

## Fiber Optic 1x9 Transceiver For 1310 FP 155 Mb/s with SC Connector

Data Sheet

OFN2136-A



### Features

- 1310 nm Fabry-Perot (FP) laser diode
- Data Rate: 100-155 Mbps, NRZ
- Single +3.3V Power Supply
- Plastic housing
- PECL Differential Electrical Interface/  
PECL Compatible Logic Interface
- PECL Signal Detect Output
- Industry Standard 1x9 Output Footprint
- Duplex SC Connector
- Compliance with 100Base-FX of  
IEEE802.3u Standard
- Compliance with FDDI PMD Standard
- Compliance with ATM Standard

### Applications

- Fast Ethernet
- FDDI
- ATM/ SONET OC-3/ SDH STM-1
- Singlemode fiber links
- Optical-Electrical Interface Conversion

### Description

The OFN2136-A is a high performance industry standard 1x9 transceiver module that combines a fiber optic transmitter and receiver with an electrical subassembly. It operates with a single +3.3V power supply at a data rate of 155 Mb/s over single mode fiber for a link distance of 40 km.

Housed in a compact plastic package, the transceiver module consists of a transmitter and receiver optical subassembly coupled with duplex SC receptacle. The transceiver module operates at a nominal wavelength of 1310 nm for fast Ethernet, FDDI and ATM/SONET OC-3/SDH STM-1 long reach applications.

**Safety**

**Laser Compliance Statement**

The OFN2136-A is classified as a Class I Laser Product and complies with IEC 60825-1 and FDA 21 CFR 1040.10 and 1040.11. The transceiver must be operated under recommended operating conditions. Because the transceiver is designed to be inherently eye safe, it does not require open fiber control thus eliminating complex electronics or mechanics.

Caution - use of device other than those specified herein may result in hazardous laser radiation exposure or other damage. Please embrace all customary precautions and discretion while handling this device.

**Performance Specifications**

**Absolute Maximum Ratings**

Stresses in excess of the absolute maximum ratings can cause damage to the optical device. Operations of the optical device are suggested to remain within the recommended operating conditions. Exposure to the absolute maximum ratings for extended periods can adversely affect device reliability.

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Storage Temperature	T <sub>s</sub>	-40		85	°C
Lead Soldering Temperature	T <sub>SOLD</sub>			260	°C
Supply Voltage	V <sub>cc</sub>	0		6	V
Operating Temperature	T <sub>A</sub>	-40		85	°C

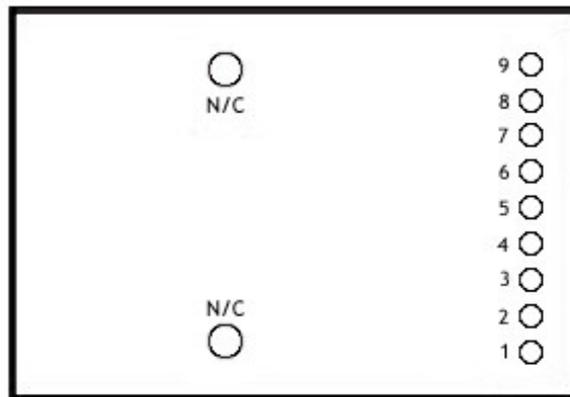
**Transmitter Electro-Optical Characteristics**

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Supply Voltage	V <sub>ccT</sub>	3.1	3.3	3.5	V
Supply Current	I <sub>ccT</sub>			200	mA
Optical Center Wavelength	λ		1310		nm
Output Optical Power(Ave.)	P <sub>out</sub>	-5		0	dBm
Optical Extinction Ratio		10			dB
Optical Rise Time	T <sub>r</sub>	0.6		3.0	ns
Optical Fall Time	T <sub>f</sub>	0.6		3.0	ns

**Receiver Electro-Optical Characteristics**

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Supply Voltage	V <sub>ccR</sub>	3.1	3.3	3.5	V
Supply Current	I <sub>ccR</sub>			100	mA
Optical Center Wavelength	$\lambda$		1310		nm
Data Output Differential Voltage	VD		0.6		V
Optical Input Sensitivity (Ave.)	P <sub>IN</sub>			-33	dBm
Signal Detect-Assert	P <sub>A</sub>			-34	dBm
Signal Detect-Deassert	P <sub>D</sub>	-45			dBm
Signal Detect-Hysteresis	P <sub>A</sub> - P <sub>D</sub>	0.5			dBm

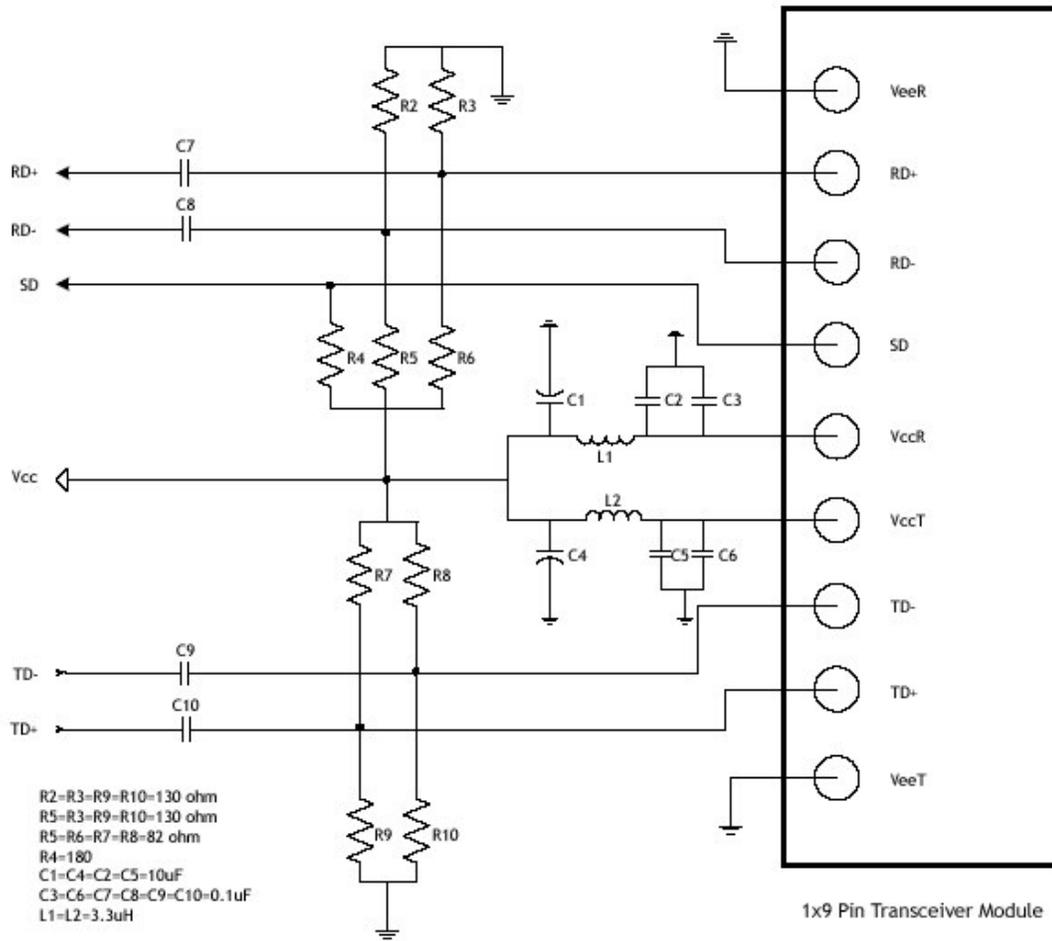
**Pin Diagram**



**Pin Assignment**

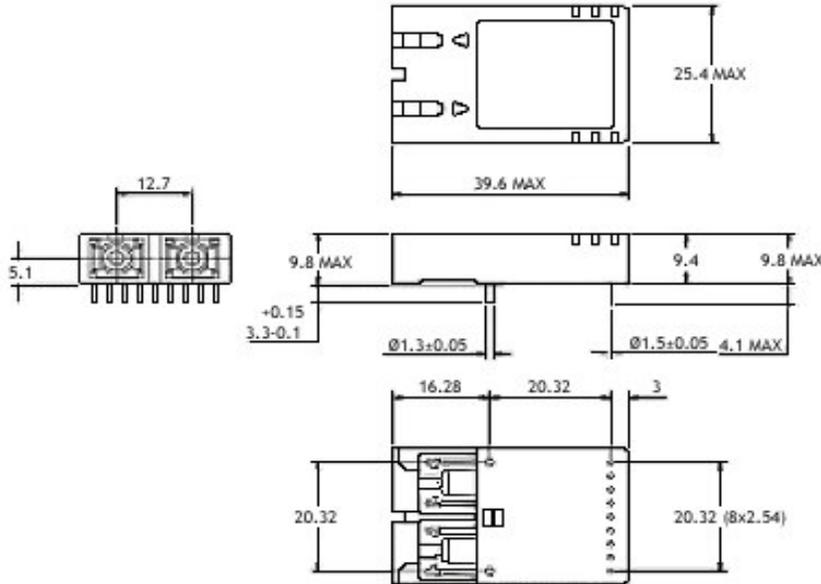
Pin No.	Symbol	Name/ Description
1	V <sub>eeR</sub>	Receiver Signal Ground
2	RD+	Receiver Data Non-inverted Differential Output
3	RD-	Receiver Data Inverted Differential Output
4	SD	Signal Detect is a PECL output. A high level indicates a received optical signal.
5	V <sub>ccR</sub>	Receiver Power Supply
6	V <sub>ccT</sub>	Transmitter Power Supply
7	TD-	Transmitter Data Inverted Differential Input
8	TD+	Transmitter Data Non-inverted Differential Input
9	V <sub>eeT</sub>	Transmitter Signal Ground
Mounting Posts		The mounting posts are provided for transceiver mechanical attachment to the circuit board. They should not be connected to the circuit ground but can be connected to the chassis ground.

Recommended Interface Diagram



**Package Outline Diagram**

Dimensions for the device package are given in millimeters.



**Additional Information**

**Ordering Information**

SD	Part Number
PECL	OFN2136-A
TTL	OFN2136-B

**Contact**

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