

## ISOLATOR HYBRID1480/1550(1590) WDM +ISOLATOR

### Specifications

Parameter		Unit	Single Stage	Dual Stage	
Signal Channel	Wavelength Range ( $\lambda_s$ )	dB	1530-1565, 1570-1610		
	Insertion Loss ( $\lambda_s$ , All SOP)	Typ	dB	0.7   0.8	
	Insertion Loss ( $\lambda_s$ , 0-70°C, All SOP)	Max	dB	0.9   1.0	
	Peak Isolation		dB	40   50	
	Isolation ( $\lambda_s$ , 23°C, All SOP)	Min	dB	30   44	
	Channel Isolation ( $\lambda_s$ , 23°C, All SOP)	Min	dB	30	
	PDL	Max	dB	0.1	
Pump Channel	PMD	Max	ps	0.1   0.05	
	Wavelength Range ( $\lambda_p$ )		dB	1460-1500	
	Insertion Loss ( $\lambda_p$ , All SOP)	Typ	dB	0.4	
	Insertion Loss ( $\lambda_p$ , 0-70°C, All SOP)	Max	dB	0.6	
	Channel Isolation ( $\lambda_p$ , 23°C, All SOP)	Min	dB	17	
	PDL	Max	dB	0.1	
	Directivity	Min	dB	60	
Return Loss	Min	dB	55		
Optical Power	Max	mW	300		
Operation Temperature		°C	-20 to 70		
Storage Temperature		°C	-40 to 85		
Package Dimension (with 250um fiber)		mm	Φ5.5 x L34		
Package Dimension (with 900um fiber)		mm	Φ5.5 x L38		

- SOP=State of Polarization

### Ordering Information

IWDM	Central wavelength	Stage	Pump Type	Fiber Type	Fiber Length	Connector
IWDM	95=980/1550nm 99=980/1590nm 45=1480/1550nm 49=1480/1590nm XX=Others	D=Dual Stage S=Single Stage	F=Forward Pump B=Backward Pump	B=SMF-28, 250um L= SMF-28, 900um  X=Others	10=1.0m 15=1.5m 20=2.0m 30=3.0m  XX=Others	NE=None FA=FC/APC FC=FC/PC SA=SC/APC SC=SC/PC ST=ST/PC LA=LC/APC LC=LC/PC XX=Others

## ISOLATOR HYBRID 980/1550(1590) WDM +ISOLATOR

### Specifications

Parameter		Unit	Single Stage	Dual Stage	
Signal Channel	Wavelength Range ( $\lambda_s$ )	dB	1530-1565, 1570-1610		
	Insertion Loss ( $\lambda_s$ , All SOP)	Typ	dB	0.8   1.0	
	Insertion Loss ( $\lambda_s$ , 0-70°C, All SOP)	Max	dB	1.1   1.3	
	Peak Isolation		dB	40   50	
	Isolation ( $\lambda_p$ , 23°C, All SOP)	Min	dB	30   44	
	Channel Isolation ( $\lambda_p$ , 23°C, All SOP)	Min	dB	30	
	PDL	Max	dB	0.1	
Pump Channel	PMD	Max	ps	0.1   0.05	
	Wavelength Range ( $\lambda_p$ )		dB	960-990	
	Insertion Loss ( $\lambda_p$ , All SOP)	Typ	dB	0.4	
	Insertion Loss ( $\lambda_p$ , 0-70°C, All SOP)	Max	dB	0.6	
	Channel Isolation ( $\lambda_p$ , 23°C, All SOP)	Min	dB	17	
	PDL	Max	dB	0.1	
Directivity	Min	dB	55		
Return Loss	Min	dB	55		
Optical Power	Max	mW	300		
Operation Temperature		°C	-20 to 70		
Storage Temperature		°C	-40 to 85		
Package Dimension (with 250um fiber)		mm	Ø5.5 x L34		
Package Dimension (with 900um fiber)		mm	Ø5.5 x L38		

\* SOP=State of Polarization

### Ordering Information

IWDM	Central wavelength	Stage	Pump Type	Fiber Type	Fiber Length	Connector
IWDM	95=980/1550nm 99=980/1590nm 45=1480/1550nm 49=1480/1590nm	D=Dual Stage S=Single Stage	F=Forward Pump B=Backward Pump	B=SMF-28, 250um L= SMF-28, 900um  X=Others	10=1.0m 15=1.5m 20=2.0m 30=3.0m  XX=Others	NE=None FA=FC/APC FC=FC/PC SA=SC/APC SC=SC/PC ST=ST/PC LA=LC/APC LC=LC/PC XX=Others
	XX=Others					

## ISOLATOR HYBRD TAP COUPLER / ISOLATOR

### Specifications

Parameter	Unit	Single Stage	Dual Stage
Operating Wavelength	nm	1550	
Tap Channel Insertion Loss	dB	2% (16.2 ~ 18.0), 5% (12.1 ~ 14.0)	
Minimum Isolation *	dB	>=31	>=45
Signal Channel Typical Insertion Loss**	dB	<=0.6	<=0.8
Signal Channel Maximum Insertion Loss***	dB	<=0.8	<=1.0
Return loss	dB	>=55	
PDL	dB	<0.1	
Bandwidth	nm	+/-15	+/-30
Operating Temperature	° C	-20 ~ + 70	
Storage Temperature	° C	-40 ~ +85	
Fiber Type		Corning SMF-28	
Fiber Length (Min.)	m	1 meter each end	
Package Dimension (with 250um fiber)	mm	Φ5.5 x L34	
Package Dimension (with 900um fiber)	mm	Φ5.5 x L38	
Power Handling	mW	300	

\* At 23° C over bandwidth

\*\* Does not include connector, splice and fiber-end Fresnel losses

\*\*\* Including PDL, center wavelength + 20 nm, -20 to + 70° C

### Ordering Information

TISO	Wavelength	Stage	Tap Ratio	Fiber Type	Fiber Length	Connector
TISO	15=1550nm	S=Single Stage D=Dual Stage	01=1% 02=2% 03=3%	B=SMF-28, 250um L= SMF-28, 900um	10=1.0m 15=1.5m 20=2.0m 30=3.0m	NE=None FA=FC/APC FC=FC/PC SA=SC/APC SC=SC/PC ST=ST/PC LA=LC/APC LC=LC/PC XX=Others
	13=1310nm			X=Others		
	XX=Others		XX=Others		XX=Others	

## HYBRID ISOLATOR: TAP+1480/1550 (1590) WDM +ISOLATOR

### Specifications

Parameter		Unit	Single Stage	Dual Stage	
Signal Channel	Wavelength Range ( $\lambda_s$ )	dB	1530-1565, 1570-1610		
	Insertion Loss ( $\lambda_s$ , All SOP)	1%	dB	Typ. 0.7	Typ. 0.8
		3%	dB	Typ. 0.8	Typ. 0.9
		5%	dB	Typ. 0.9	Typ. 1.0
	Insertion Loss ( $\lambda_s$ , 0-70°C, All SOP)	1%	dB	<0.9	<1.0
		3%	dB	<1.0	<1.1
		5%	dB	<1.1	<1.2
	Peak Isolation	dB	40	50	
	Isolation ( $\lambda_s$ , 23°C, All SOP)	Min	dB	30	44
	Channel Isolation ( $\lambda_p$ , 23°C, All SOP)	Min	dB	55	
PDL	Max	dB	0.1		
PMD	Max	ps	0.1	0.05	
Pump Channel	Wavelength Range ( $\lambda_p$ )	dB	1460-1500		
	Insertion Loss ( $\lambda_s$ , All SOP)	Typ	dB	0.4	
	Insertion Loss ( $\lambda_p$ , 0-70°C, All SOP)	Max	dB	0.6	
	Channel Isolation ( $\lambda_s$ , 23°C, All SOP)	Min	dB	17	
	PDL	Max	dB	0.1	
Tap port	Insertion Loss ( $\lambda_s$ , 0-70°C, All SOP)	1%	dB	19~21	
		3%	dB	14~16	
		5%	dB	12~14	
Ripple	Max	dB	0.2		
Directivity	Min	dB	60		
Return Loss	Min	dB	55		
Optical Power	Max	mW	300		
Operation Temperature		°C	-20 to 70		
Storage Temperature		°C	-40 to 85		
Package Dimension (with 250um fiber)		mm	Φ5.5 x L34		
Package Dimension (with 900um fiber)		mm	Φ5.5 x L38		

\* SOP=State Of Polarization

### Ordering Information

TIWDM	Central Wavelength	Stage	Tap Ratio	Pump Type	Fiber Type	Fiber Length	Connector
TIWDM	95=980/1550nm 99=980/1590nm 45=1480/1550nm	D=Dual stage S=Single stage	01=1% 02=2% 03=3%	F=Forward Pump B=Backward	B=SMF-28, 250um L= SMF-28,	10=1.0m 15=1.5m 20=2.0m	NE=None FA=FC/APC FC=FC/PC



## Ascentta, Inc.

	49=1480/1590nm XX=Others		05=5% XX=Others	Pump	900um X=Others	30=3.0m XX=Others	SA=SC/APC SC=SC/PC ST=ST/PC LA=LC/APC LC=LC/PC XX=Others
--	-----------------------------	--	--------------------	------	-------------------	----------------------	---

## HYBRID ISOLATOR: TAP+980/1550 (1590) WDM +ISOLATOR

### Specifications

Parameter		Unit	Single Stage	Dual Stage	
Signal Channel	Wavelength Range ( $\lambda_s$ )	dB	1530-1565, 1570-1610		
	Insertion Loss ( $\lambda_s$ , All SOP)	1%	dB	typ. 0.8	typ. 0.9
		3%	dB	typ. 0.9	typ.1.0
		5%	dB	typ.1.0	typ.1.1
	Insertion Loss ( $\lambda_s$ , 0-70°C, All SOP)	1%	dB	<1.1	<1.2
		3%	dB	<1.2	<1.3
		5%	dB	<1.3	<1.4
	Peak Isolation	dB	40	50	
	Isolation ( $\lambda_s$ , 23°C, All SOP)	Min	dB	30	44
	Channel Isolation ( $\lambda_p$ , 23°C, All SOP)	Min	dB	55	
PDL	Max	dB	0.1		
PMD	Max	ps	0.1	0.05	
Pump Channel	Wavelength Range ( $\lambda_p$ )	dB	960 ~ 990		
	Insertion Loss ( $\lambda_s$ , All SOP)	Typ	dB	0.4	
	Insertion Loss ( $\lambda_p$ , 0-70°C, All SOP)	Max	dB	0.6	
	Channel Isolation ( $\lambda_s$ , 23°C, All SOP)	Min	dB	17	
	PDL	Max	dB	0.1	
Tap port	Insertion Loss ( $\lambda_s$ , 0-70°C, All SOP)	1%	dB	19~21	
		3%	dB	14~16	
		5%	dB	12~14	
Ripple	Max	dB	0.2		
Directivity	Min	dB	60		
Return Loss	Min	dB	55		
Optical Power	Max	mw	300		
Operation Temperature		°C	-20 to 70		
Storage Temperature		°C	-40 to 85		
Package Dimension (with 250um fiber)		mm	Φ5.5 x L34		
Package Dimension (with 900um fiber)		mm	Φ5.5 x L38		

\* SOP=State of Polarization

### Ordering Information

TIWDM	Central Wavelength	Stage	Tap Ratio	Pump Type	Fiber Type	Fiber Length	Connector
TIWDM	95=980/1550nm 99=980/1590nm 45=1480/1550nm 49=1480/1590nm	D=Dual stage S=Single stage	01=1% 02=2% 03=3% 05=5%	F=Forward Pump B=Backward Pump	B=SMF-28, 250um L= SMF-28, 900um	10=1.0m 15=1.5m 20=2.0m	NE=None FA=FC/APC FC=FC/PC SA=SC/APC