



PRELIMINARY

**ATM
SINGLEMODE
TRANSCEIVER – 4LV10
LC 3.3 Volts**

THE SOURCE FOR YOUR SOURCE

FEATURES

- 1300/1550 nm Wavelength
- For Singlemode Applications
- Data rate 622Mb/s
- Low cost design
- Low power consumption
- Single Power Supply
- LC Connector
- Multi-sourced 2x5 pinout

LASER TRANSMITTER CHARACTERISTICS (T= 25°C)

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Wavelength ¹	λ	1293	1310	1334	nm
Spectral Width @ 622 Mb/s ¹	$\Delta\lambda(\text{RMS})$			4	nm
Wavelength ²	λ	1300	1310	1325	nm
Spectral Width @ 622 Mb/s ²	$\Delta\lambda(\text{RMS})$			2	nm
Wavelength ³	λ	1280	1310	1335	nm
Spectral Width @ 622 Mb/s ³	$\Delta\lambda(\text{RMS})$			0.2	nm
Wavelength ⁴	λ	1480	1550	1580	nm
Spectral Width @ 622 Mb/s ⁴	$\Delta\lambda(\text{RMS})$			0.2	nm
Output Power	P ₀	SEE CHART BELOW			
Extinction Ratio		10			dB
Data Rate			622		Mb/s
Supply Voltage	V _{cc}	3.14		3.46	V
Supply Current	I _{cc}			140	mA
Power Dissipation	P			485	mW
Input High Voltage	V _{IHS}	V _{cc} -1.16		V _{cc} -0.89	V
Input Low Voltage	V _{ILS}	V _{cc} -1.82		V _{cc} -1.48	V
Rise Time (10%-90%)	T _r			0.7	ns
Fall Time (90%-10%)	T _f			0.7	ns
Random Jitter				0.1	ns(p-p)
Data Dependent Jitter				0.2	ns(p-p)
Power with Active Disable*				-45	dBm
EyeDiagram	Bellcore GR253, Sonet OC-12				

* With TTL Logic Level High

NOTES: 1) Intermediate Reach 1300nm (MLM) FP Laser,

2) Long Reach 1300nm (MLM) FP Laser

3) Long Reach 1300nm with (SLM)DFB Laser

4) Long Reach 1550nm with (SLM)DFB Laser

LASER TRANSMITTER AVERAGE OUTPUT POWER (T= 0°C to 70°C, 50% DUTY CYCLE)

Part Number	Min	Typ	Max	Unit	Min	Typ	Max	Unit
-0003	.03	.05	.16	mW	-15.2	-13.0	-8.0	dBm
005	0.5	0.7	1.6	mW	-3.0	-1.6	2.0	dBm
-D005	0.5	0.7	1.6	mW	-3.0	-1.6	2.0	dBm
-D5005	0.5	0.7	1.6	mW	-3.0	-1.6	2.0	dBm

FEATURES

- 1300/1550 nm Wavelength
- For Singlemode Applications
- Data rate 100 to 700 Mb/S
- Low cost design
- Low power consumption
- Single Power Supply
- LC Connector
- Multi-sourced 2x5 pinout

RECEIVER CHARACTERISTICS (T= 25°C)

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Wavelength	λ	1200		1600	nm
Average Optical Sensitivity		-28			dBm
Average max Input Power				-3	dBm
Data Rate			622		Mb/s
Supply Voltage	Vcc	3.14		3.46	V
Supply Current	Icc			150	mA
Power Dissipation	P			520	mW
Output High Voltage	V _{OH}	Vcc-1.03		Vcc-0.80	V
Output Low Voltage	V _{OL}	Vcc-1.82		Vcc-1.63	V
Rise/Fall Times	TrTf			0.7	ns
Signal Detect Threshold-Assertion				-28	dBm
Signal Detect Threshold -Deassertion		-39			dBm
Data dependent Jitter				0.20	ns
Hysteresis		1.0			dB
Signal Detect Timing-Assertion				100	μs
Signal Detect Timing-Deassertion				350	μs

ABSOLUTE MAXIMUM RATINGS

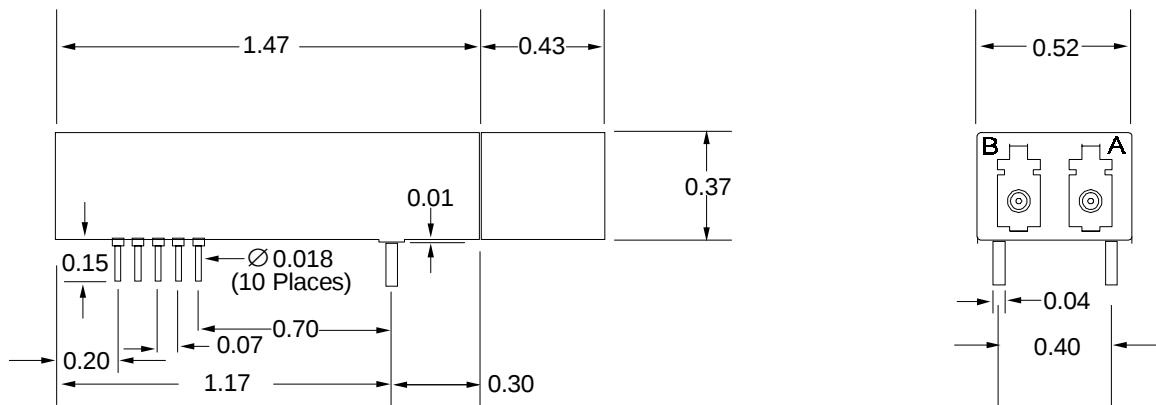
PARAMETER	SYMBOL	RATING	UNIT
Supply Voltage	Vcc	3.5	VOLTS
Output Current	Io	50	mA
Operating Temp		0 - 70	°C
Storage Temp		-40 - 85	°C
Lead Soldering Temp/Time		240/6	°C/S
Grounding Post Temp/Time		300/10	°C/S

Ordering InformationMRTRLC XXXXXX – 4LV10

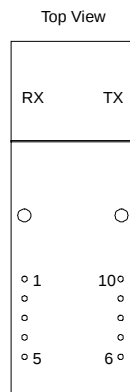
└──────────┘ **Output Power**

Note: Preliminary data. Specifications are subject to change.

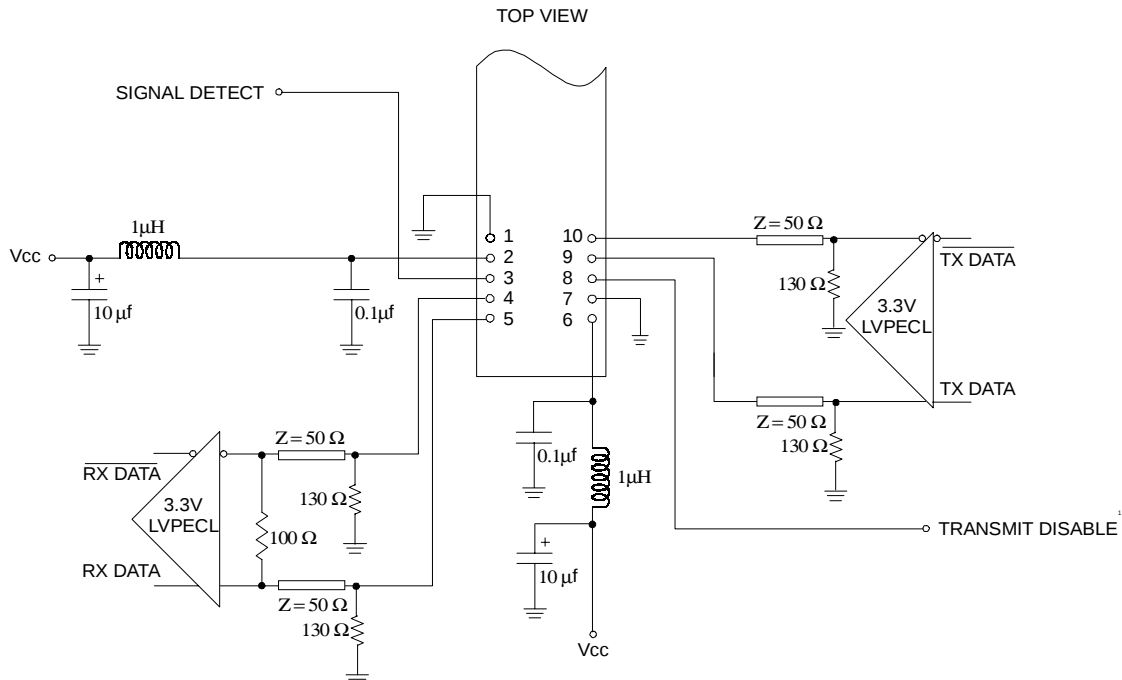
Outline Drawing



PIN Assignments



PIN	Function
1	RX Vee
2	RX Vcc
3	SIGNAL DETECT
4	$\overline{\text{Rx Data}}$
5	Rx Data
6	TX VCC
7	TX Vee
8	TX Disable
9	TX Data
10	$\overline{\text{TX Data}}$



Recommended Termination Circuits

Note:

- 1) To disable Transmitter apply TTL Logic level "1"
- 2) CLASS 1 DEVICE. THIS PRODUCT CONFORMS TO THE APPLICABLE REQUIREMENTS OF 21 CFR1040 AT THE DATE OF MANUFACTURE (CDRH).THIS PRODUCTS ALSO MEETS THE REQUIREMENTS OF EN 60950 AND EN 60825 (TUV). APPLICABLE TO DEVICES WITH MAXIMUM OUTPUT POWER OF 1mW.
- 3) TRANSMIT PINS 9 AND 10 ARE AC – COUPLED AND TERMINATED THROUGH 50 OHM RESISTORS.