Edge-core®
NETWORKS

1000BASE-T Copper SFP Transceiver
ET4202-RJ45

Product Features

- Hot-pluggable SFP footprint
- Low power dissipation
- Compact RJ-45 connector assembly
- Detailed product information in EEPROM
- +3.3V single power supply
- 1000 BASE-T operation in host systems with SGMII interface
- Compliant with SFP MSA
- Compliant with IEEE Std 802.3™-2002
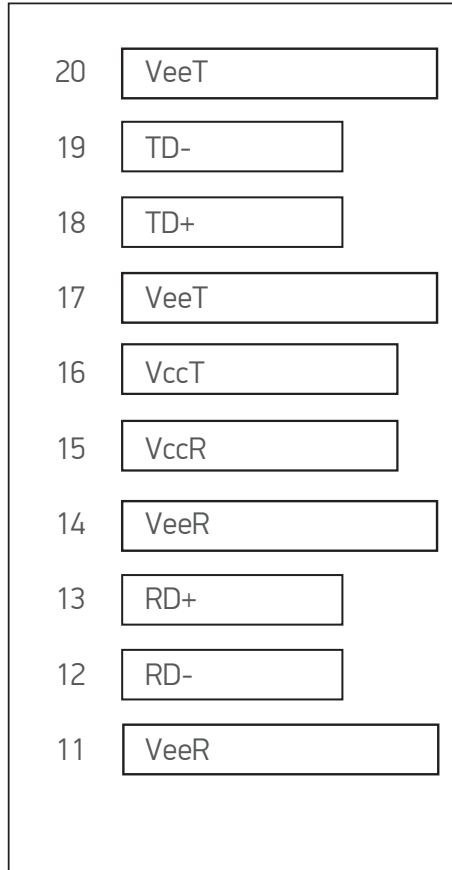- Commercial: 0°C to +70°C

Descriptions

The 1000BASE-T copper SFP transceiver is a high-performance, cost-effective module, compliant with Gigabit Ethernet and 1000BASE-T standards, as specified in IEEE 802. 3-2002 and IEEE 802.3ab, which supports 1000Mb/s data rate up to 100 meters reach over twisted-pair Category 5 cable.
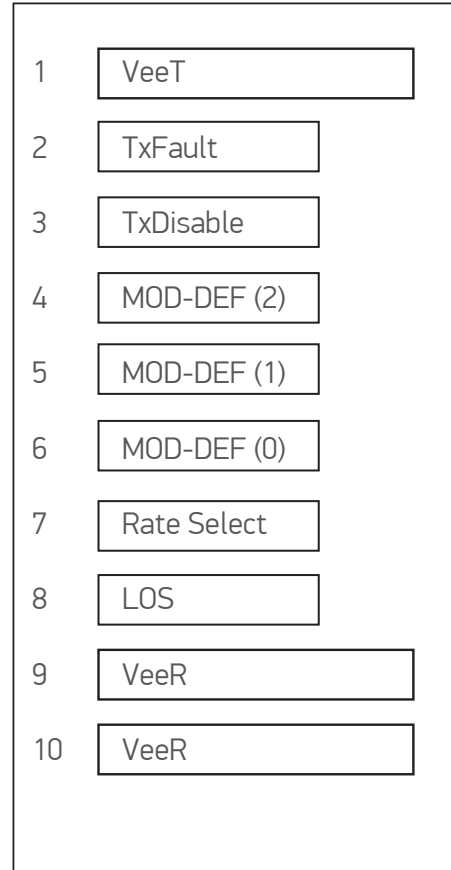
Ordering Information

Part Number	Transmitter	Output Power	Sensitivity	Reach	Temp	DDM	RoHS
ET4202-RJ45				100 m	0~ 70 °C	Available	Compliant

OPEN PLATINUM

OPEN Compute Project
SOLUTION PROVIDER

Freedom of choice

Greater control

Rapid innovation

Reduced CAPEX and OPEX

Pin Description

Top of Board		Bottom of Board (as viewed thru top of board)	
20	VeeT	1	VeeT
19	TD-	2	TxFault
18	TD+	3	TxDisable
17	VeeT	4	MOD-DEF (2)
16	VccT	5	MOD-DEF (1)
15	VccR	6	MOD-DEF (0)
14	VeeR	7	Rate Select
13	RD+	8	LOS
12	RD-	9	VeeR
11	VeeR	10	VeeR

Top of Board

**Bottom of Board
(as viewed thru top of board)**

Pin out of Connector Block on Host Board

Pin Descriptions

Pin	Signal Name	Description	Notes
1	VeeT	Module Transmitter Ground	1
2	Tx_Fault	Transmitter Fault. Not supported, Grounded in module	2
3	Tx_Disable	Transmitter Disable - Module disables on high or open	3
4	MOD_DEF(2)	Module Definition 2. Data line for Serial ID.	
5	MOD_DEF(1)	Module Definition 1. Clock line for Serial ID.	
6	MOD_DEF(0)	Module Absent, connected to VeeT or VeeR in the module	
7	Rate Select	No connection	
8	Rx_LOS	Loss of Signal - High Indicates Loss of Signal	2
9	VeeR	Module Receiver Ground	1
10	VeeR	Module Receiver Ground	1
11	VeeR	Module Receiver Ground	1
12	RD-	Receiver Inverted Data Output	5
13	RD+	Receiver Non-Inverted Data Output	5
14	VeeR	Module Receiver Ground	1
15	VccR	Module Receiver 3.3 V Supply	4
16	VccT	Module Transmitter 3.3 V Supply	4
17	VeeT	Module Transmitter Ground	1
18	TD+	Transmitter Non-Inverted Data Input	6
19	TD-	Transmitter Inverted Data Input	6
20	VeeT	Module Transmitter Ground	1

| Notes:	
1.	The module signal ground contacts, VeeR and VeeT, should be isolated from the module case.
2.	TX Fault is not used and is always tied to ground.
3	TX Disable as described in the MSA is not applicable to the 1000BASE-T module, but is used for convenience as an input to reset the internal ASIC. This pin is pulled up within the module with a 4.7kΩ to 10kΩ resistor. Low (0–0.8 V): Transceiver on Between (0.8 V and 2.0 V): Undefined High (2.0–3.465 V): Transceiver in reset disable state Open: Transceiver in reset disable state
4.	VCCR and VCCT are the receiver and transmitter power supplies. They are defined as 3.3 V ± 5% at the SFP connector pin. The maximum supply current is about 300mA and the associated in-rush current will typically be no more than 30 mA above steady state after 500 nanoseconds.
5.	RD-/+: These are the differential receiver outputs. They are ac coupled 100 ohm differential lines which should be terminated with 100 ohm differential at the user SERDES. The ac coupling is done inside the module and is thus not required on the host board. The voltage swing on these lines will be between 600 and 2000 mV differential when properly terminated. These levels are compatible with CML and LVPECL voltage swings.
6.	TD-/+: These are the differential transmitter inputs. They are ac coupled differential lines with 100 ohm differential termination inside the module. The ac coupling is done inside the module and is thus not required on the host board. The inputs will accept differential swings of 500 – 2400 mV, though it is recommended that values between 500 and 1200 mV differential (250 – 600 mV single ended) be used for best EMI performance. These levels are compatible with CML and LVPECL voltage swings.

Electrical Characteristics

Parameter	Symbol	Minimum	Typical	Maximum	Unit	Notes
Supply Current	Is		300	350	Ω	
Input Voltage	Vcc	3.13	3.3	3.47	mV	
Maximum Voltage	Vmax			3.6		

Cable Length

Standard	Cable	Reach	Host Port	
1000BASE-T	CAT5	100 m	SGMII	

Mechanical Specifications

（Unit：mm　View：◁　⊕ ）
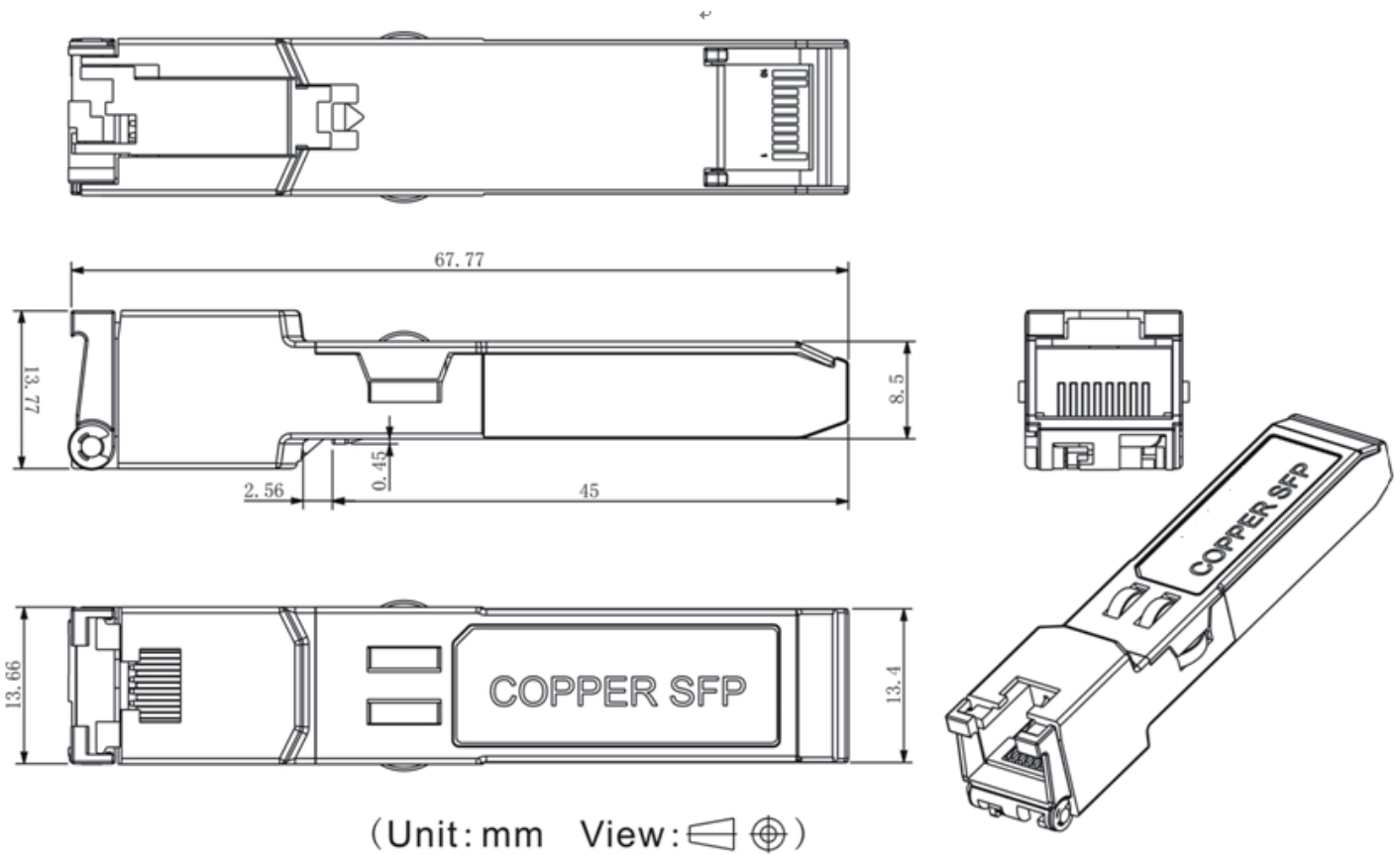
Warranty

Please check www.edge-core.com for the warranty terms in your country.

For More Information

To find out more about Edgecore Networks Corporation products and solutions, visit www.edge-core.com.

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