor. Its states are:

Low (0~0.8V): Transmitter on

(>0.8V, <2.0V): Undefined

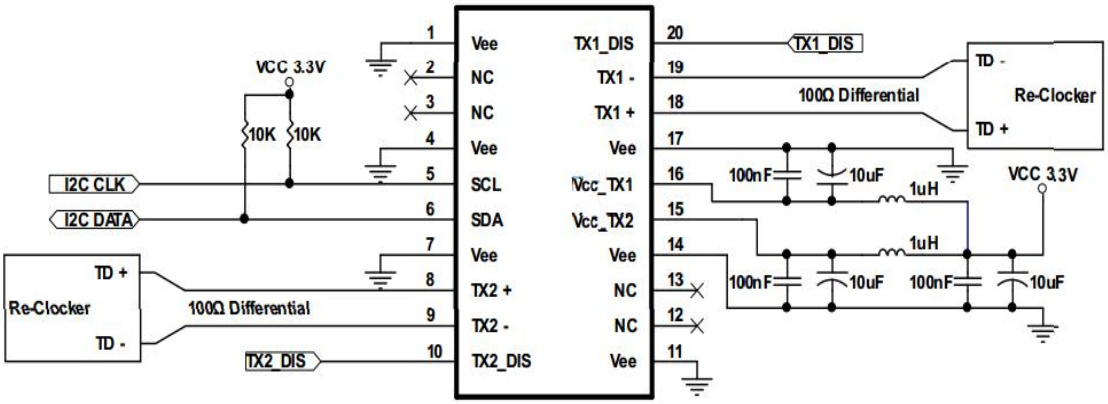
High (2.0~3.465V): Transmitter Disabled

Open: Transmitter Disabled.

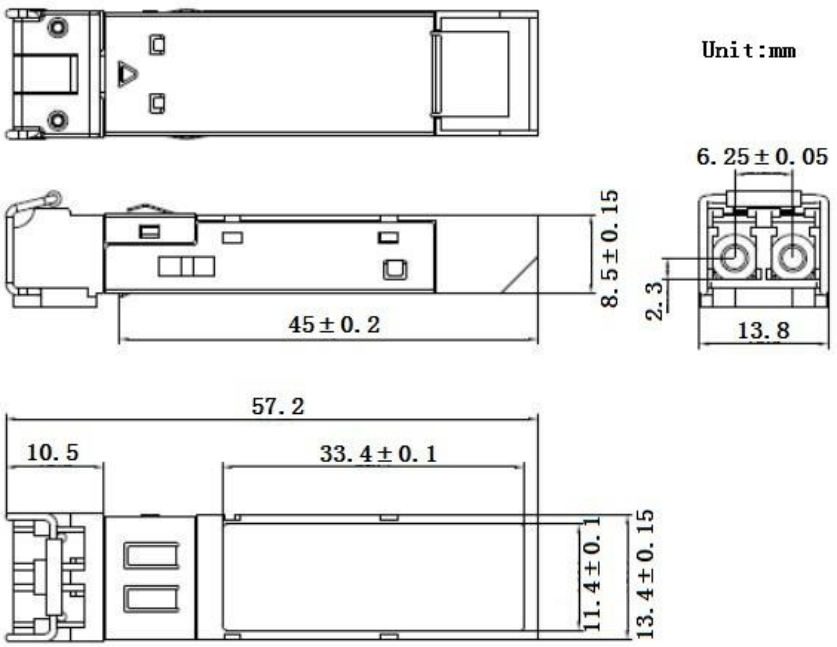
2. TD-/+: These are the differential transmitter inputs. They are AC coupled differential lines with 100Ω differential termination inside the module.

The AC coupling is done inside the module and is thus not required on host board.

Recommended Circuit



Mechanical Dimensions



Ordering information

Part number	Description
OHPC3G-272940NCR	3G-SDI Video SFP CWDM Dual Channel Optical Transmitter,40km,LC,1271/1291nm
OHPC3G-313340NCR	3G-SDI Video SFP CWDM Dual Channel Optical Transmitter,40km,LC,1311/1331nm
OHPC3G-353740NCR	3G-SDI Video SFP CWDM Dual Channel Optical Transmitter,40km,LC,1351/1371nm
OHPC3G-394140NCR	3G-SDI Video SFP CWDM Dual Channel Optical Transmitter,40km,LC,1391/1411nm
OHPC3G-434540NCR	3G-SDI Video SFP CWDM Dual Channel Optical Transmitter,40km,LC,1431/1451nm
OHPC3G-474940NCR	3G-SDI Video SFP CWDM Dual Channel Optical Transmitter,40km,LC,1471/1491nm
OHPC3G-515340NCR	3G-SDI Video SFP CWDM Dual Channel Optical Transmitter,40km,LC,1511/1531nm
OHPC3G-555740NCR	3G-SDI Video SFP CWDM Dual Channel Optical Transmitter,40km,LC,1551/1571nm
OHPC3G-596140NCR	3G-SDI Video SFP CWDM Dual Channel Optical Transmitter,40km,LC,1591/1611nm

Customize your Own 3G SDI Video SFP Dual Channel CWDM Optical Transmitter

OHPC3G-$XX_1XX_2$40NCR

XX_1 =Transmitter-1 Wavelength No.

XX_2 =Transmitter-2 Wavelength No.

Wavelength No. Description	
27=1271nm	29=1291nm
31=1311nm	33=1331nm
35=1351nm	37=1371nm
39=1391nm	41=1411nm
43=1431nm	45=1451nm
47=1471nm	49=1491nm
51=1511nm	53=1531nm
55=1551nm	57=1571nm
59=1591nm	61=1611nm

Warnings

Handling Precautions: This device is susceptible to damage as a result of electrostatic discharge (ESD). A static free environment is highly recommended. Follow guidelines according to proper ESD procedures.

Laser Safety: Radiation emitted by laser devices can be dangerous to human eyes. Avoid eye exposure to direct or indirect radiation.

For more product information,visit us on the web at www.optcore.net