BST8825-XX
450MHz-470MHz RF-Optical Transceiver

REV 1.0

1 Feature

- High linear analog PD and DFB laser
- With low noise and high linear gain power amplifier
- With APC and protect circuit for laser
- With AGC function
- Build-in Bi-Di component
- It with BST8120-XX-S8 Point to multipoint of system
- +9V~+12V Single power supply
- RS232 /RS485 control interface
- –20℃~+70℃ Operating Temperatur

2 Application

- Optical transmission system

3 General

The BST8825-XX is a low nosie RF fiber optical transceiver designed for network and broadband RF wireless up link/down link applications, respectively. Each pair consists of a master and a slave modules,the link from master to slave is called down link,from slave to master as up link.In down link a 1550nm DFB-LD is selected as transmitter and a high linear analog PD as optical signal receiver, In up link a 1310nm FP-LD is selected to transmit the optical signal and 8 high linear analog PD as optical signal receivers.

4 Performance Specifications

4.1 Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit	Comments
Input Voltage	-	9	15	V	
input RF power			10	dBm	
Fiber Bending Radius	R	30		mm	

4.2 Recommended Operation conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Comments
Operating Temperature	T_{op}	-20		+70	°C	
Storage Temperature	T_{stg}	-40		+85	°C	

E-O and O-E Characteristics

4.3.1 Optical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Optical Wavelength	λ	1530	1550	1570	nm	master
Average Optical Output Power	Po	-7	-5	-3	dBm	
Optical Return Loss	RL	40			dB	
Optical Isolator	Iso	25			dB	

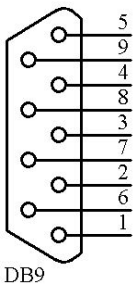
4.3.2 Electrical Characteristics

Parameter		Symbol	Min	Typ	Max	Unit	Condition
Power Supply		V_{cc}		12		V	
Current Consumption		I_{CC}			350	mA	
Bandwidth			450		470	MHz	
Max Gain		G	-2	0	+2	dB	
Link Gain	Down Link	G	+10	12	+14	dB	
	Up Link	G	+8	10	+12	dB	
Response Flatness@ any 20MHz			0.5			dB	
Output Noise Floor					-130	dBm/Hz	optical no loss
Transmit No Optical Alarm			-3			dBm	Software Settings
Receive No Optical Alarm			-15			dBm	Software Settings
OIP3	Down Link				-55	dBc	2ch/-8dbm/ch）CW
	Up Link				-60	dBc	2ch/-3dbm/ch）CW
RF Isolation			60			dB	-60
VSWR					1.4		
RF Impedance				50		Ω	
FSK Frequency				868		MHz	

4.3.3 The connector

Optical connector	FC/APC or SC/APC
RF connector	SMA-50KFD

5 Pin Definitions (DB9-FM connector)

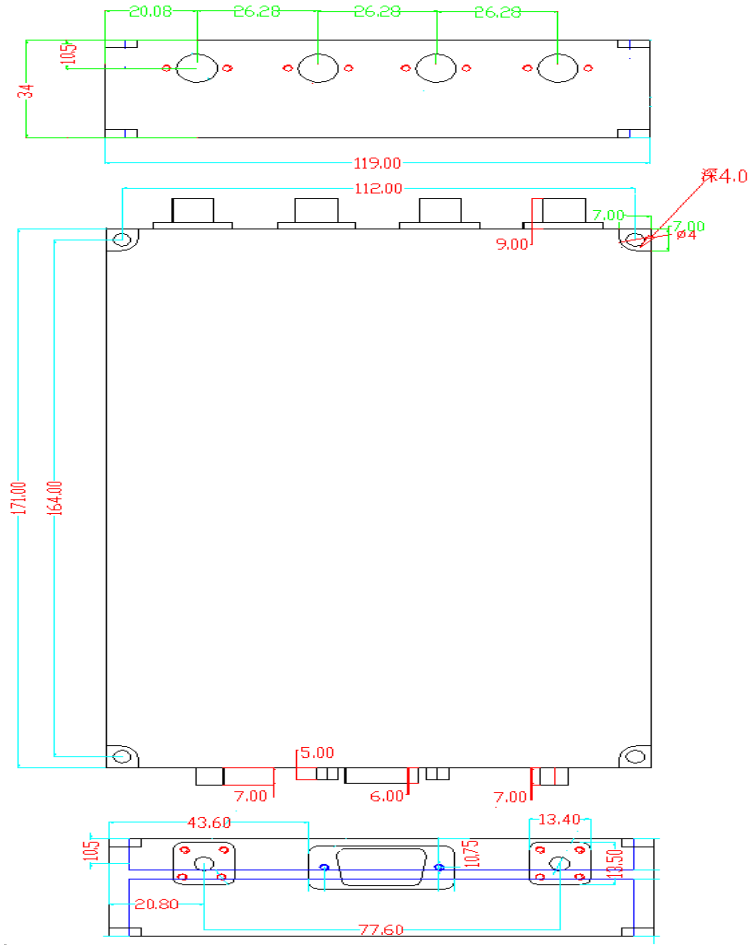


DB9

Ordering information

Model	Pin Function Descriptions
BST8825-11	1:NC;2:GND;3:VCC;4:RS232-TX;5:RS232-RX;6:NC;7:NC;8:NC;9:NC
BST8825-12	1:NC;2:GND;3:VCC;4:RS485-B;5:RS485-A;6:NC;7:NC;8:NC;9:NC
BST8825-14	1:NC;2:GND;3:VCC;4:RS232-TX;5:RS232-RX;6:RS485-B;7:NC;8:RS485-A;9:NC
BST8825-15	1:NC;2:GND;3:VCC;4:RS232-TX;5:RS232-RX;6:RS232-RX;7:NC;8:RS232-TX;9:NC
BST8825-16	1:NC;2:GND;3:VCC;4:RS485-A;5:RS485-B;6:RS485-B;7:NC;8:RS485-A;9:NC

6 Package Information (Unit:mm)



BST8815-XX

7 Specification for Environmental Protection

This product have a quality of “Green product”, all raw materials are avirulence and have no environmental impact, apply new technology, strictly control the manufacturing process，the finished products do not contain any hazardous chemical substances regulated by RoHS, 2002/95/EC,or the trace element impurity concentration of banned substances is less than RoHS.