

## Athermal AWG Module



### Applications

- DWDM terminal multiplexer and demultiplexer
- ROADM(Reconfigurable Optical add/drop multiplexers)
- Metro and WDM PON

## Product Type : PS701

### Descriptions

- PS701 provides stable optical performance against temperature change without temperature control.
- This module is used as multiplexers and demultiplexers in DWDM applications.

### Features

- Excellent optical performances such as low insertion loss and low crosstalk
- Stable optical performances against temperature change without temperature control
- Patent guaranteed for concept and structure
- Applicable up to 100GHz-40ch Gaussian and Flat type
- Quasi-hermetically sealed package for outside plant with high reliability
- (Telcordia GR-1209, 1221 Qualified)
- RoHS 6 compliant
- Environment friendly devices

### Environmental conditions

Parameter	Unit	Min	Max
Storage Temperature	°C	-40	85
Operating Temperature	°C	-5	70
Operating Humidity	%RH		100

## Specifications

### 40ch 100GHz spacing Athermal AWG Module (Gaussian Type)

Parameters	Min	Typ	Max	Unit	Notes
Number of channels	16		40		Any 16, 32, or 40 channels within Operating Wavelength
Channel Spacing		100		GHz	
Operating Frequency	191.6 186.1		196.3 190.8	THz	C-band L-band
Passband	-0.1		0.1	nm	
Center Wavelength Offset from ITU-Grid	-0.05		0.05	nm	
1dB Bandwidth	0.2			nm	
3dB Bandwidth	0.4			nm	
Insertion Loss		2.0	3.5 4.1*	dB	@ITU-Grid including PDL
Insertion Loss Uniformity			1.0 1.6*	dB	
Adjacent Crosstalk			-25	dB	Within Passband including PDL
Non-adjacent Crosstalk			-30	dB	Within Passband including PDL
Total Crosstalk			-20	dB	Within Passband including PDL
Polarization Dependent Loss			0.6	dB	Within Passband
Chromatic Dispersion	-15		+15	ps/nm	
Polarization Mode Dispersion			0.6	ps	
Return Loss	40			dB	
Optical Input Power			+24	dBm	

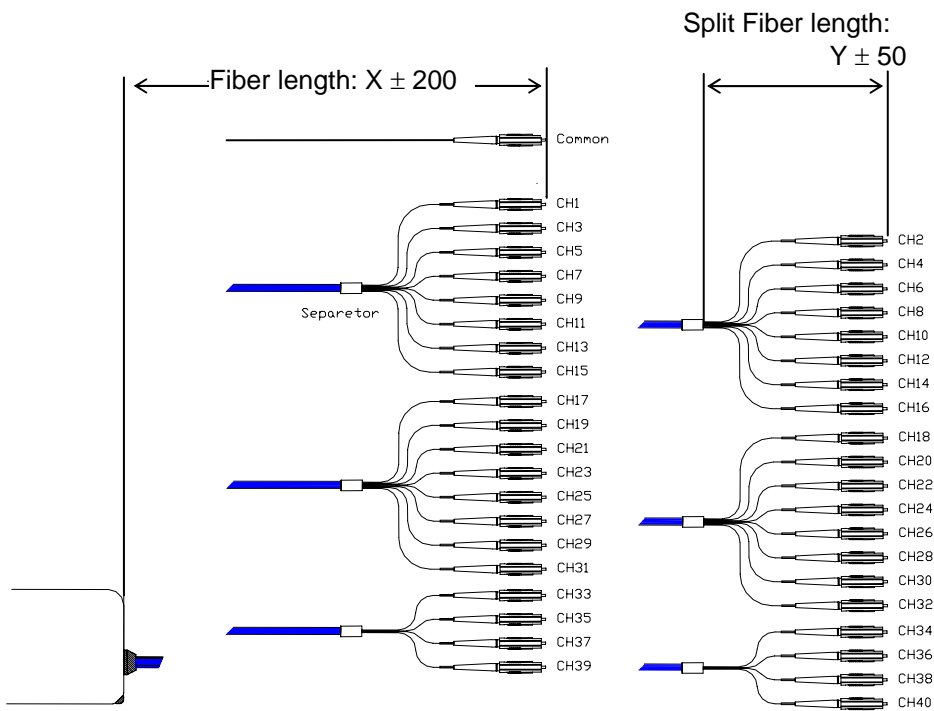
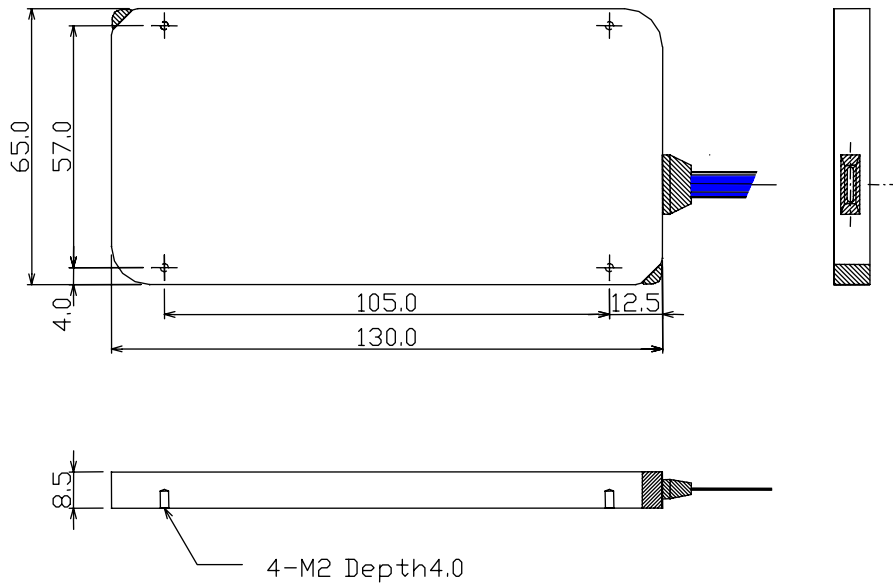
\* This specification is applied in case of including #1-4 and # 45-48 channel (Refer to Channel Grid list)

### 40ch 100GHz spacing Athermal AWG Module (Flat Type)

Parameters	Min	Typ	Max	Unit	Notes
Number of channels	16		40		Any 16, 32 or 40 channels within Operating Wavelength
Channel Spacing		100		GHz	
Operating Frequency	191.6 186.1		196.3 190.8	THz	C-band L-band
Passband	-0.1		0.1	nm	
Center Wavelength Offset from ITU-Grid	-0.05		0.05	nm	
1dB Bandwidth	0.4			nm	
3dB Bandwidth	0.6			nm	
Insertion Loss		5.0	6.0 6.6*	dB	@ITU-Grid including PDL
Insertion Loss Uniformity			1.0 1.6*	dB	
Adjacent Crosstalk			-25	dB	Within Passband including PDL
Non-adjacent Crosstalk			-30	dB	Within Passband including PDL
Total Crosstalk			-20	dB	Within Passband including PDL
Polarization Dependent Loss			0.6	dB	Within Passband
Chromatic Dispersion	-20		+20	ps/nm	
Polarization Mode Dispersion			0.6	ps	
Return Loss	40			dB	
Optical Input Power			+24	dBm	

\* This specification is applied in case of including #1-4 and # 45-48 channel (Refer to Channel Grid list)

## Dimensions



Port alignment example. 40ch A-AWG

Unit: mm

## Optical Interface

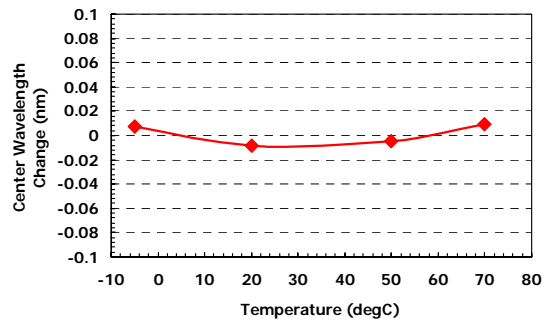
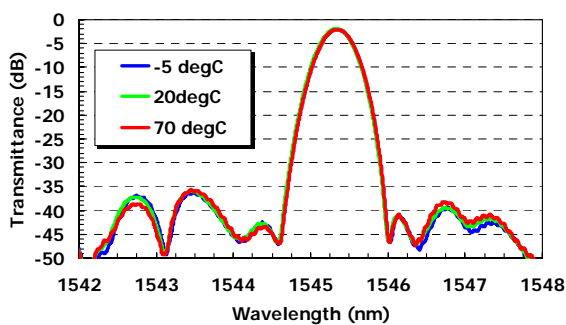
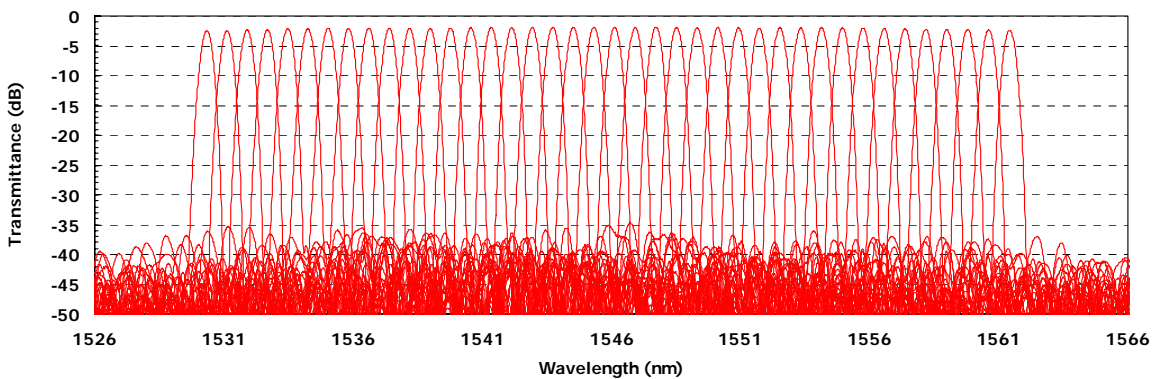
### Connector Type

Connector type	Polishing
FC	Advanced PC
SC	Advanced PC
LC	Advanced PC
MUJ	Advanced PC

### Fiber Type

Common Port	φ0.25mm UV-coated SMF
Multi Port ribbon	8 or 4 fiber-ribbons SMF
Split portion	φ0.25mm UV-coated SMF or Loose tube

## Performance example(Gaussian)



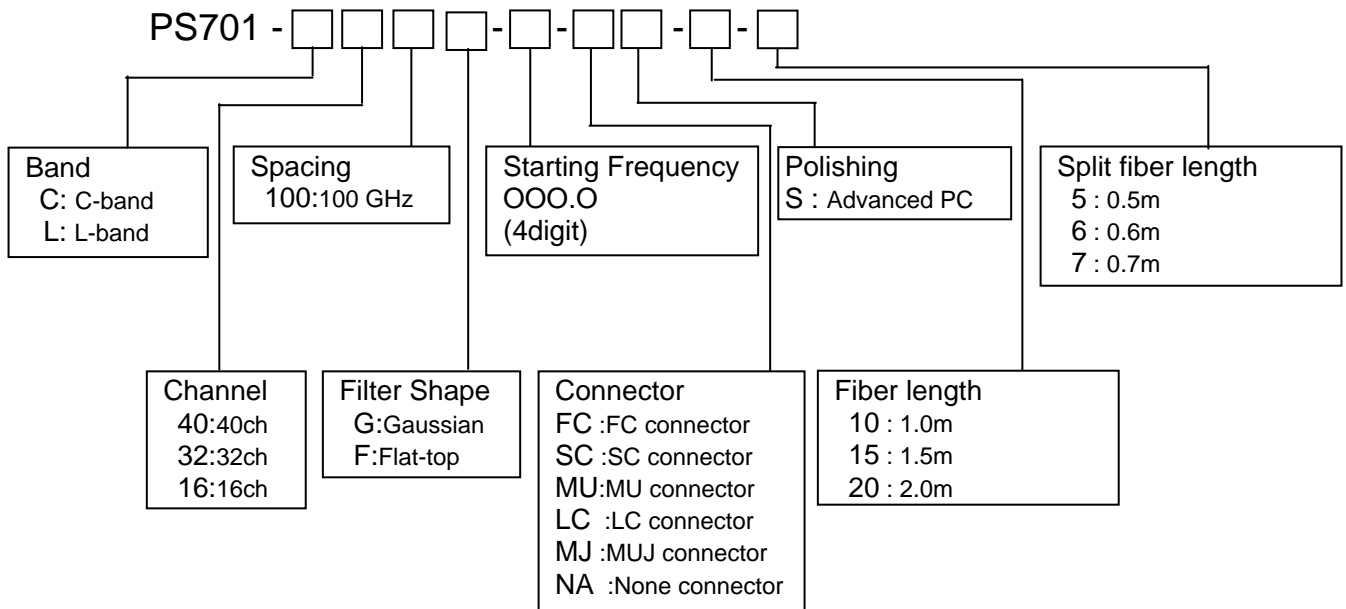
**Channel Grid for C-band**

No	Frequency [THz]	Wavelength [nm]
1	196.3	1527.22
2	196.2	1527.99
3	196.1	1528.77
4	196.0	1529.55
5	195.9	1530.33
6	195.8	1531.12
7	195.7	1531.90
8	195.6	1532.68
9	195.5	1533.47
10	195.4	1534.25
11	195.3	1535.04
12	195.2	1535.82
13	195.1	1536.61
14	195.0	1537.40
15	194.9	1538.19
16	194.8	1538.98
17	194.7	1539.77
18	194.6	1540.56
19	194.5	1541.35
20	194.4	1542.14
21	194.3	1542.94
22	194.2	1543.73
23	194.1	1544.53
24	194.0	1545.32
25	193.9	1546.12
26	193.8	1546.92
27	193.7	1547.72
28	193.6	1548.51
29	193.5	1549.32
30	193.4	1550.12
31	193.3	1550.92
32	193.2	1551.72
33	193.1	1552.52
34	193.0	1553.33
35	192.9	1554.13
36	192.8	1554.94
37	192.7	1555.75
38	192.6	1556.55
39	192.5	1557.36
40	192.4	1558.17
41	192.3	1558.98
42	192.2	1559.79
43	192.1	1560.61
44	192.0	1561.42
45	191.9	1562.23
46	191.8	1563.05
47	191.7	1563.86
48	191.6	1564.68

**Channel Grid for L-band**

No	Frequency [THz]	Wavelength [nm]
1	190.8	1571.24
2	190.7	1572.06
3	190.6	1572.89
4	190.5	1573.71
5	190.4	1574.54
6	190.3	1575.37
7	190.2	1576.20
8	190.1	1577.03
9	190.0	1577.86
10	189.9	1578.69
11	189.8	1579.52
12	189.7	1580.35
13	189.6	1581.18
14	189.5	1582.02
15	189.4	1582.85
16	189.3	1583.69
17	189.2	1584.53
18	189.1	1585.36
19	189.0	1586.20
20	188.9	1587.04
21	188.8	1587.88
22	188.7	1588.73
23	188.6	1589.57
24	188.5	1590.41
25	188.4	1591.26
26	188.3	1592.10
27	188.2	1592.95
28	188.1	1593.79
29	188.0	1594.64
30	187.9	1595.49
31	187.8	1596.34
32	187.7	1597.19
33	187.6	1598.04
34	187.5	1598.89
35	187.4	1599.75
36	187.3	1600.60
37	187.2	1601.46
38	187.1	1602.31
39	187.0	1603.17
40	186.9	1604.03
41	186.8	1604.88
42	186.7	1605.74
43	186.6	1606.60
44	186.5	1607.47
45	186.4	1608.33
46	186.3	1609.19
47	186.2	1610.06
48	186.1	1610.92

**Ordering Information**



Furukawa Electric reserves the right to improve, enhance and modify the features and specifications of FITEL products without prior notifications.

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