



2.5Gb/s Mini cooled optical transmitter module

TX5S334 Series

Features

- *The module is applied to STM-16/OC-48 fiber transmission system*
- *1550nm DFB-LD , built-in isolator,*
- *Single-ended and differential input, reclock selectable*
- *Very low dispersion penalty up to 160km*
- *With all system alarming function*
- *Pin function compatible with multi-source standard*

Application

- *Applied to STM-16/OC-48 fiber transmission system*

Standards

- G.957&2.5G MSA

Absolute Maximum Ratings

Parameter	Symbol	Unit	Min	Max
Case Operating Temperature Range	Tc	°C	0	60
Storage Temperature Range	Ts	°C	-20	85
Relative Humidity	RH	%	-	80
Power Supply Voltage	Vcc	V	-	6
Lead Solder Temperature	-	°C	-	260
Lead Solder Duration	-	S	-	10
Fiber Yield Strength	-	kgf	-	1
Fiber Bend Radius	-	mm	30	-

Specifications

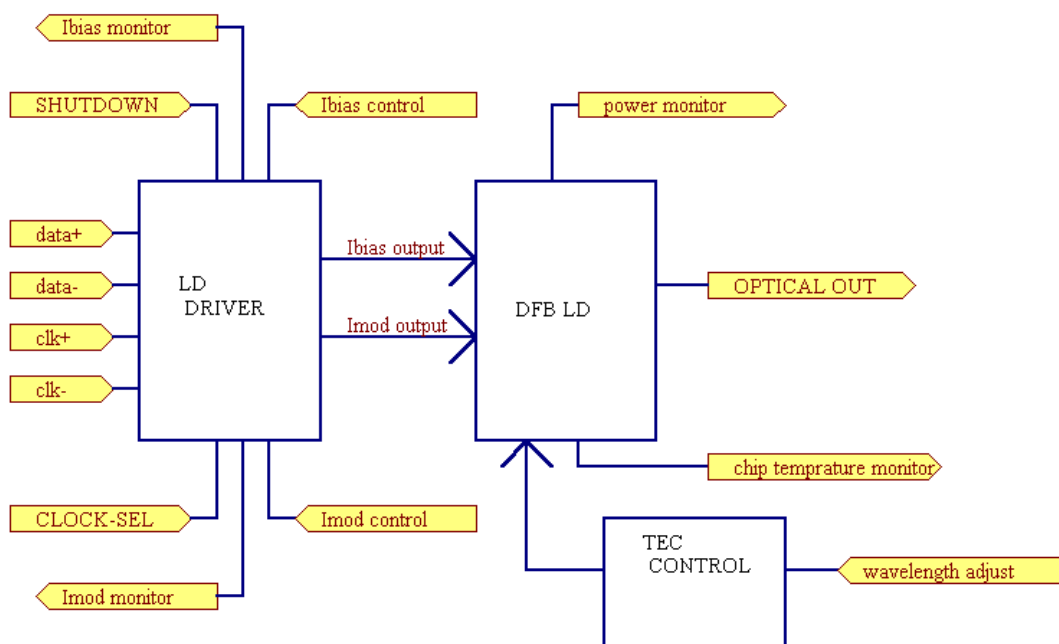
(tested under recommended operating conditions , unless otherwise noted)

Parameter	Symbol	Unit	Min	Typ	Max	Test condition
Electrical Characteristics						
Operating Voltage	VCC	V	+4.75	+5.0	+5.25	
+5V Supply Current	Icc	mA	150	-	1000	0 ~ 65°C
Single Ended Data Input Swing	-	mV	400	500	1000	
Single Ended Data Output Swing	-	mV	400	500	1000	
Signal Level(TTL)	-	V				Active High
Optical transmitter Characteristics						
Data Rate	-	Mbps	-	2.5	2.7	
Launch Optical Power	Po	dBm	-2	-	+3	
Center Wavelength Range	λ_c	nm	1530		1568	
Extinction Ratio	EX	dB	8.2	9.5		
Wavelength Drift	-	nm	-0.05	-	+0.05	0 ~ 65°C
Optical power Drift	-	dbm	-0.5	-	+0.5	0 ~ 65°C
Spectral Width	$\Delta\lambda$	nm	-	-	0.3	
Side Mode Suppression Ratio	SMSR	dB	35	-		
Eye Diagram	-	-	ITU-TG.957 STM-16			
Dispersion Penalty	-	dB	-	-	2	PRBS2 [^] 23-1 ; 10-12

Pin Description

pin	Description	pin	Description
1	NC	13	Vcc, +5V
2	LD back output voltage BFM	14	NC
3	LD bias current monitor BIM	15	Ground
4	Disable	16	Data (+)
5	Clock selectable	17	Ground
6	Ground	18	Data (-)
7	NC	19	Ground
8	Temperature alarm	20	Clock (+)
9	NC	21	Ground
10	NC	22	Clock (-)
11	NC	23	Ground
12	NC	24	Vcc, +5V

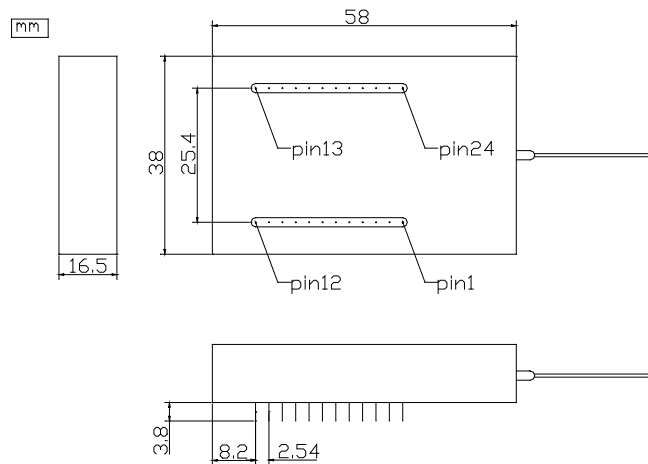
Block Diagram



Interface

<p>Data input and clock signal</p> <p>Internally AC coupled, 50Ω input impedance. The peak-peak Voltage of single-ended input is no less than 250mV. When using single-ended input, 50Ω resistance of the reverse end can be grounded.</p>
<p>Clock selection</p> <p>When CMOS low, clock function is enable.</p>
<p>LD shut-down</p> <p>When CMOS low, LD operates..</p>
<p>Temperature alarm</p> <p>High level output when temperature is over fixed value</p>
<p>Power indication (BFM)</p> <p>$V_{on} / V_{shut} > 2$</p>
<p>Bias indication (BIM) (mV)</p> <p>Voltage output, the value equals the bias current: $I_{bias} \text{ (mA)} \times 20\Omega$</p>

Package Outline



Ordering Information

Part No	Specification					Application
	Package	Datarate	Wavelength	Optical Power	distance	
TX5S334A-****	DIP24Pin	2.5G	****	-2 ~ +3dBm	80km	DWDM
TX5S334C-****	DIP24Pin	2.5G	****	-2 ~ +3dBm	160km	DWDM

Note: **** = last four digitals of wavelength, eg: for $\lambda_p = 1545.32\text{nm}$, **** = 4532

-****	wavelength (nm)	-****	wavelength (nm)
-6223	1562.23	-4772	1547.72
-6142	1561.42	-4692	1546.92
-6061	1560.61	-4612	1546.12
-5979	1559.79	-4532	1545.32
-5898	1558.98	-4453	1544.53
-5817	1558.17	-4373	1543.73
-5736	1557.36	-4294	1542.94
-5655	1556.55	-4214	1542.14
-5575	1555.75	-4135	1541.35
-5494	1554.94	-4056	1540.56
-5413	1554.13	-3977	1539.77
-5333	1553.33	-3898	1538.98
-5252	1552.52	-3819	1538.19
-5172	1551.72	-3740	1537.40
-5092	1550.92	-3661	1536.61
-5012	1550.12	-3582	1535.82
-4932	1549.32	-3504	1535.04
-4851	1548.51	-3425	1534.25

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