L28-SM1325-40I

SFP28 25Gb/s ER 40km DDMI

Product Features

- Supports 25.78Gb/s aggregate bit rate
- 1310nm EML Laser transmitter and APD/TIA receiver
- Maximum link length of 40km on Single Mode Fiber (SMF)
- Hot-pluggable SFP28 footprint
- Duplex LC receptacles
- Single 3.3V power supply
- Maximum power dissipation < 1.8W
- RoHS-6 compliant and lead-free
- I2C management interface
- Case operating temperature
  Commercial : 0°C to +70°C
  Industrial : -40°C to +85°C

Applications

- 25GBASE-ER 25G Ethernet
- CPRI 10

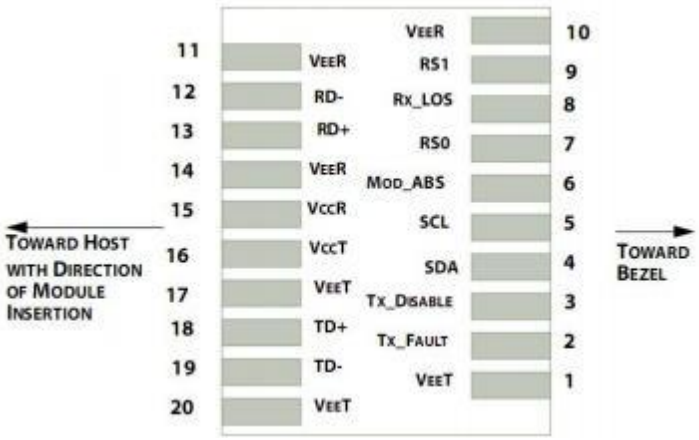
Compliance

- SFP MSA.
- IEEE802.3cc
- SFF-8472
- RoHS

Ordering information

Part No.	Bit Rate (Gbps)	Laser (nm)	Distance	Fiber Type	DDMI	Connector	Temp
LS-SM3125-40C	25.78125	1310	40km	SMF	YES	LC	0 C~ + 7 0 C
LS-SM3125-40I	25.78125	1310	40km	SMF	YES	LC	- 4 0 C~ + 8 5 C

Pin Diagram



Pinout of Connector Block on Host Board

Pin Descriptions

Pin	Symbol	Name/Description	NOTE
1	VEET	Module transmitter ground	1
2	Fault	Module transmitter Fault	2
3	Disable	Transmitter Disable; Turns off transmitter laser output	3
4	SDL	2 wire serial interface data input/output (SDA)	4
5	SCL	2 wire serial interface clock input (SCL)	4
6	MOD-ABS	Module Absent, connect to VeeR or VeeT in the module	2
7	RS0	Rate select0: module inputs and are pulled low to VeeT with >30 kΩ resistorsin the module.	

8	LOS	Receiver Loss of Signal Indication	
9	RS1	Rate select1: module inputs and are pulled low to VeeT with >30 kΩ resistorsin the module.	
10	VeeR	Module receiver ground	1
11	VeeR	Module receiver ground	1
12	RD-	Receiver inverted data out put	
13	RD+	Receiver non-inverted data out put	
14	VeeR	Module receiver ground	1
15	VccR	Module receiver 3.3V supply	
16	VccT	Module transmitter 3.3V supply	
17	VeeT	Module transmitter ground	1
18	TD+	Transmitter non-inverted data out put	
19	TD-	Transmitter inverted data out put	
20	VeeT	Module transmitter ground	1

Notes:

1. The module ground pins shall be isolated from the module case.
2. This pin is an open collector/drain output pin and shall be pulled up with 4.7K-10Kohms to Host_Vcc on the host board.
3. This pin shall be pulled up with 4.7K-10Kohms to VccT in the module.
4. This pin is an open collector/drain output pin and shall be pulled up with 4.7K-10Kohms to Host_Vcc on the host board.

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Ref.
Maximum Supply Voltage	Vcc	-0.5		3.6	V	
Storage Temperature	TS	-40		85	C	
Relative Humidity	RH	0		85	%	

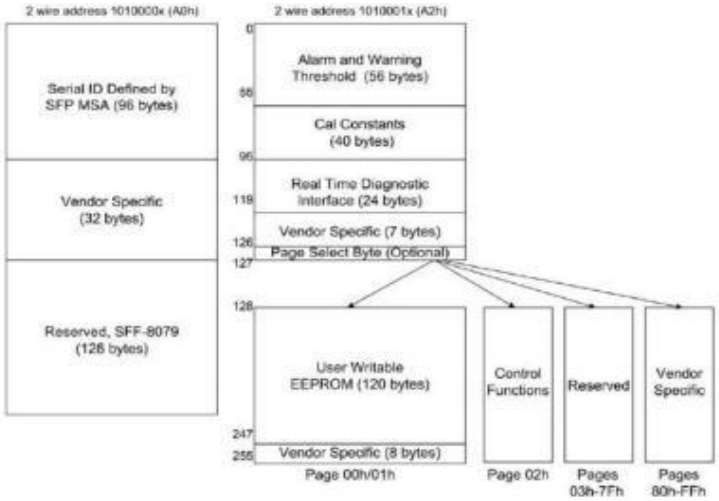
Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remark
Transmitter						
Signaling rate(range)	Sr		25.7825± 100ppm		GBd	
Center Wavelength	λ c	1295		1310	nm	
Spectral Width(-20d B)	Pm			1	nm	
Average Output Power	Pavg	-3		6	d Bm	
Extinction Ratio	ER	4			Bd	
Side Mode Suppression Ratio	SMSR	30			Bd	
Transmitter OFF Output Power	POff			-30	d Bm	
Transmitter eye mask definition {X1, X2, X3, Y1, Y2, Y3} Hit ratio 5×10-5 hits per sample.		{0.31, 0.4, 0.45, 0.34, 0.38, 0.4}				
Receiver						
Signaling rate(range)	Sr		25.7825± 100ppm		GBd	
Center Wavelength	λ c	1295		1325	nm	
Receiver Sensitivity(OMA)				-19	d Bm	1
Receiver Reflectance	Rfl			-26	d Bm	
Loss of Signal Assert	PA	-35			d Bm	
Loss of Signal De-assert	PD			-19	d Bm	
LOS Hysteresis	PD- PA	0.5			Bd	

Note:

1. Hit ratio $5x10^{-5}$.

Digital Diagnostic Memory Map



Digital Diagnostic Specifications

Parameter	Unit	Accuracy
Case Temperature	C	±3
Supply Voltage	V	±3%
Tx Bias Current	mA	±10%
Tx Optical Power	dB	±3
Rx Optical Power	dB	±3

Electrical Interface Characteristics

Parameter	Symbol	Min	Type	Max	Unit	Ref.
Supply Voltage	Vcc	3.135	3.3	3.465	V	
Supply Current	Icc			500	mA	Commercial
				550	mA	Industrial
Transmitter						
Input differential impedance	Rin		100			1
Differential data input swi ng	Vin, pp	100		800	mV	
Transmit Disable Voltage	VD	2		VCC	V	

Transmit Enable Voltage	VEN	Vee		Vee+0.8	V	
Receiver						
Differential data output swi ng	Vout, pp	100		800	mV	2
LOS Fault	VLOS_ fault	2		VccHOST	V	3
LOS Normal	VLOS_ norm	Vee		Vee+0.8	V	3

Notes:
1. Connected directly to TX data input pins.AC coupling from pins into laser driver IC.
2. Into 100Ω differential termination.
3. LOS is an open collector output. Should be pulled up with 4.7k Ω – 10kΩ on the host board. Normal operation is logic 0; loss of signal is logic 1. Maximum pull-up voltage is 5.5V.

Mechanical Specifications (Unit: mm)