



# FSH

## High Performance Flexible Phase Stable Coax Cable



FSH-series cables are featured with excellent bending property, high strength of retention and outstanding phase stability.

The first benefit of these features is that the FSH cable assemblies can be bent from the root of connectors, which makes them capable of replacing rectangular curved connectors. At the same time, the specially made short-end connector can largely save the installation space. This unique characteristic can save engineers from the problems of balancing between the limited system space and reasonable cable layout. It makes the building of a neat and compact system easier and more pleasant.

Also, compared with semi-rigid cable assembly, FSH series can be bent flexibly according to site applications, without requiring customized length or bending shape designing. Thus significant expense on engineering resources and transportation will be saved, and overall cost of use will be reduced.

Owing to the soldering-free designing on connectors, embrittlement and cracks on soldering points between cables and connectors are perfectly avoided. Cost and weight are saved once again.

### Typical Applications

- Point-to-point interconnection between RF modules
- Interconnection between boards
- Cabinet internal jumper
- Radar and electronic warfare systems
- Phased array radar
- Flexible replacement for semi-rigid assemblies

### Advantages

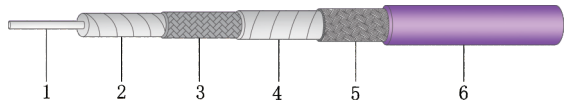
- Excellent bending phase, amplitude stability
- Stainless steel outer shield, high tensile strength
- Triple shielding structure, good insulation
- Bending at random and maintaining shape stability
- Stainless steel soldering-free connector

#### Similar Cable Replacement Table

F+S	Astrolab minibend	MCC	GORE	TIMES	IW	HAROUR	SEMFLEX
FSH-250	32081						
FSH-360	32022						
FSH-260L	32024						



# FSH Cable Specifications



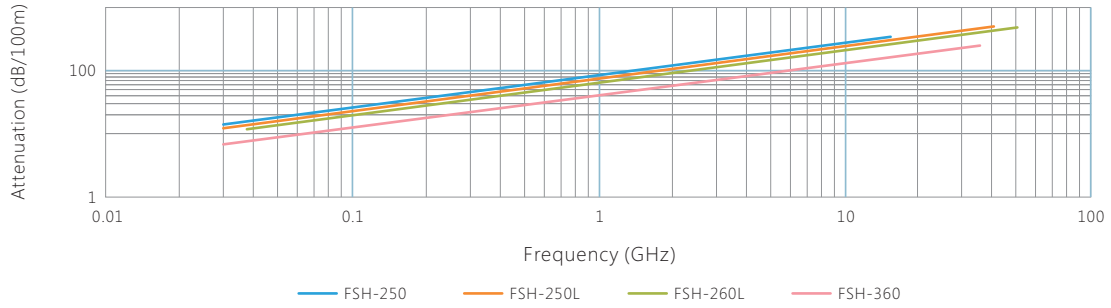
- |   |                  |          |   |              |                      |
|---|------------------|----------|---|--------------|----------------------|
| 1 | Center Conductor | SPC      | 4 | Interlayer   | Aluminum Foil        |
| 2 | Dielectric       | PTFE     | 5 | Outer Shield | Stainless Steel Wire |
| 3 | Outer Conductor  | SPC Tape | 6 | Jacket       | FEP                  |

	FSH-250			FSH-250-L			FSH-260-L			FSH-360		
<b>Physical &amp; Mechanical Specifications</b>												
Dimensions	mm	Inch		mm	Inch		mm	Inch		mm	Inch	
Center Conductor	0.51	0.020		0.51	0.020		0.56	0.022		0.91	0.036	
Dielectric	1.65	0.065		1.55	0.061		1.70	0.067		2.72	0.107	
Outer Conductor	1.82	0.072		1.71	0.067		1.85	0.073		2.79	0.110	
Interlayer	1.90	0.075		1.81	0.071		1.98	0.078		2.95	0.116	
Outer Shield	2.12	0.083		2.04	0.080		2.24	0.088		3.20	0.126	
Jacket	2.50	0.098		2.50	0.098		2.64	0.104		3.61	0.142	
Bend Radius: Installation	10	0.394		10	0.394		10.56	0.416		8.4	0.331	
Bend Radius: Repeated	25	0.98		25	0.98		26.4	1.04		36	1.42	
Weight	18 g/m	0.012 lbs/ft		16 g/m	0.011 lbs/ft		17 g/m	0.011 lbs/ft		31 g/m	0.021 lbs/ft	
Temperature Range	T: -55°C/125°C (-67°F/257°F)						T: -55°C/165°C (-67°F/329°F)					
<b>Electrical Specifications</b>												
Impedance	50 Ohms			50 Ohms			50 Ohms			50 Ohms		
Velocity of Propagation	70%			74%			76%			76%		
Dielectric Constant	2.04			1.83			1.73			1.73		
Shielding Effectiveness	> 90 dB			> 90 dB			> 90 dB			> 90 dB		
Time Delay	4.76 nS/m	1.33 nS/Ft		4.50 nS/m	1.33 nS/Ft		4.38 nS/m	1.33 nS/Ft		4.38 nS/m	1.33 nS/Ft	
Capacitance	95.2 pF/m	29.0 pF/Ft		90.2 pF/m	27.5 pF/Ft		87.7 pF/m	26.7 pF/Ft		87.7 pF/m	26.7 pF/Ft	
Inductance	0.23 uH/m	0.070 uH/Ft		0.22 uH/m	0.068 uH/Ft		0.22 uH/m	0.066 uH/Ft		0.20 uH/m	0.059 uH/Ft	
Operation Frequency	40 GHz			40 GHz			50 GHz			26.5 GHz		
Voltage Withstand	1000 DC			500 DC			500 DC			1500 DC		
Peak Power	0.6 kW			0.63 kW			0.6 kW			5.63 kW		
Attenuation & Power Handling	Attenuation (+25°C Ambient) & Power Handling (+40°C Ambient; Sea Level; VSWR 1:1)											
Frequency (MHz)	dB/100 m	dB/100 Ft	kW	dB/100 m	dB/100 Ft	kW	dB/100 m	dB/100 Ft	kW	dB/100 m	dB/100 Ft	kW
30	14.17	4.32	0.605	12.27	3.74	0.606	10.23	3.12	0.606	6.80	2.07	2.027
50	18.31	5.58	0.468	15.86	4.84	0.469	13.22	4.03	0.469	8.79	2.68	1.569
100	25.94	7.91	0.331	22.48	6.85	0.331	18.73	5.71	0.331	12.45	3.79	1.108
300	45.09	13.75	0.190	39.13	11.93	0.190	32.61	9.94	0.190	21.64	6.60	0.637
500	58.36	17.79	0.147	50.69	15.45	0.147	42.24	12.88	0.147	28.01	8.54	0.492
900	78.59	23.96	0.109	68.36	20.84	0.109	56.97	17.37	0.109	37.73	11.50	0.365
1000	82.91	25.28	0.103	72.14	21.99	0.103	60.12	18.33	0.103	39.80	12.13	0.346
1500	101.90	31.07	0.084	88.78	27.07	0.084	73.99	22.56	0.084	48.93	14.92	0.282
2000	118.02	35.98	0.073	102.94	31.38	0.072	85.78	26.15	0.072	56.67	17.28	0.243
3000	145.26	44.29	0.059	126.93	38.70	0.059	105.78	32.25	0.059	69.76	21.27	0.198
4000	168.42	51.35	0.051	147.40	44.94	0.050	122.84	37.45	0.050	80.90	24.67	0.170
5000	188.99	57.62	0.045	165.63	50.50	0.045	138.02	42.08	0.045	90.79	27.68	0.152
6000	207.71	63.33	0.041	182.25	55.56	0.041	151.87	46.30	0.041	99.80	30.43	0.138
8000	241.23	73.55	0.036	212.12	64.67	0.035	176.76	53.89	0.035	115.94	35.35	0.119
10000	271.08	82.65	0.032	238.80	72.80	0.031	199.00	60.67	0.031	130.31	39.73	0.106
12000	298.31	90.95	0.029	263.22	80.25	0.028	219.35	66.88	0.028	143.42	43.73	0.096
12400	303.51	92.53	0.028	267.89	81.67	0.028	223.24	68.06	0.028	145.92	44.49	0.094
13500	317.41	96.77	0.027	280.39	85.49	0.027	233.66	71.24	0.027	152.62	46.53	0.090
15000	335.58	102.31	0.026	296.76	90.48	0.025	247.30	75.40	0.025	161.38	49.20	0.085
18000	369.65	112.70	0.023	327.53	99.86	0.023	272.95	83.21	0.023	177.80	54.21	0.078
20000	390.98	119.20	0.022	346.85	105.75	0.021	289.04	88.12	0.021	188.09	57.34	0.073
26500	454.58	138.59	0.019	404.68	123.38	0.018	337.24	102.82	0.018	218.77	66.70	0.063
35000	528.33	161.07	0.016	472.17	143.95	0.016	393.47	119.96	0.016			
40000	568.16	173.22	0.015	508.80	155.12	0.015	424.00	129.27	0.015			
50000							480.91	146.62	0.013			
Attenuation at Frequency	dB/100 m = K1*sqrt(FMHz) + K2*FMHz											
K1	2.5808091			2.2320000			1.8600000			1.2380700		
K2	0.0013000			0.0015600			0.0013000			0.0006499		

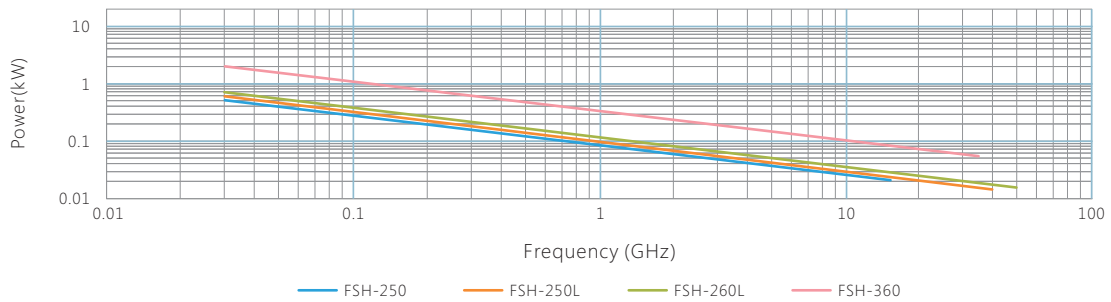


# FSH Test Data

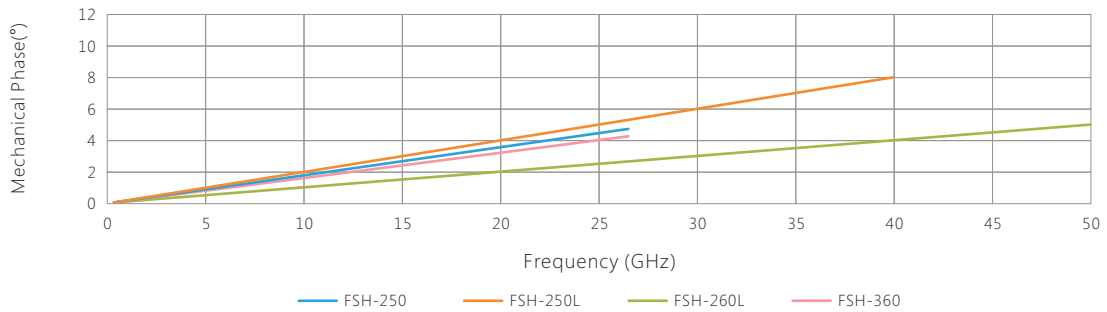
## Frequency & Attenuation



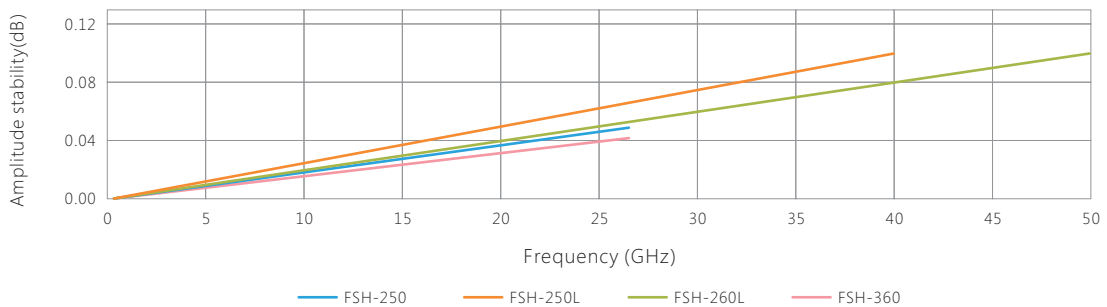
## Frequency & Power



## Typical Value Of Mechanical Phase Stability Rotate for one cycle along the minimum repeated bending diameter



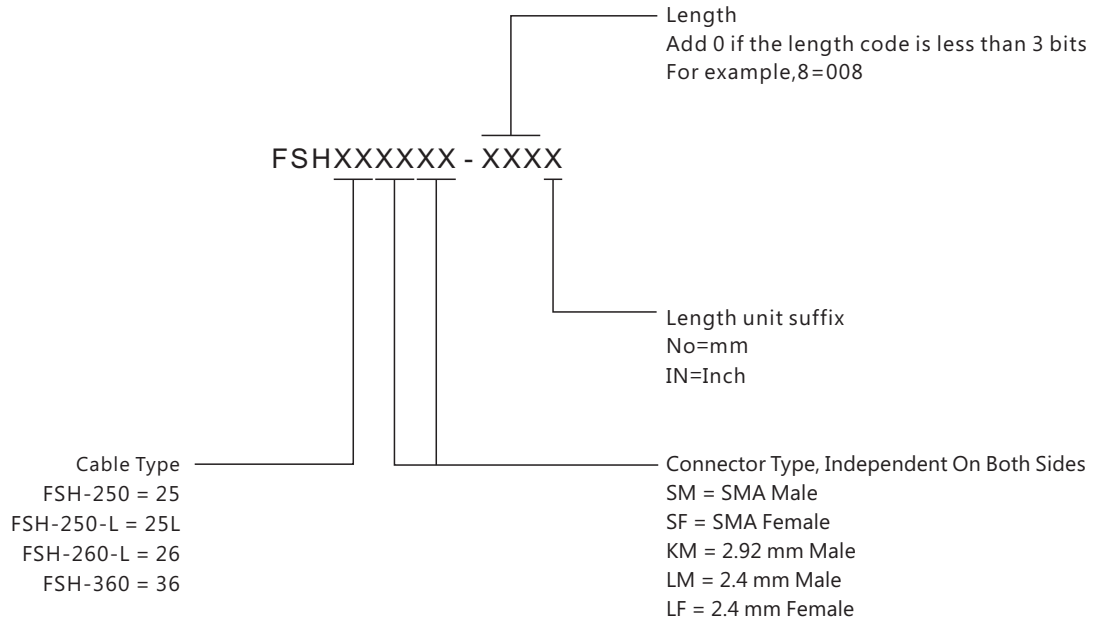
## Typical Value Of Mechanical Amplitude Stability Rotate for one cycle along the minimum repeated bending diameter





# FSH Connector and Assembly

## Assembly Selection Information



Optional Connectors									
Connector Type	Connection Type	Connector Code	FSH-250	FSH-250-L	FSH-260-L	FSH-360	Operating Frequency (GHz)	Typical VSWR	Max VSWR
SMA	Male	SM	TS-H250-SM-A	TS-H250-SM-A	TS-H260L-SM-A	TS-H360-SM-A	26.5	1.25	1.3
	Female	SF	TS-H250-SF-BH-A	TS-H250-SF-BH-A			18	1.25	1.3
2.92mm	Male	KM	TS-H250L-KM-A	TS-H250L-KM-A	TS-H260L-KM-A		40	1.3	1.35
2.4mm	Male	24M			ES-H260-24M-A		50	1.35	1.4
	Female	24F			ES-H260-24F-A		50	1.35	1.4

Please contact Focusimple if you have other connector requests

## Contact us

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