

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_{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	-10		-4	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		1	3	ns
Optical Fall Time	t_f		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 $10 \cdot \log(P_{high\ avg}/P_{low\ avg})$.

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_{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
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_A			-33	dBm

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



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Rev. 2.01

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	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	6	V

OUTLINE and PINOUT

Unit:mm

