

TTC-2T18

1 × 9 Fiber Optic Transceiver for 155 Mbps ATM, SONET OC-3/SDH STM-1

FEATURES:

- High quality VCSEL transmitter at 850 nm wavelength
- 50% energy saving over LED transmitters
- Low dispersion secures better optical signal after long distance transmission
- Link distance up to 2Km and 4Km with 62.5/125 um and 50/125 um optical fibers respectively
- Satisfy ATM af-phy-0047.00 specification
- Meet IEC 825-1 Eye Safety Standard
- Industrial standard 1X9 package footprint
- Duplex ST* ports



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	P _O	-10		-4	dBm
Data Input Voltage - Low ⁽¹⁾	V _{IL}	-1.810		-1.475	V _{CC}
Data Input Voltage - High ⁽¹⁾	V _{IH}	-1.165		-0.880	V _{CC}
Output Extinction Ratio ⁽²⁾		10			dB
Optical Rise Time	t _r		1.3	3.0	ns
Optical Fall Time	t _f		1.3	3.0	ns
Systematic Jitter	SJ			1.20	ns p-p
Random Jitter	RJ		0.20	0.52	ns p-p

(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.

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

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 _{OL}	-1.810		-1.475	V _{CC}
Data Output Voltage - High ⁽¹⁾	V _{OH}	-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			1.00	ns p-p
Random Jitter	RJ		0.20	2.14	ns p-p
Sensitivity			-30	-27	dBm
Input power	P _{in}			0	dBm

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

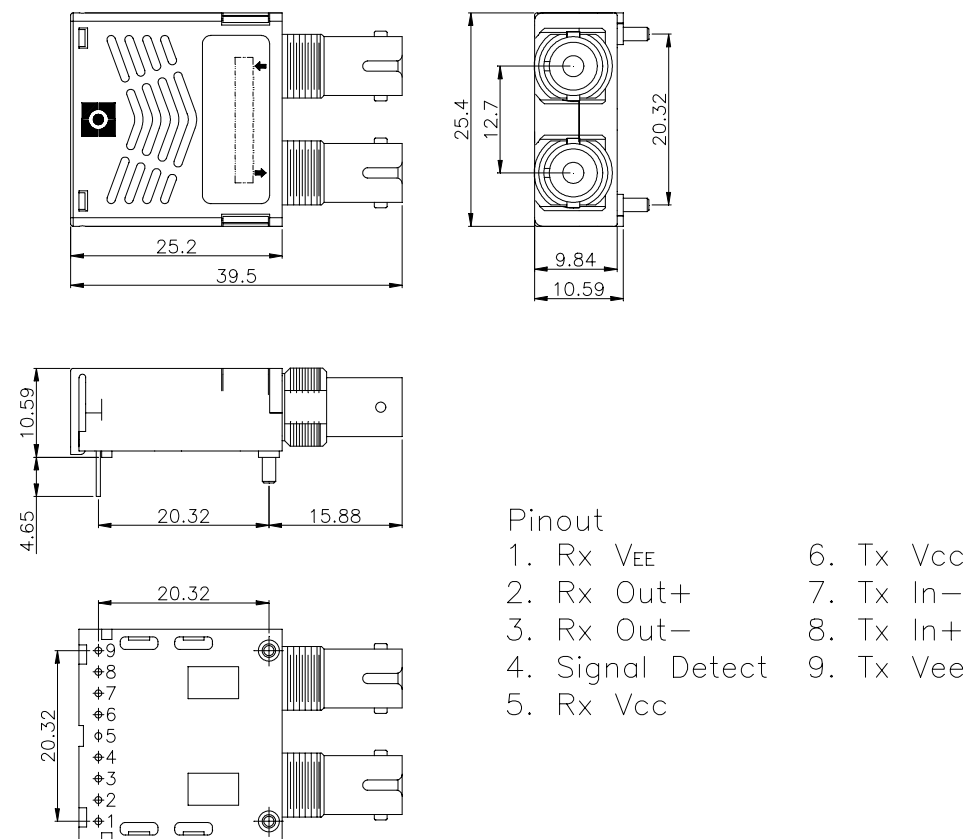
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ABSOLUTE MAXIMUM RATINGS:

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

OUTLINE and PINOUT

Unit:mm



* ST is registered trademark of AT&T.