TTC-1T18

1 × 9 Fiber Optic Transceiver for Fast Ethernet, FDDI, 100 Mbps ATM

FEATURES:

- Compatible with 850 nm optical links.
- Driving up to 2 km for multimode optical fiber.
- Industry standard 1 × 9 package footprint.
- Duplex ST* connector.
- Single +5V power supply.
- Very low power consumption.
- High performance-to-cost ratio.



TRANSMITTER ELECTRO-OPTICAL CHARACTERISTICS

PARAMETERS	SYMBOL	MIN	TYP	MAX	UNIT
Supply Current	I_{CC}		35	45	mA
Power Dissipation	P_{DISS}		0.175		W
Supply Voltage	V_{CC}	4.75		5.25	V
Wavelength	λ	830	850	860	nm
Output Optical Power (1)	P_O	-13		-7	dBm
Data Input Voltage - Low (2)	V_{IL}	- 1.810		-1.475	V_{CC}
Data Input Voltage - High (2)	V_{IH}	-1.165		-0.880	V_{CC}
Output Extinction Ratio (3)		10			dB
Optical Rise Time	t_r		0.6	3.5	ns
Optical Fall Time	t_f		0.8	3.5	ns
Duty Cycle Distortion	DCD			0.6	ns p-p
Systematic Jitter	SJ			0.60	ns p-p
Random Jitter	RJ			0.69	ns p-p

(1) The launch power of (-12, -7) dBm is specially designed for the 2 km distance requirement, and the maximum optical power meets the class I laser safety standard.

(2) Voltage levels listed are compatible with 100K Series PECL logic levels. The parts are compatible with 10K and 10KH Series logic when driven with differential signals.

(3) This Optical Extinction Ratio is expressed in decibels (dB) by the relationship $10*\log(P_{high\ avg}/P_{low\ avg})$.

RECEIVER ELECTRO-OPTICAL CHARACTERISTICS

PARAMETERS	SYMBOL	MIN	TYP	MAX	UNIT
Supply Current	I_{CC}		55		mA
Power Dissipation	P_{DISS}		0.275		W
Supply Voltage	V_{CC}	4.75		5.25	V
Data Output Voltage – Low(1)	V_{IL}	-1.810		-1.475	V_{CC}
Data Output Voltage - High(1)	V_{IH}	-1.165		-0.880	V_{CC}
Signal Detect Output Voltage - Low	V_{IL}	-1.810		-1.475	V_{CC}
Signal Detect Output Voltage - High	V_{IH}	-1.165		-0.880	V_{CC}
Rise Time	t_r		1.3	2.2	ns
Fall Time	t_f		1.3	2.2	ns
Duty Cycle Distortion	DCD			0.4	ns p-p
Systematic Jitter	SJ			1.20	ns p-p
Random Jitter	RJ			2.60	ns p-p

Sensitivity			-27	-24	dBm
Input power	P_{in}			0	dBm
Operating Wavelength	λ	800		900	nm
Power level (avg.) Detect Assert	P_A			-33	dBm
Power level (avg.) Detect Deassert	P_D	-45			dBm
Level detect hysteresis	P_A-P_D	1.75	2.25	2.75	dB
Signal Detect Assert Time				100	μs
Signal Detect Deassert Time				350	μs

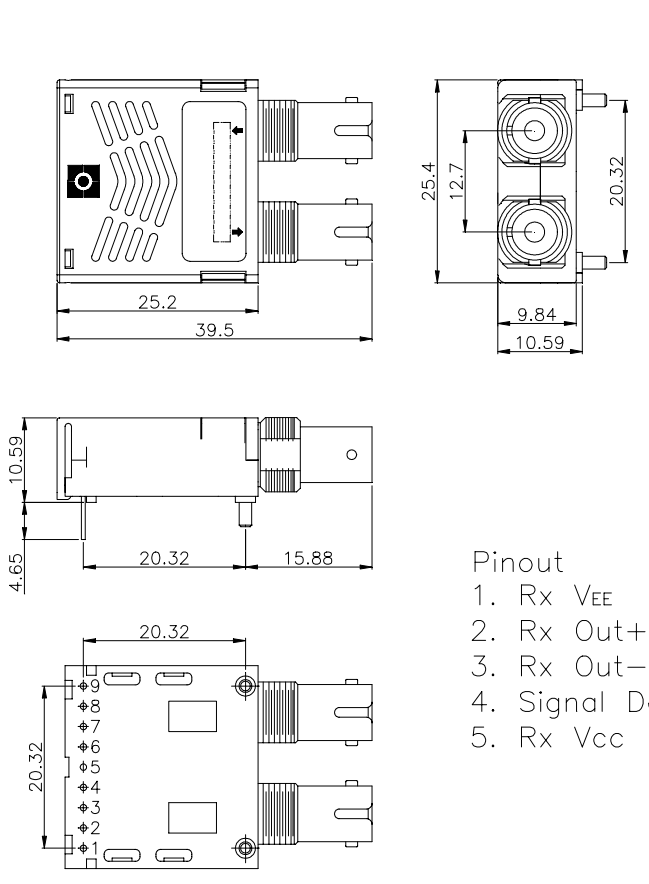
(1) Voltage levels listed are compatible with 100K Series PECL logic levels. The parts are compatible with 10K and 10KH Series logic when driven with differential signals.

ABSOLUTE MAXIMUM RATINGS:

PARAMETERS	SYMBOL	MIN	MAX	UNIT
Storage Temperature	T_S	-40	100	°C
Lead Soldering Limits			260/10	°C/sec
Operating Temperature	T_A	0	70	°C
Supply Voltage	V_{CC}	-0.5	7	V

OUTLINE and PINOUT

Unit:mm



Pinout

1. Rx V_{EE}	6. Tx Vcc
2. Rx Out+	7. Tx In−
3. Rx Out−	8. Tx In+
4. Signal Detect	9. Tx Vee
5. Rx Vcc	

* ST is registered trademark of AT&T.