

HDS-26D series

30~2600MHz

Direct Modulated Optical Transmitter

Technical specification

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## 1.0 PRODUCT DESCRIPTION

Huatai HDS-26D series optical transmitter, adopt high linearity DFB laser, modulated directly. It can transmit 30~2600MHz digital TV, move media broadcast(MMB, CMMB)and satellite live telecast TV(DBS、SAT-IF)signal.

Optical operating wavelength of HDS-26D is optional as 1310nm or 1550nm.

1550nm optical transmitter, ITU standard wavelength can be selected, suitable for DWDM to realize network-upgrading and capability-expansion. It can work together with EDFA, YEDFA to amplify the optical power. It can be compatible with any FTTx PON technology.

HDS-26D has various wavelengths and lasers to select.

HDS-26D-1-□□-A1310: 1310nm with cooling DFB laser.

HDS-26D-1-□□-A1550: 1550nm with cooling DFB laser.

HDS-26D-1-□□-A15□□: Cooling DFB laser, C-Band ITU wavelength adjustable.

HDS-26D-□□□-B1310: 1310nm non-cooling optical isolated DFB laser.

HDS-26D-□□□-B1550: 1550nm non-cooling optical isolated DFB laser.

HDS-26D-□□□-B1□□□: CWDM wavelength non-cooling DFB laser.

HDS-26D has multiple performances to choose, suitable for different scale network application.

HDS-26D-1□□: 1RU 19" Standard frame, the working parameters of the unit is controlled by micro-processor. LCD on the front panel can display the working status and failure diagnosis. Standard RS232 communication interface, SNMP function. It is suitable for application of engineering degree.

HDS-26D-2□□: Desktop, the minimum size in the field.

HDS-26D-3□□: Wall-mounted (aluminum alloys die-casting).

HDS-26D-9□□: Rain-proof, convenient for outdoor install.

## **2.0 PRODUCT FEATURE**

- High wide band: 30~2600MHz
- Suitable for Digital TV & Satellite TV application
- One fiber can transmit signal of 10 sets of TV, DTV and satellite TV
- HGHL DFB laser, can choose cooling and non-cooling
- 1310nmTX, output power upto 30mW
- 1550nmTX, ITU wavelength optional, apply in DWDM, reach network promotion and dilatation
- 1550nmTX can be amplified by EDFA, YEDFA to cover large-scaled FTTH , compatible with any FTTX PON technology
- Multiple performance frame, suitable for application of different scale network
- Excellent P/P ratio

## **3.0 MAIN APPLICATION**

- FTTH for Digital TV & Satellite TV
- FTTx PON, (EPON, GPON)
- Move TV media broadcast(MMB, CMMB)
- Other digital video application

## **4.0 Related products**

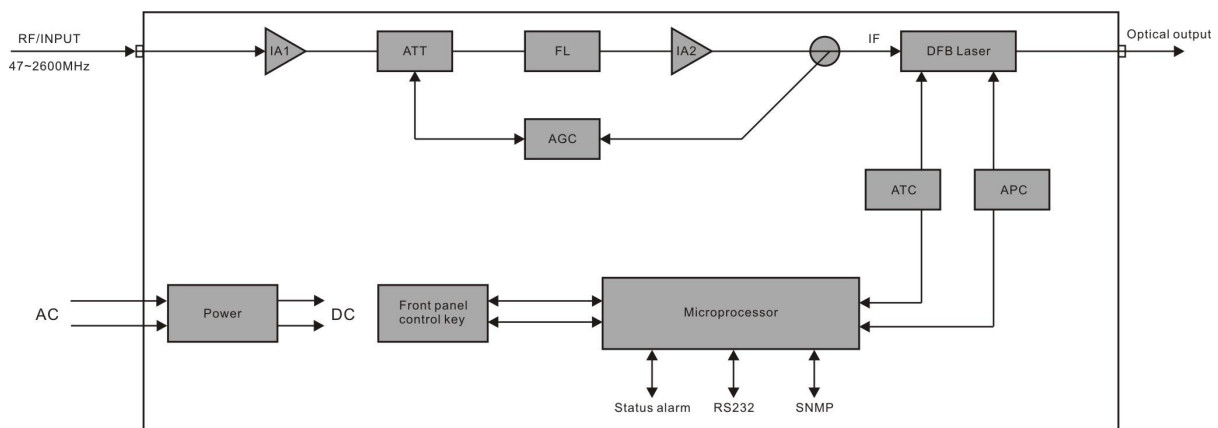
- Applicable receiver: HRS-26D/A, HRS-26D/P

## 5.0 TECHNICAL INDEX

Performance			Index			Supplement
			Min.	Typ.	Max.	
Laser type	A type		Cooling DFB			A1310, A1550, A15□□
	B type		Non-cooling DFB with optical isolation			B1310, B1550
Operating wavelength	(nm)	1300	1310	1320	A1310, B1310	
		1530	1550	1563	A1550, B1550	
			ITU-G		A15□□	
		1270	CWDM	1610	B1□□□	
Wavelength adjustable range	(nm)	-1.6		+1.6	A15□□	
Wavelength adjustable mode		In steps $\pm 0.01\text{nm}$			A15□□	
Wavelength stability	(Pm/°C)	-1		0	TC=20~70°C	
Equivalent noise temperature	(dB/Hz)			-155		
Side mode suppression ratio	(dB)	35				
Optical isolation	(dB)	30				
SBS	(dBm)	16			1310nm	
		18			1550nm	
Optical output power	(mW)	1		10	B1310	
		10		30	A1310	
		1		4	B1550, B1□□□	
		4		10	A1550, A15□□	
Return loss	(dB)	50				
Optical connector		SC/APC & LC/APC				
RF feature	Operating bandwidth	(MHz)	30		2600	
	Input range	(dBm)	-40		-25	with AGC amplification
	Flatness	(dB)	-1.0		+1.0	30~860MHz
			-0.5		+0.5	40MHz
			-2.0		+2.0	950~2600MHz

	Return loss	(dB)	14			30~860MHz	
			10			950~2400MHz	
	Channel loading	(CH)		64QAM		Digital TV	
				36		QPSK or FM	
	CNR	(dB)	28				
	CTB	(dB)			-36		
	CSO	(dB)			-36		
	Input impedance	(Ω)		75		Optional 50Ω	
RF connector			F-female		75Ω		
			SMA-F		50Ω		
SAT-IF feature	SNMP interface			RJ45		HDS-26D-1-□□	
	Communication interface			RS232		HDS-26D-1-□□	
	Power supply	AC	(V)	90	220	265	
		DC		-30	-48	-72	
	Power consumption		(W)			5	Single PS
	Operating temp		(°C)	-5		+65	
	Storage temp		(°C)	-40		+85	
	Relative humidity		(%)	5		95	
	Size		(")	19 × 14.5 × 1.75			HDS-26D-1-□□
			(mm)	59 × 98 × 23			HDS-26D-2-□□
		117 × 72 × 29			HDS-26D-3-□□		
		150 × 135 × 98			HDS-26D-9-□□		

## 6.0 HDS-26D ELECTRICAL SCHEMATIC DIAGRAM



## 7.0 PRODUCT SERIES

### 7.1 HDS-26D-1□□ SERIES (19"frame)

Model	Wavelength	Output power (mW)	Performance	Connector
HDS-26D-1-10-A1310-SA	1310nm Cooling DFB	10	19"frame	SC/APC
HDS-26D-1-12-A1310-SA		12		SC/APC
HDS-26D-1-14-A1310-SA		14		SC/APC
HDS-26D-1-16-A1310-SA		16		SC/APC
HDS-26D-1-18-A1310-SA		18		SC/APC
HDS-26D-1-20-A1310-SA		20		SC/APC
HDS-26D-1-24-A1310-SA		24		SC/APC
HDS-26D-1-30-A1310-SA		30		SC/APC
HDS-26D-1-01-B1310-SA	1310nm Non-cooling DFB	1	19"frame	SC/APC
HDS-26D-1-02-B1310-SA		2		SC/APC
HDS-26D-1-03-B1310-SA		3		SC/APC
HDS-26D-1-04-B1310-SA		4		SC/APC
HDS-26D-1-06-B1310-SA		6		SC/APC
HDS-26D-1-08-B1310-SA		8		SC/APC
HDS-26D-1-10-B1310-SA		10		SC/APC
HDS-26D-1-04-A1550SA	1550nm Cooling DFB	4	19"frame	SC/APC
HDS-26D-1-06-A1550SA		6		SC/APC
HDS-26D-1-08-A1550-SA		8		SC/APC
HDS-26D-1-10-A1550-SA		10		SC/APC
HDS-26D-1-01-B1550-SA	1550nm Non-cooling DFB	1	19"frame	SC/APC
HDS-26D-1-02-B1550-SA		2		SC/APC
HDS-26D-1-03-B1550-SA		3		SC/APC
HDS-26D-1-04-B1550-SA		4		SC/APC

Remark: 1. TO type optional, without IF drive amplify

2. ITU standard wavelength adjustable in 1550 nm

3. CWDM working wavelength optional

## 7.2 HDS-26D-2□□ SERIES (Desktop)

Model	Wavelength	Output power (mW)	Performance	Connector
HDS-26D-2-01-B1310-SA	1310nm Non-cooling DFB	1	Desktop	SC/APC
HDS-26D-2-02-B1310-SA		2		SC/APC
HDS-26D-2-03-B1310-SA		3		SC/APC
HDS-26D-2-04-B1310-SA		4		SC/APC
HDS-26D-2-06-B1310-SA		6		SC/APC
HDS-26D-2-08-B1310-SA		8		SC/APC
HDS-26D-2-10-B1310-SA		10		SC/APC
HDS-26D-2-01-B1550-SA	1550nm Non-cooling DFB	1	Desktop	SC/APC
HDS-26D-2-02-B1550-SA		2		SC/APC
HDS-26D-2-03-B1550-SA		3		SC/APC
HDS-26D-2-04-B1550-SA		4		SC/APC

- Remark: 1. TO type optional, without IF drive amplify  
2. CWDM working wavelength optional

## 7.3 HDS-26D-3□□ SERIES (Wall hanging)

Model	Wavelength (nm)	Output power (mW)	Performance	Connector
HDS-26D-3-01-B1310-SA	1310nm Non-cooling DFB	1	Wall hanging	SC/APC
HDS-26D-3-02-B1310-SA		2		SC/APC
HDS-26D-3-03-B1310-SA		3		SC/APC
HDS-26D-3-04-B1310-SA		4		SC/APC
HDS-26D-3-06-B1310-SA		6		SC/APC
HDS-26D-3-08-B1310-SA		8		SC/APC
HDS-26D-3-10-B1310-SA		10		SC/APC
HDS-26D-3-01-B1550-SA	1550nm Non-cooling DFB	1	Wall hanging	SC/APC
HDS-26D-3-02-B1550-SA		2		SC/APC
HDS-26D-3-03-B1550-SA		3		SC/APC
HDS-26D-3-04-B1550-SA		4		SC/APC

- Remark: 1. TO type optional, without IF drive amplify  
2. CWDM working wavelength optional



## 7.4 HDS-26D-9□□ SERIES (Outdoor rainproof)

Model	Wavelength (nm)	Output power (mW)	Performance	Connector
HDS-26D-9-01- B1310-SA	1310nm Non-cooling DFB	1	Outdoor rainproof	SC/APC
HDS-26D-9-02- B1310-SA		2		SC/APC
HDS-26D-9-03- B1310-SA		3		SC/APC
HDS-26D-9-04- B1310-SA		4		SC/APC
HDS-26D-9-06- B1310-SA		6		SC/APC
HDS-26D-9-08- B1310-SA		8		SC/APC
HDS-26D-9-10- B1310-SA		10		SC/APC
HDS-26D-9-01- B1550-SA	1550nm Non-cooling DFB	1	Outdoor rainproof	SC/APC
HDS-26D-9-02- B1550-SA		2		SC/APC
HDS-26D-9-03- B1550-SA		3		SC/APC
HDS-26D-9-04- B1550-SA		4		SC/APC

- Remark: 1. TO type optional, without IF drive amplify  
2. CWDM working wavelength

## 8.0 ORDERING INFORMATION

HDS - 26D - □ - □□ - □ □□□□ - □ / □□ - □□

Product type		Operating bandwidth		Product feature		Output power		Type of laser		Tx wavelength & transmission distance		Optical port position		Connector		Power supply				
HDS	Satellite Direct Modulated Optical Transmitter	26D	30~2600MHz Digital TV + SAT-IF	1	19" standered type	01	1mW	A	Cooling DFB	1310	1310nm	F	Front panel	SA	SC/APC	48	-48VDC			
				2	Desktop type, TX adopt non-cooling DFB laser direct type. TX with AGC, be used for FTTx	02	2mW	B	Non-cooling DFB	1550	1550nm	B	Back panel	FA	FC/APC	22	220VAC			
HES	Satellite Externally Modulated Optical Transmitter	26A	47~862MHz & 950~2600MHz Analog TV + SAT-IF	3	Wall mounted type, TX adopt non-cooling DFB laser direct type. TX with AGC, be used for FTTx	03	3mW			15××	ITU			LA	LC/APC	11	110VAC			
				4		04	4mW			1×××	CWDM									
HRS	Satellite Optical Receiver	26S	950~2600MHz SAT-IF	5		05	5mW													
				6		06	6mW													
				9	Aluminum die-casting rainproof type	08	8mW													
				10		10	10mW													
				0	OEM	12	12mW													
				8	2U, 3U plug-in	14	14mW													
				16		16	16mW													
18		18	18mW																	
20		20	20mW																	
24		24	24mW																	
30		30	30mW																	