

OTC155-XX405XCR

155M / OC-3 / STM-1 CWDM 1X9 Duplex SC/ST/FC Transceiver Module, 40km Reach

FEATURES

- Data-rate of 155Mbps operation
- Up to 40km over SMF
- Duplex SC/ST/FC Connector
- Differential PECL Inputs & Outputs
- 18 Wavelength CWDM DFB Transmitter
- Single 5V Power Supply
- PECL Signal Detection Output
- Industry Standard 1×9 Package
- Compatible with RoHS
- Operating case temperature: 0 to +70°C



APPLICATIONS

- ATM 155 Mbps Links
- SONET OC-3
- SDH STM-1
- Fast Ethernet 100 Mb/s Links
- Fiber media converters

DESCRIPTION

The Optcore OTC155-XX405XCR CWDM 1X9 footprint fibre optical transceivers is a high performance and cost-effective module for serial optical data communication applications. It can be used to implement a range of Fast Ethernet, SDH and ATM (Asynchronous Transfer Mode) designs at the 155Mb rate. The CWDM 1X9 footprint fibre optical transceiver consists of a transmitter optical subassembly, a receiver optical subassembly and an electrical subassembly. It operate at the wavelength of CWDM Channel and complies with the industry standard 1x9 footprint. The 155Mb/s CWDM 1x9 transceiver are Class 1 laser products comply with EN60825.

Absolute Maximum Ratings					
Parameter	Symbol	Min.	Max.	Units	Note
Storage Temperature	Ts	-40	85	°C	-
Power Supply Voltage	Vcc	-0.5	6	V	-
Soldering Temperature	-	-	260	°C	10 seconds on leads only
Input Voltage	Vin	GND	Vcc	V	-

Recommended Operating Conditions					
Parameter	Symbol	Min.	Typ.	Max.	Units
Power Supply Voltage	Vcc	4.75	5.0	5.25	V
Operating Temperature	Top	0	-	70	°C
Data Rate	-	-	155	-	Mbps
Power Supply Current	Icc	-	150	300	mA

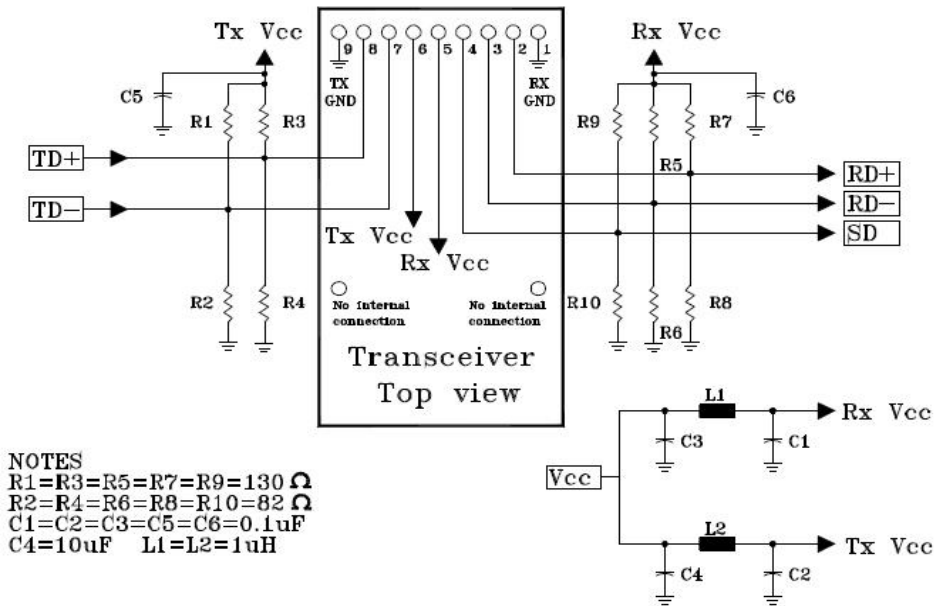
Transmitter Specifications (0°C < Top < 70°C, 4.75V < Vcc < 5.25V)					
Parameter	Symbol	Min.	Typ.	Max.	Units
Optical					
Optical Transmit Power	Po(1270~1450 nm)	-5	-	0	dBm
	Po(1470~1610nm)	-8	-	-3	
Optical Center Wavelength	λ_c	$\lambda-5.5$	λ	$\lambda+7.5$	nm
Output Spectrum Width	$\Delta\lambda$	-	-	1	nm (-20dB Width)
Side Mode Suppression Ratio	SMSR	30	-	-	dB
Extinction Ratio	ER	9.0	-	-	dB
Output Eye	Compliance with IEEE802.3z				
Optical Rise Time	t_r	-	-	2	ns
Optical Fall Time	t_f	-	-	2	ns
Electrical					
Differential Input Voltage	$V_{IH}-V_{IL}$	0.3	-	2.2	V
Common-mode Input Voltage	$V_{COM}-V_{CC}$	-1.38	-	-0.47	V
PECL Output Voltage-Low	$V_{OL}-V_{CC}$	-1.810	-	-1.620	V
PECL Output Voltage-High	$V_{OH}-V_{CC}$	-1.025	-	-0.880	V

Receiver Specifications (0°C < Top < 70°C, 4.75V < V_{CC} < 5.25V)					
Parameter	Symbol	Min.	Typ.	Max.	Units
Optical					
Sensitivity	Sen	-	-	-36	dBm
Maximum Input Power(Saturation)	P _{MAX}	-3	-	-	dBm
Signal Detect – Asserted	P _a	-	-	-36	dBm
Signal Detect – Deasserted	P _d	-47	-	-	dBm
Signal Detect – Hysteresis	P _{hys}	1	-	4	dB
Wavelength of Operation	λ	1100	-	1600	nm
Electrical					
Data Output Voltage – Low	V _{IL} –V _{CC}	-1.83	-	-1.555	V
Data Output Voltage – High	V _{IH} –V _{CC}	-1.085	-	-0.88	V
Signal Detect Output Voltage- Low	V _{SIL} –V _{CC}	-2.0	-	-1.58	V
Signal Detect Output Voltage- High	V _{SIH} –V _{CC}	-1.1	-	-0.74	V

Pin Assignment

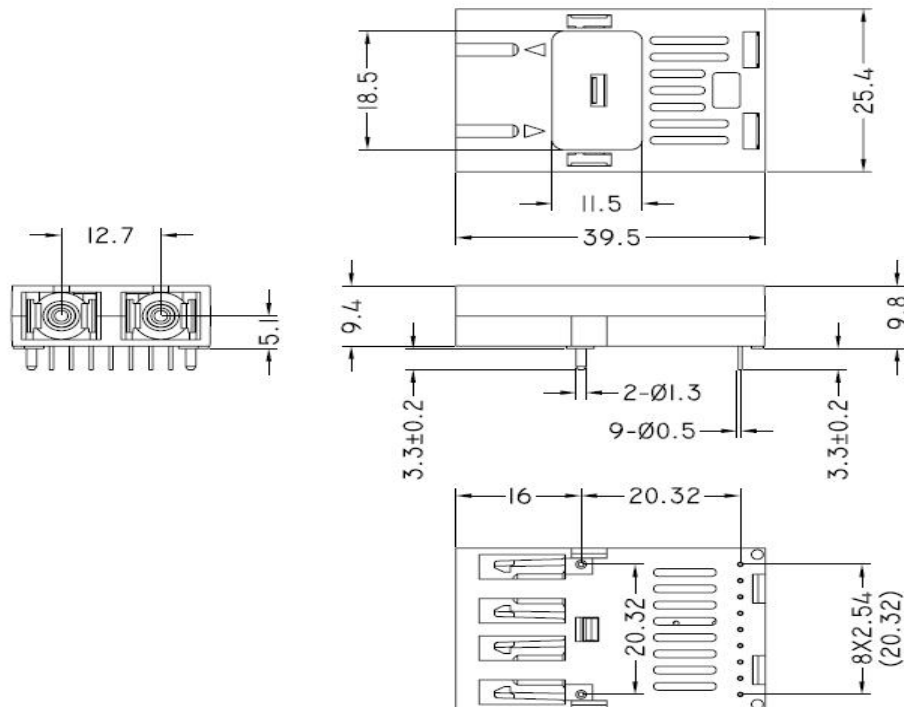
1 Receiver Signal Ground	
2 Receiver Data Out	O N.C.
3 Receiver Data Out Bar	
4 Signal Detect	
5 Receiver Power Supply	Top View
6 Transmitter Power Supply	
7 Transmitter Data In Bar	
8 Transmitter Data In	O N.C.
9 Transmitter Signal Ground	

Recommended Circuit

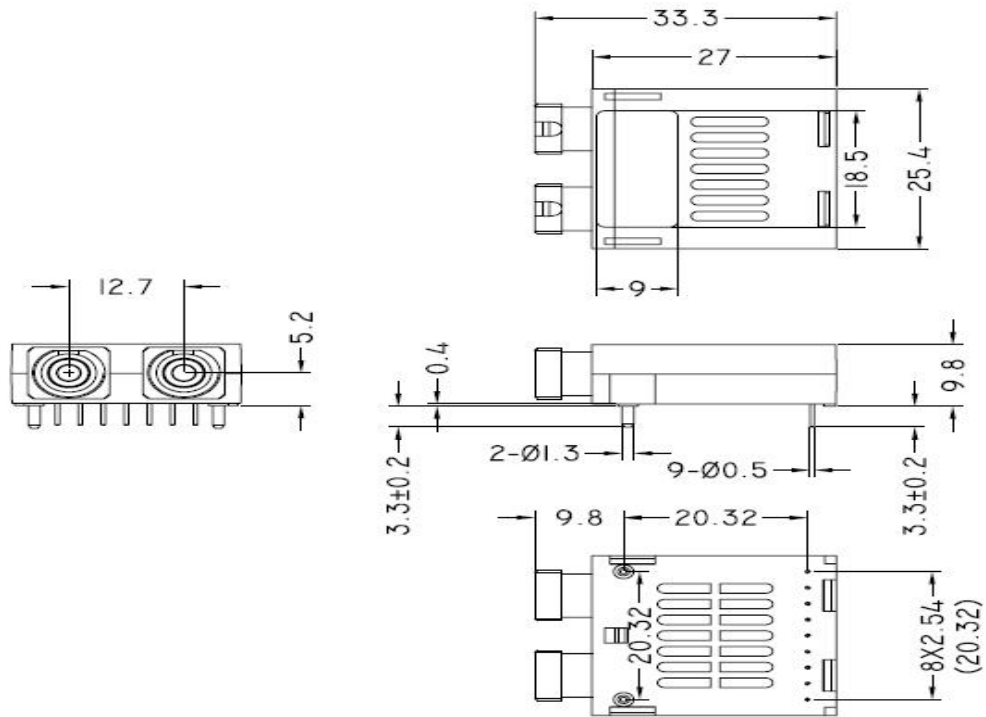


Mechanical Dimensions

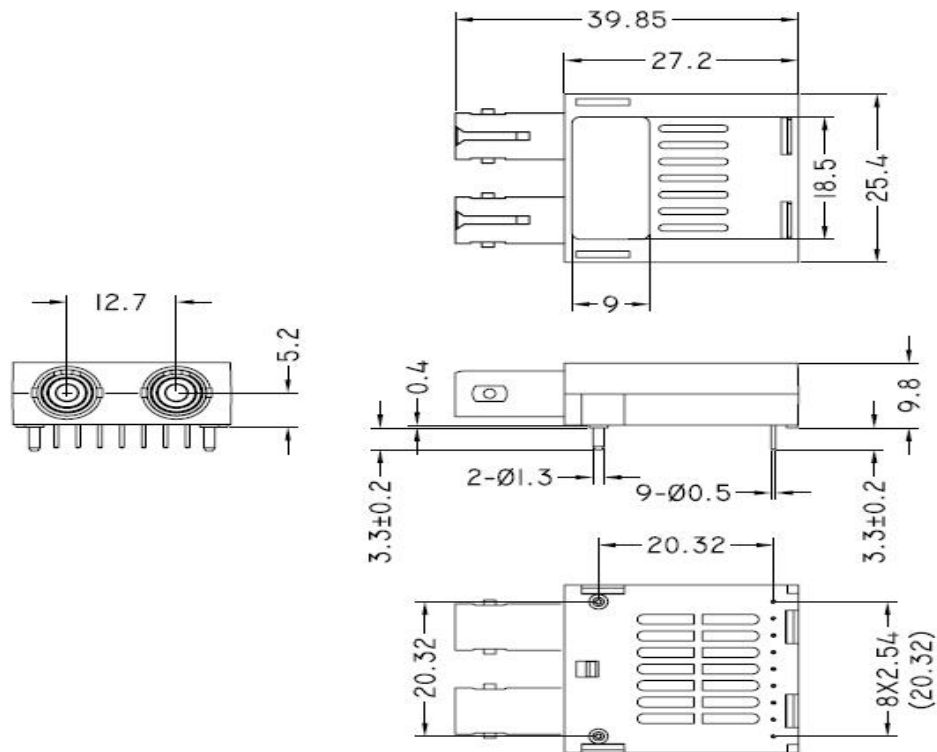
SC



FC



ST



Ordering information

Part number	Description
OTC155-27405X ₁ CR	155M CWDM 1x9 Duplex SC/ST/FC Transceiver Module,1270nm, 40km
OTC155-29405X ₁ CR	155M CWDM 1x9 Duplex SC/ST/FC Transceiver Module,1290nm, 40km
OTC155-31405X ₁ CR	155M CWDM 1x9 Duplex SC/ST/FC Transceiver Module,1310nm, 40km
OTC155-33405X ₁ CR	155M CWDM 1x9 Duplex SC/ST/FC Transceiver Module,1330nm, 40km
OTC155-35405X ₁ CR	155M CWDM 1x9 Duplex SC/ST/FC Transceiver Module,1350nm, 40km
OTC155-37405X ₁ CR	155M CWDM 1x9 Duplex SC/ST/FC Transceiver Module,1370nm, 40km
OTC155-39405X ₁ CR	155M CWDM 1x9 Duplex SC/ST/FC Transceiver Module,1390nm, 40km
OTC155-41405X ₁ CR	155M CWDM 1x9 Duplex SC/ST/FC Transceiver Module,1410nm, 40km
OTC155-43405X ₁ CR	155M CWDM 1x9 Duplex SC/ST/FC Transceiver Module,1430nm, 40km
OTC155-45405X ₁ CR	155M CWDM 1x9 Duplex SC/ST/FC Transceiver Module,1450nm, 40km
OTC155-47405X ₁ CR	155M CWDM 1x9 Duplex SC/ST/FC Transceiver Module,1470nm, 40km
OTC155-49405X ₁ CR	155M CWDM 1x9 Duplex SC/ST/FC Transceiver Module,1490nm, 40km
OTC155-51405X ₁ CR	155M CWDM 1x9 Duplex SC/ST/FC Transceiver Module,1510nm, 40km
OTC155-53405X ₁ CR	155M CWDM 1x9 Duplex SC/ST/FC Transceiver Module,1530nm, 40km
OTC155-55405X ₁ CR	155M CWDM 1x9 Duplex SC/ST/FC Transceiver Module,1550nm, 40km
OTC155-57405X ₁ CR	155M CWDM 1x9 Duplex SC/ST/FC Transceiver Module,1570nm, 40km
OTC155-59405X ₁ CR	155M CWDM 1x9 Duplex SC/ST/FC Transceiver Module,1590nm, 40km
OTC155-61405X ₁ CR	155M CWDM 1x9 Duplex SC/ST/FC Transceiver Module,1610nm, 40km

X₁ : Connector Type

X₁=S, SC Connector

X₁=T, ST Connector

X₁=F, FC Connector

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.

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