

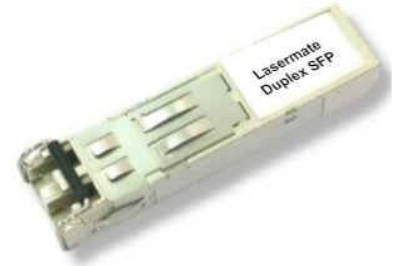


155Mbps 850nm MMF 2km SFP Optical Transceiver with Duplex LC Connector

Model No. CM85V-03F-3S-Tx-LD

FEATURES

- RoHS compliant
- Compliant with SFF8472 diagnostic monitoring interface
- Single power supply 3.3V
- Duplex LC optical connection
- Class 1 laser product compliant with EN 60825-1
- Input/Output: AC/AC
- Signal Detect: TTL



DIAGNOSTICS

PARAMETER	RANGE	ACCURACY	UNIT	CALIBRATION
Temperature	-40 to 95	±3	°C	External
Voltage	3.0 to 3.6	±0.1	V	
Bias Current	0 to 20	±10%	mA	
TX Power	-9.5 to -4	±3	dB	
RX Power	-18 to -4	±3	dB	

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	MIN	MAX	UNIT
Storage Temperature	T _S	-40	85	°C
Supply Voltage	V _{CC}	-0.5	4.0	V
Input Voltage	V _{IN}	-0.5	V _{CC}	V

RECOMMENDED OPERATING CONDITIONS

PARAMETER	SYMBOL	MIN	MAX	UNIT	NOTES
Case Operating Temperature	T _C	0	70	°C	CM85V-03F-3S-TC-LD
		-10	85		CM85V-03F-3S-TM-LD
		-40	85		CM85V-03F-3S-TI-LD
Supply Voltage	V _{CC}	3.1	3.5	V	
Supply Current	I _{TX} + I _{RX}		200	mA	

Lasermate Group, Inc.

19608 Camino De Rosa, Walnut, CA 91789, USA

Tel: (909)718-0999 | Fax: (909)718-0998 | E-mail: info@lasermate.com | URL: <http://www.lasermate.com>



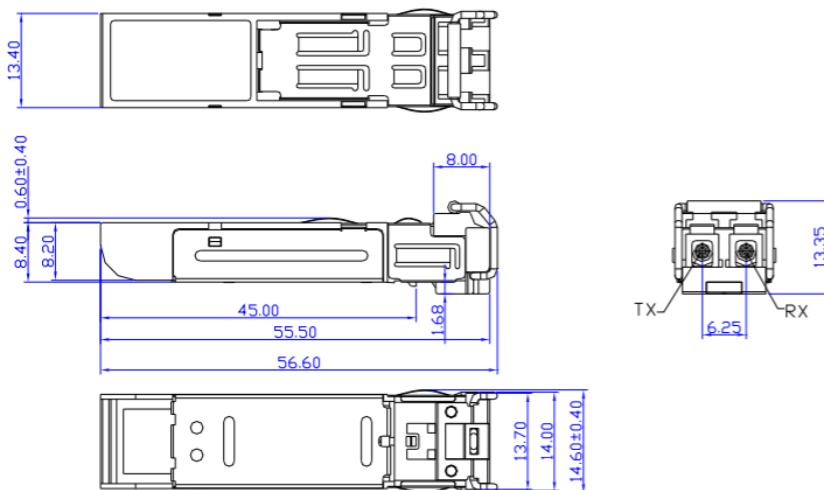
TRANSMITTER ELECTRO-OPTICAL CHARACTERISTICS ($V_{CC} = 3.1V$ to $3.5V$, $T_C = 0^{\circ}C$ to $70^{\circ}C$, $-10^{\circ}C$ to $85^{\circ}C$, $-40^{\circ}C$ to $85^{\circ}C$)

PARAMETER	SYMBOL	MIN	TYP.	MAX	UNIT
Data Rate	B		125		Mbps
Average Output Optical Power 62.5/125, 50/125um fiber	P_{out}	-9.5	-	-4	dBm
Extinction Ratio	ER	9	-	-	dB
Center Wavelength	λ_C	830	850	860	nm
Spectral Width (RMS)	$\Delta\lambda$	-	-	0.85	nm
Rise/Fall Time (10~90%)	$T_{r,f}$	-	-	2	ns
Max. P_{out} TX-DISABLE Asserted	P_{OFF}	-	-	-45	dBm
Differential Input Voltage	V_{DIFF}	0.4	-	2.0	V

RECEIVER ELECTRO-OPTICAL CHARACTERISTICS ($V_{CC} = 3.1V$ to $3.5V$, $T_C = 0^{\circ}C$ to $70^{\circ}C$, $-10^{\circ}C$ to $85^{\circ}C$, $-40^{\circ}C$ to $85^{\circ}C$)

PARAMETER	SYMBOL	MIN	TYP.	MAX	UNIT	NOTES
Data Rate	B		125		Mbps	
Optical Input Power-Maximum	P_{IN}	-4	-	-	dBm	PRBS7, BER<10 ⁻¹⁰
Receiver Input Power-Minimum (Sensitivity)	P_{IN}	-	-	-18	dBm	PRBS7, BER<10 ⁻¹⁰
Operating Center Wavelength	λ_C	770	-	860	nm	
Optical Return Loss	ORL	12	-	-	dB	
Signal Detect-Asserted	P_A	-	-	-18	dBm	
Signal Detect-Deasserted	P_D	-35	-	-	dBm	
Data Output Rise, Fall time (20~80%)	$T_{r,f}$	-	-	0.35	ns	
Differential Output Voltage	V_{DIFF}	0.5	-	1.2	V	
Receiver Loss of Signal Output Voltage-Low	RX_LOS _L	0	-	0.5	V	
Receiver Loss of Signal Output Voltage-High	RX_LOS _H	2.4	-	V_{CC}	V	

DIMENSIONS



DIMENSIONS ARE IN MILLIMETERS

ALL DIMENSIONS ARE ± 0.2mm UNLESS OTHERWISE SPECIFIED

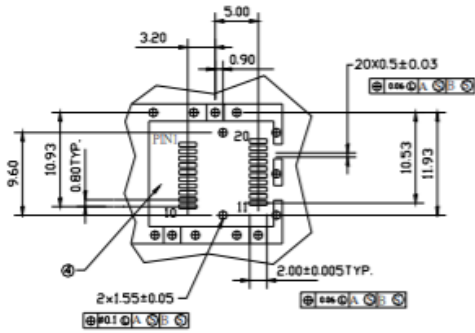
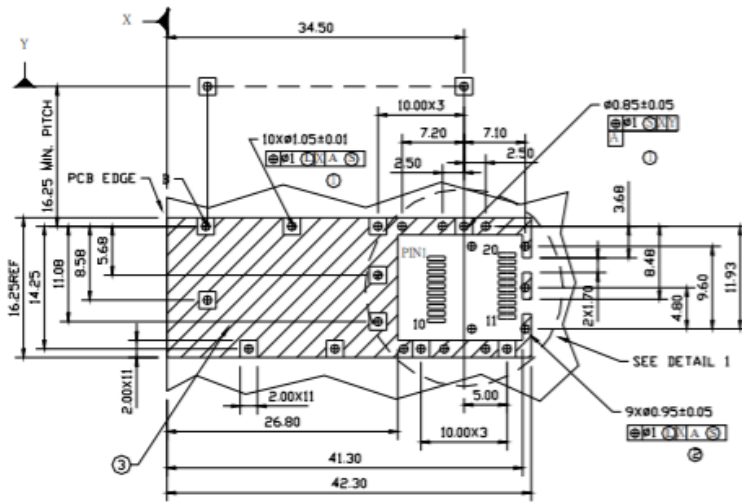
Lasermate Group, Inc.

19608 Camino De Rosa, Walnut, CA 91789, USA

Tel: (909)718-0999 | Fax: (909)718-0998 | E-mail: info@lasermate.com | URL: <http://www.lasermate.com>



SFP HOST BOARD MECHANICAL LAYOUT

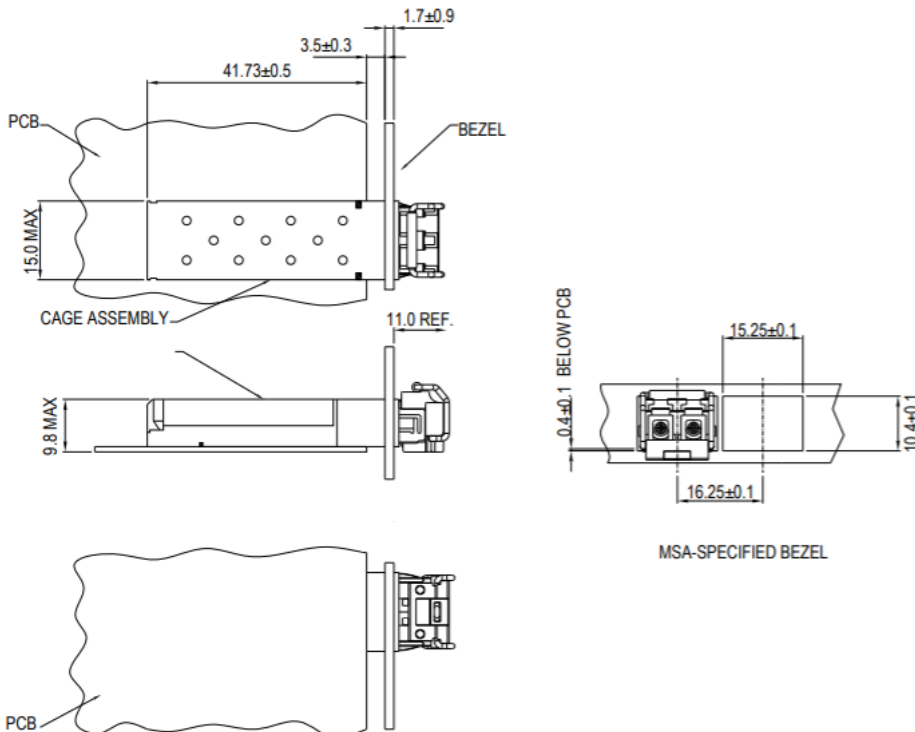


LEGEND

1. PADS AND VIAS ARE CHASSIS GROUND
2. THROUGH HOLES, PLATING OPTIONAL
3. HATCHED AREA DENOTES COMPONENT AND TRACE KEEPOUT (EXCEPT CHASSIS GROUND)
4. AREA DENOTES COMPONENT KEEPOUT (TRACES ALLOWED)

DIMENSIONS ARE IN MILLIMETERS

ASSEMBLY DRAWING (unit: mm)



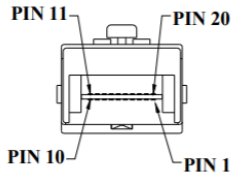
Lasermate Group, Inc.

19608 Camino De Rosa, Walnut, CA 91789, USA

Tel: (909)718-0999 | Fax: (909)718-0998 | E-mail: info@lasermate.com | URL: <http://www.lasermate.com>



PIN ASSIGNMENT



PIN	SIGNAL NAME	DESCRIPTION	PIN	SIGNAL NAME	DESCRIPTION
1	T _{GND}	Transmit Ground	11	R _{GND}	Receiver Ground
2	TX_FAULT	Transmit Fault	12	RX-	Receive Data Bar, Differential PECL, ac coupled
3	TX_DISABLE	Transmit Disable	13	RX+	Receive Data, Differential PECL, ac coupled
4	MOD_DEF (2)	SDA Serial Data Signal	14	R _{GND}	Receiver Ground
5	MOD_DEF (1)	SCL Serial Clock Signal	15	V _{CCR}	Receiver Power Supply
6	MOD_DEF (0)	TTL Low	16	V _{CCT}	Transmitter Power Supply
7	RS0	RX Rate Select, no function implemented	17	T _{GND}	Transmitter Ground
8	RX_LOS	Receiver Loss of Signal, TTL High, open collector	18	TX+	Transmit Data, Differential PECL, ac coupled
9	RS1	TX Rate Select, no function implemented	19	TX-	Transmit Data Bar, Differential PECL, ac coupled
10	R _{GND}	Receiver Ground	20	T _{GND}	Transmitter Ground

ORDERING INFORMATION

PART NUMBER	OPERATING TEMPERATURE
CM85V-03F-3S-TC-LD	0°C to 70°C
CM85V-03F-3S-TM-LD	-10°C to 85°C
CM85V-03F-3S-TI-LD	-40°C to 85°C

Note: The specifications subject to change without notice.