LuminentOIC

GBIC-1250-LX-DA

Features
- Data rate 1.062 to 1.25 Gb/s
- Single 5 V supply
- 10 Km reach
- 0 to 70 °C temperature operation
- 1310 FP laser
- GBIC MSA SFF-8053 compliant

Rating

Parameter	Symbol	Rating	Unit
Supply Voltage	V_{cc}	4.75 to 5.25	V
Supply Current (Max)	I_{CC}	300	mA
Operating Temperature	T_{opr}	0 to 70	°C
Storage Temperature	T_{stg}	-40 to 85	°C

Transmitter Specifications

Parameter	Symbol	Min	Typical	Max	Unit
Wavelength	λ	1270	1310	1355	nm
Spectral Width(20dB)	$\Delta\lambda$	-	-	4	nm
Optical Path Penalty[a]		-	-	2	dB
Output Power	P_O	-11	-7	-3	dBm
Extinction Ratio	ER	9	-	-	dB
Data Rate	DR	1062	-	1250	Mbps
PECL Single Ended Input		325	-	1000	mVp-p
Rise Time(20% to 80%)	t_r	-	-	0.26	ns
Fall Time(80% to 20%)	t_f	-	-	0.26	ns
Total Jitter	TJ	-	-	0.2	ns(p-p)
Eye Diagram		IEEE-802.3 Compliant			

a)Measured at 10^{-12} BER at 1400ps/nm dispersion

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Receiver Specifications

Parameter	Symbol	Min	Typical	Max	Unit
Wavelength	λ	1270	-	1355	nm
Receive Power Range Low[b]	$R_{sens,low}$	-22	-24	-	dBm
Receive Power Range High[b]	$R_{sens,High}$	-	-	-3	dBm
Return Loss	-	-	-	12	dB
Data Rate	DR	185	-	1250	Mbps
PECL Single Ended Output		-	-	1000	mVp-p
Rise Time/Fall Time(20%-80%)	t_r/t_f	-	-	0.26	ns
Signal Detect Threshold-Assertion	-	-	-	-24	dBm
Signal Detect Threshold-Deassertion	-	-34	-	-	dBm
Signal Detect Level Low	-	Vee	-	Vee+0.5	V
Signal Detect Level High	-	2	-	Vcc	V
Hysteresis	-	0.5	-	-	dB

b) PRBS 2^7-1; BER= 10^{-12}

Timing Parameter for GBIC Management

Parameter	Symbol	Min	Max	Unit	Conditions
TX_DISABLE assert time	t_off	-	10	μs	Rising edge of TX_DISABLE to fall of output signal below 10% of normal
TX_DISABLE negate time	t_on	-	1	ms	Falling edge of TX_DISABLE to rise of output signal above 90% of normal
Time to initialize, includes reset of TX_FAULT	t_init	-	300	mx	From power on or hot plug after $V_{DD}T>3.15$ V or from negation of TX_DISABLE during reset of TX_FAULT
TX_FAULT from fault to assertion	t_fault	-	100	μs	From occurrence of fault(output safety violation or $V_{DD}T>3.15$ V)
TX_DISABLE time to start reset	t_reset	10	-	μs	TX_DISABLE HIGH before TX_DISABLE set LOW
RX_LOS assert delay	t_loss_on	-	100	μs	From detection of loss of signal to assertion of RX_LOS
RX_LOS negate delay	t_loss_off	-	100	μs	From detection of presence of signal to negation of RX_LOS

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Pin	Function	Pin	Function
1	RX_LOS	11	RX Ground
2	RX Ground	12	RX_Data (-)
3	RX Ground	13	RX_Data (+)
4	MOD_DEF(0)	14	RX_Ground
5	MOD_DEF(1)	15	VDD RX
6	MOD_DEF(2)	16	VDD TX
7	TX_Disable	17	TX_Ground
8	TX_Ground	18	TX_Data (+)
9	TX_Ground	19	TX_Data (-)
10	TX_Fault	20	TX_Ground

Outline Drawing and Connection
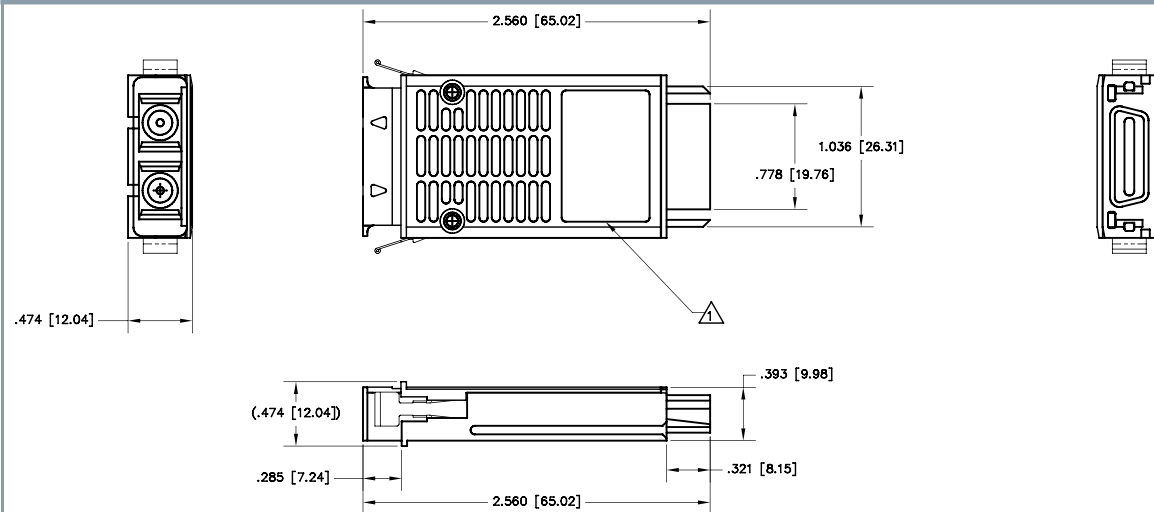
Ordering Information

Available Options:
GBIC-1250-LX-DA

Part numbering Definition:

GBIC-1250-LX - **Digital Diagnostics** - **Temperature Range** - **Customer Specific**

- **DA = No Diagnostic**
  D1= External Calibration

- **Blank=Commercial**
  T=Industrial Temperature (-40 to 85)
  R=Reduced Industrial Temperature (-20 to 85)

- **Blank=Standard Procedure**
  Labelling, Serial number, or Shipping Instructions etc.

Warnings:

Handling Precautions: This device is susceptible to damage as a result of electrostatic discharge (ESD). A static free environment is highly recommended. Follow guidelines according to proper ESD procedures.
Laser Safety: Radiation emitted by laser devices can be dangerous to human eyes. Avoid eye exposure to direct or indirect radiation.

Legal Notes:

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