



# DWDM Supervisory Channel Transmitter Module

## **TX5S371**

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### Features

- *Bit Rate 2.048Mbps transmitter*
- *1510nm DFB-LD, APC function inside*
- *DIP 24pin metal package, single mode SC/PC connector*
- *With shut down, back and bias monitoring function and LD failure alarm*
- *TTL data input*
- *Transmission distance up to 120km*
- *+5V single power supply*

### Application

- *DWDM supervisory channel*

## Absolute Maximum Ratings

Parameter	Symbol	Unit	Min	Max
Storage Temperature Range	$T_s$	°C	-40	+85
Relative Humidity	RH	%	5	85
Power Supply Voltage	$V_{cc}$	V	0	+6
Lead Solder Temperature	$T_w$	°C	-	260
Lead Solder Duration	$W_T$	S	-	10
Fiber Yield Strength	-	kgf	-	1
Fiber Bend Radius	-	mm	30	-

## Recommended Operating Conditions

Parameter	Symbol	Unit	Min	Typ	Max
Ambient Operating Temperature Range	$T_c$	°C	0	-	+70
Power Supply Voltage	VCC	V	+4.75	+5.0	+5.25

## Specifications

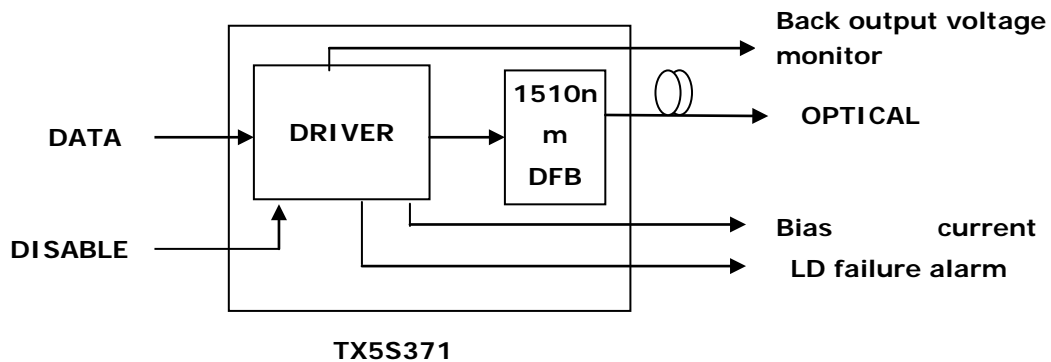
*(tested under recommended operating conditions ,unless otherwise noted)*

Parameter	Symbol	Unit	Min	Typ	Max	Test condition
<b>Electrical Characteristics</b>						
Operating Voltage	$V_{op}$	V	+4.75	+5.0	+5.25	
Supply Current	$I_{cc}$	mA	-	-	200	
Signal Level(TTL)	High	-	V	2.0	-	-
	Low	-	V	-	-	0.8
<b>Optical transmitter Characteristics</b>						
Data Rate	-	Mbps	-	2.048	-	
Launch Optical Power	$P_o$	dBm	0	2.5	5	2.048Mb/s 2 <sup>23</sup> -1 PRBS
Center Wavelength Range	$\lambda_c$	nm	1500	1510	1520	
Extinction Ratio	EX	dB	8	-	-	2.048Mb/s 2 <sup>23</sup> -1 PRBS
Spectral Width	$\Delta\lambda$	nm	-	-	1	
Side Mode Suppression Ratio	SMSR	dB	30	-	-	

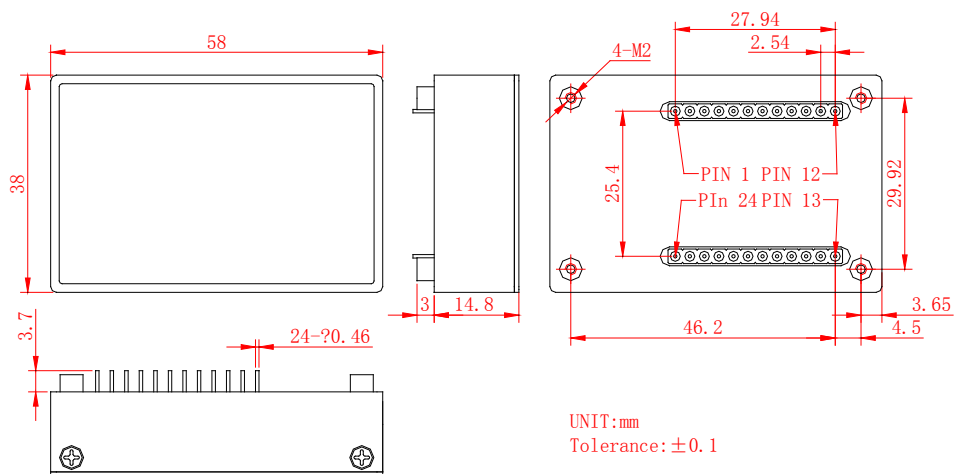
## Pin Description

Pin	Description	Pin	Description
1	NC	13	Vcc (+5V)
2	Back output voltage monitor	14	NC
3	Bias current monitor	15	Ground
4	Disable	16	Date input
5	NC	17	Ground
6	Ground	18	NC
7	NC	19	Ground
8	Failure alarm	20	NC
9	NC	21	Ground
10	NC	22	NC
11	NC	23	Ground
12	NC	24	Vcc (+5V)

## Block diagram



## Package Outline (unit: mm)



## Qualification tests

Test		Condition	Reference standard
Performance Characteristics	External Visual	Visual	MIL-SLD-883-2009
	Internal Visual	Visual	MIL-SLD-883-2014
	Electrical/Optical Performance	Over supply voltage range, temperature range, and other test condition	specification
	Absolute Maximum Ratings	Maximum rated voltage, maximum rated temperature	specification
Mechanical Integrity	Mechanical Shock	1500g,0.5ms,5times/axis	MIL-SLD-883-2002
	Vibration	20g,20-2000Hz,4min/cycles,4cycles/axis	MIL-SLD-883-2007
Endurance	High Temperature with Bias	70 °C,5kh(initial Extrapolation after 2kh	Bellcore TR-NWT-000468
	Temperature Cycle	-20 °C ~ +85 °C,100x pass/fail,500x for information	Bellcore TR-NWT-000468
	Damp heat	45 °C,95%RH,rated bias,56days	Bellcore TR-NWT-000468
	Low-temperature Storage	-20 °C,2000hrs	Bellcore TR-NWT-000983
Special Test	Power Cycling	30min.On/off,1500x	MIL-STD-1006

## Ordering Information

Part No	Specification						Application
	Package	Datarate	Laser	Optical Power	Ta	Reach	
TX5S371	DIP 24Pin	2.048Mb/s	1510nm DFB	0~+5dBm	0~70°C	120km	DWDM Supervisory Channel

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