

# TTC-2C18-000

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

### FEATURES:

- High quality VCSEL transmitter at 850 nm optical links.
- Industry standard 1 × 9 package footprint.
- Duplex SC connector.
- Very low power consumption.
- Link distance up to 2km and 4km with 62.5/125 um and 50/125 um optical fibers respectively.
- Low dispersion secures better optical signal after long distance transmission.
- Satisfy ATM af-phy-0062.00 specification.
- Meet IEC 825-1 Eye Safety Standard.



### TRANSMITTER ELECTRO-OPTICAL CHARACTERISTICS

PARAMETERS	SYMBOL	MIN	TYP	MAX	UNIT
Supply Current	I <sub>CC</sub>		35	45	mA
Power Dissipation	P <sub>DISS</sub>		0.175		W
Supply Voltage	V <sub>CC</sub>	4.75		5.25	V
Wavelength	λ	830	850	860	nm
Output Optical Power <sup>(1)</sup>	P <sub>O</sub>	-10		-4	dbm
Data Input Voltage - Low <sup>(2)</sup>	V <sub>IL</sub>	-1.810		-1.475	V <sub>CC</sub>
Data Input Voltage - High <sup>(2)</sup>	V <sub>IH</sub>	-1.165		-0.880	V <sub>CC</sub>
Output Extinction Ratio <sup>(3)</sup>		10			dB
Optical Rise Time	t <sub>r</sub>		1	3	ns
Optical Fall Time	t <sub>f</sub>		1	3	ns
Systematic Jitter	SJ			1.20	ns p-p
Random Jitter	RJ			0.72	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 <sub>CC</sub>		55		mA
Power Dissipation	P <sub>DISS</sub>		0.275		W
Supply Voltage	V <sub>CC</sub>	4.75		5.25	V
Data Output Voltage - Low <sup>(1)</sup>	V <sub>IL</sub>	-1.810		-1.475	V <sub>CC</sub>
Data Output Voltage - High <sup>(1)</sup>	V <sub>IH</sub>	-1.165		-0.880	V <sub>CC</sub>
Signal Detect Output Voltage - Low	V <sub>IL</sub>	-1.810		-1.475	V <sub>CC</sub>
Signal Detect Output Voltage - High	V <sub>IH</sub>	-1.165		-0.880	V <sub>CC</sub>
Rise Time	t <sub>r</sub>		1.3	2.2	ns
Fall Time	t <sub>f</sub>		1.3	2.2	ns
Systematic Jitter	SJ			1.20	ns p-p
Random Jitter	RJ			0.72	ns p-p
Sensitivity			-29	-27	dBm
Operating Wavelength	λ	840		860	nm
Power level (avg.) Detect Assert	P <sub>A</sub>			-33	dBm

TrueLight reserves the right to make changes due to the improvement of process and package technology.



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Power level (avg.) Detect Deassert	$P_D$	-45	dBm
Level detect hysteresis	$P_A-P_D$	1	dB
Input power	$P_{in}$	0	dBm
Signal Detect Assert Time		100	$\mu s$
Signal Detect Deassert Time		350	$\mu s$

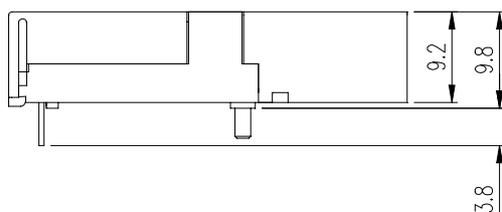
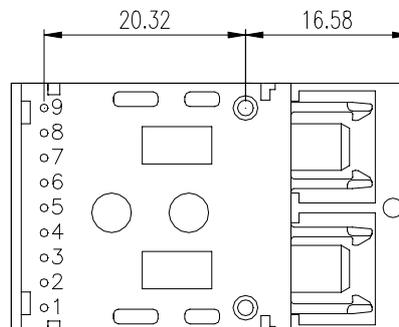
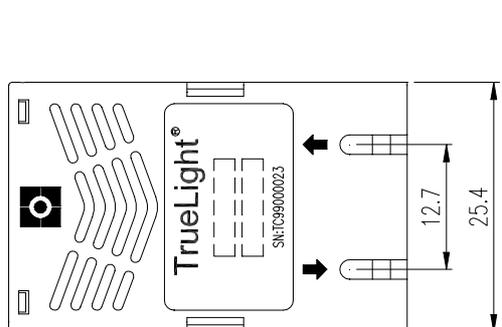
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**ABSOLUTE MAXIMUM RATINGS:**

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	6	V

**OUTLINE and PINOUT**

Unit:mm



Pinout

- |                  |                |
|------------------|----------------|
| 1. Rx $V_{EE}$   | 6. Tx $V_{CC}$ |
| 2. Rx Out+       | 7. Tx In-      |
| 3. Rx Out-       | 8. Tx In+      |
| 4. Signal Detect | 9. Tx $V_{EE}$ |
| 5. Rx $V_{CC}$   |                |