

VERO PHASE

The leading RF Cable for Precise Test Performance

Features

- Precise and Accurate Repeatable Measurements up to 110GHz
- Excellent Phase and Amplitude Stability with Flexure and Temperature
- Excellent Return and Insertion Loss
- Abrasion and Moisture Resistance

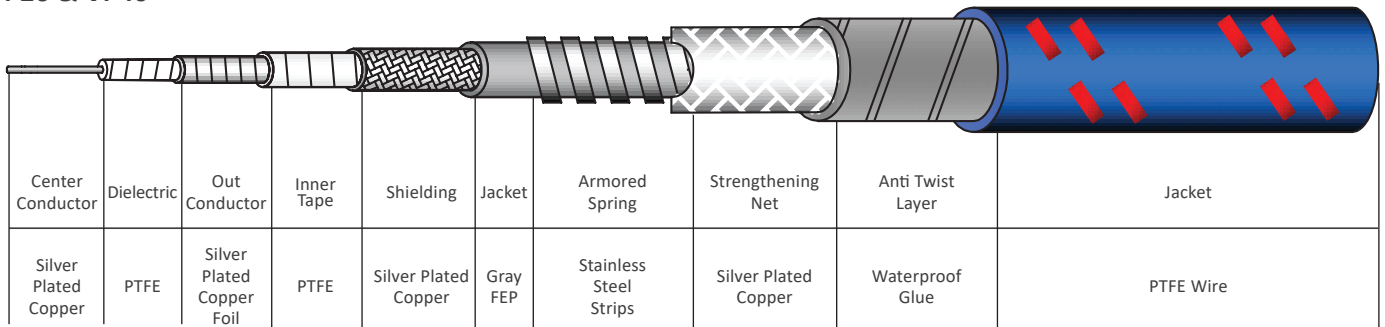
Typical Applications

- High throughput RF Testing
- Vector Network Analyzers (VNAs)
- Automated Test Equipment
- Critical Laboratory Testing Conditions

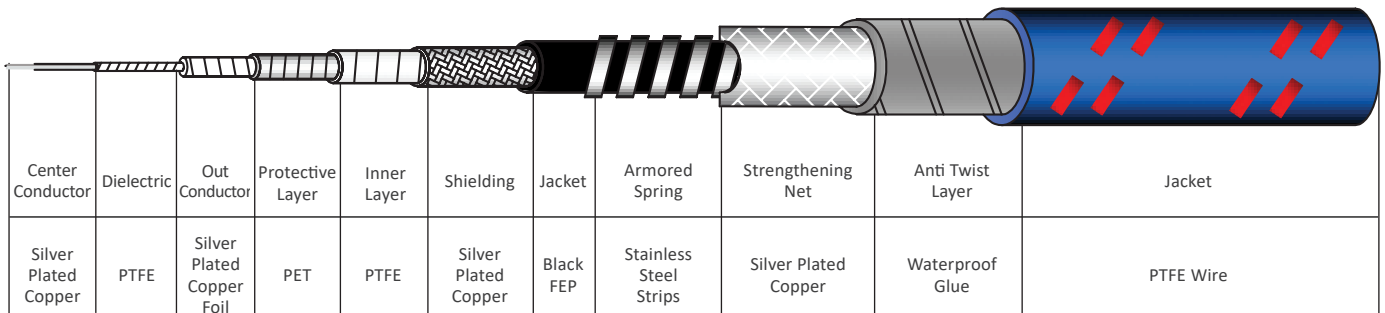


Cable Structure


VP26 & VP40



VP50

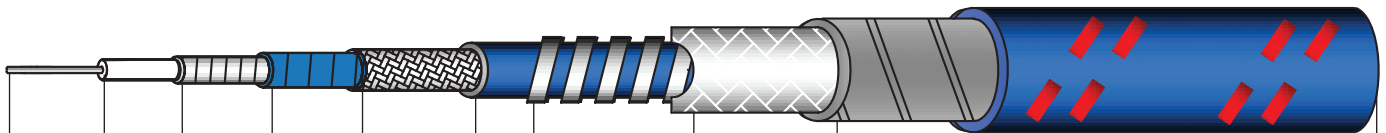


VP67



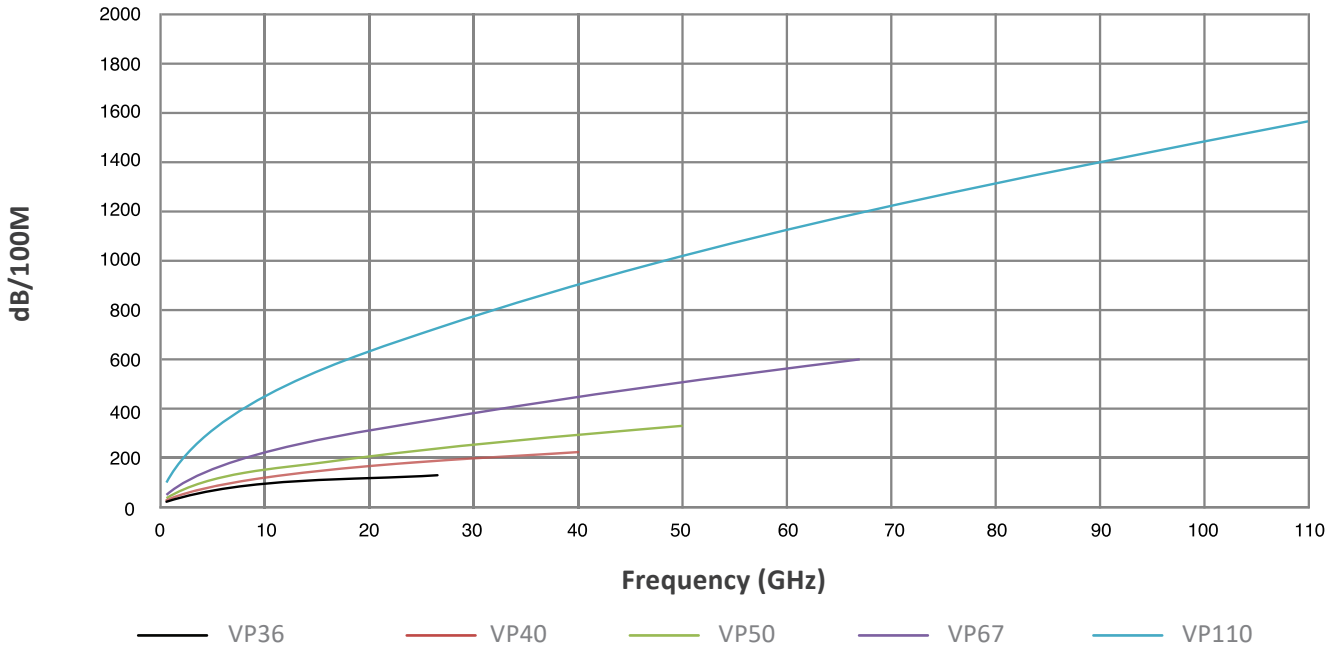
Center Conductor	Dielectric	Out Conductor	Protective Layer	Inner Layer	Shielding	Jacket	Armored Spring	Strengthening Net	Anti Twist Layer	Jacket
Silver Plated Copper	PTFE	Silver Plated Copper Foil	Aluminum-Mylar Laminated Tape	PTFE	Silver Plated Copper	Black FEP	Stainless Steel Strips	Silver Plated Copper	Waterproof Glue	PTFE Wire

VP110

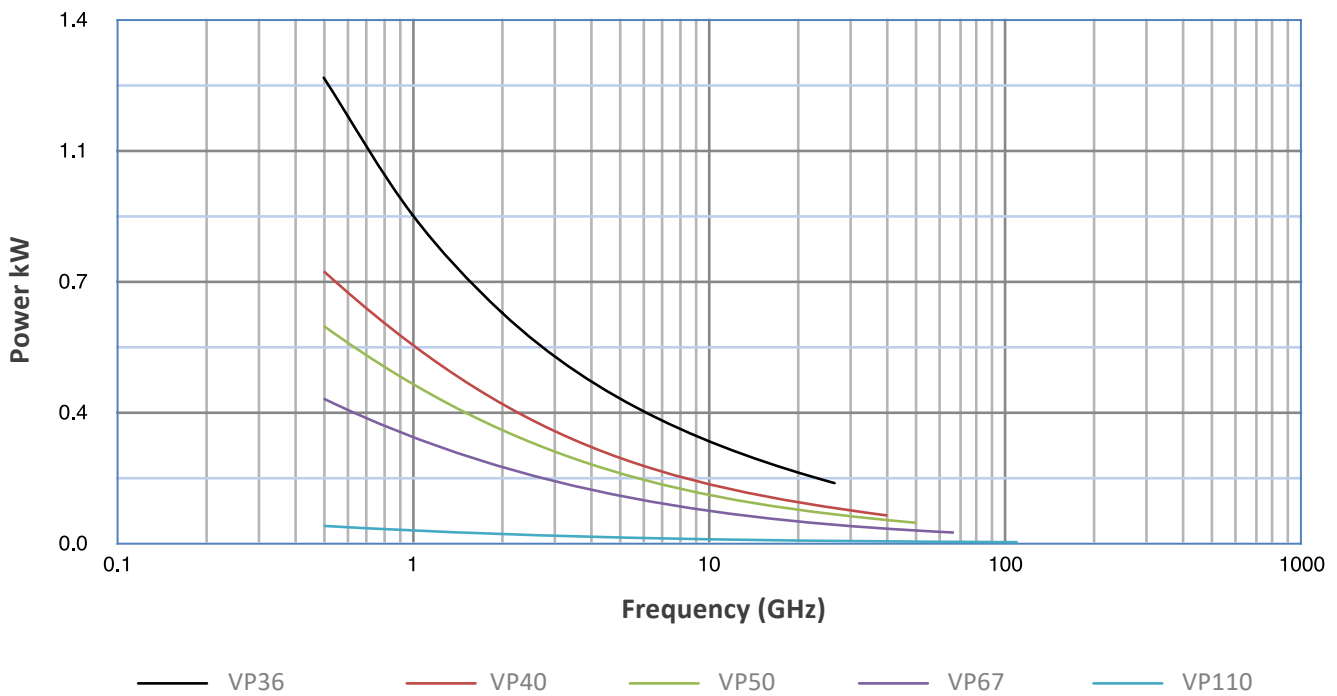


Center Conductor	Dielectric	Out Conductor	Inner Tape	Shielding	Jacket	Armored Spring	Strengthening Net	Anti Twist Layer	Jacket
Silver Plated Copper	PTFE	Silver Plated Copper Foil	PTFE	Silver Plated Copper	Gray FEP	Stainless Steel Strips	Silver Plated Copper	Waterproof Glue	PTFE Wire

VEROPHASE Attenuation



VEROPHASE Average Power



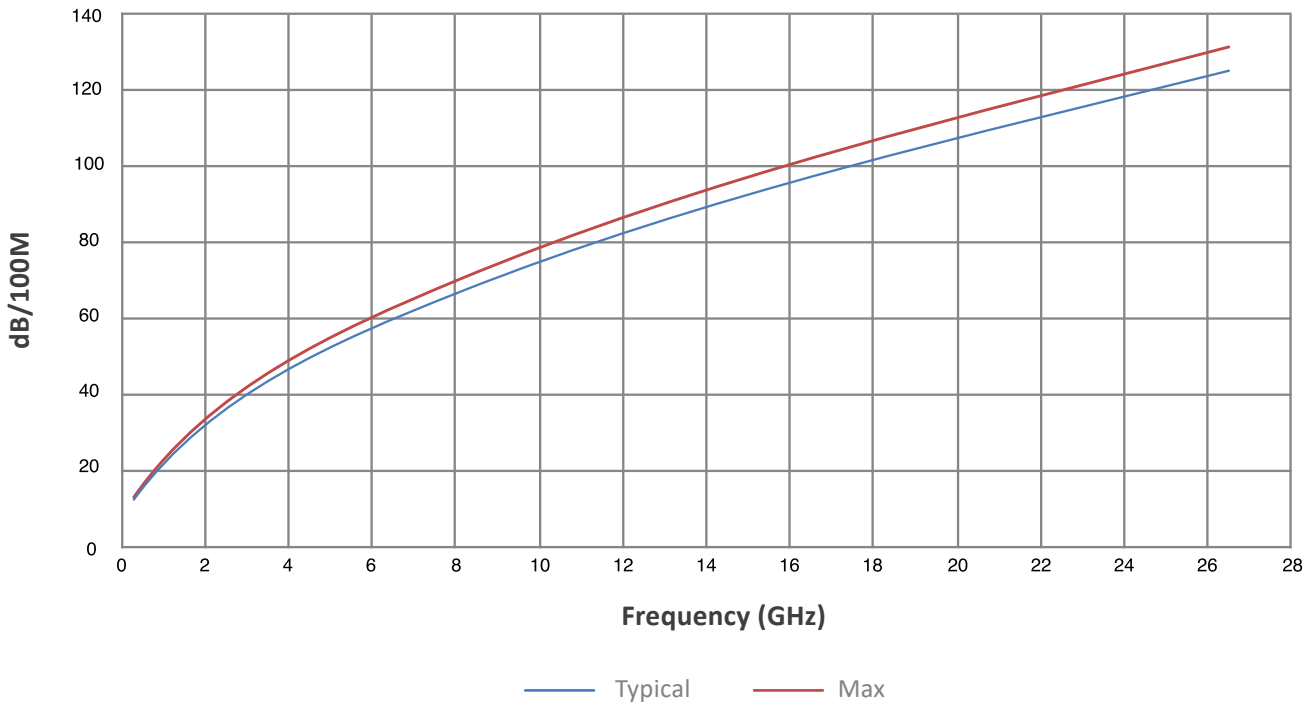
VERO PHASE



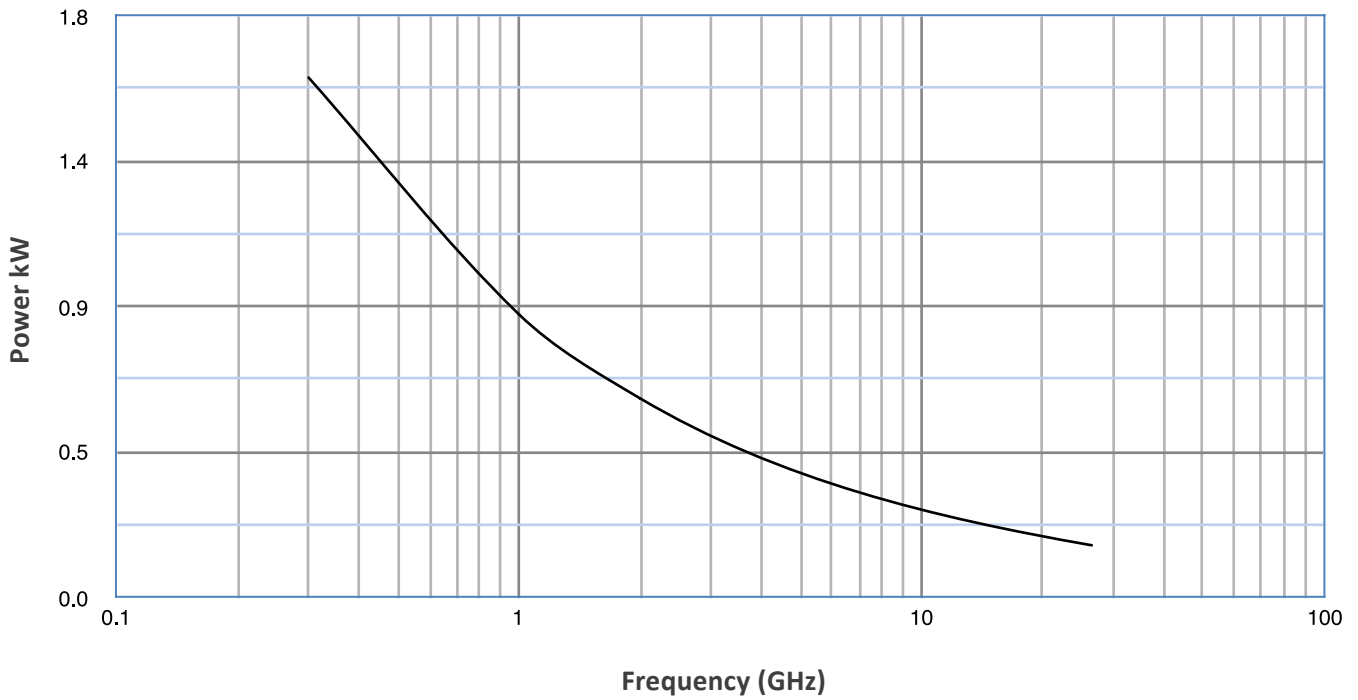
Specificat

Cable	VP26	VP40	VP50	VP67	VP110
Center Conductor	Solid	Solid	Solid	Solid	Solid
Overall Diameter (mm)	7.95	6.5	6.0	6.0	4.7
Nominal Weight (g/m)	147	97	86	80	38
Minimum Bend Radius (mm)	40	28	25	25	20
Max Flex Cycles	20,000	20,000	20,000	20,000	5000 ?
Temperature Range (°C)	-55/105	-40/85	-40/85	-40/85	-40/85
Crush Resistance kgf/m	44.6	44.6	44.6	44.6	44.6
Maximum Frequency (GHz)	26.5	40	50	67	110
Typical VSWR	1.22:1	1.25:1	1.25:1	1.30:1	1.35:1
Typical Insertion Loss (dB/m)	1.25	2.21	3.28	6.01	15.81
Maximum VSWR	1.30:1	1.30:1	1.35:1	1.40:1	1.45:1
Impedance (Nominal) (Ohms)	50	50	50	50	50
Guaranteed Phase Stability	Y	Y	Y	Y	Y
Guaranteed Amplitude Stability	Y	Y	Y	Y	Y
Typical Phase Stability(Degree)	±3.0	±5.0	±6.0	±8.0	±10.0
Typical Amplitude Stability (dB)	< +/-0.05	< +/-0.05	< +/-0.05	< +/-0.05	< +/-0.015
Dielectric Constant (Nominal)	1.45	1.45	1.85	1.83	2.04
Velocity of Propagation (Nominal) (%)	83	83	74	74	70
Time Delay (Nominal) (ns/cm)	0.0401	0.0401	0.045	0.045	4.76

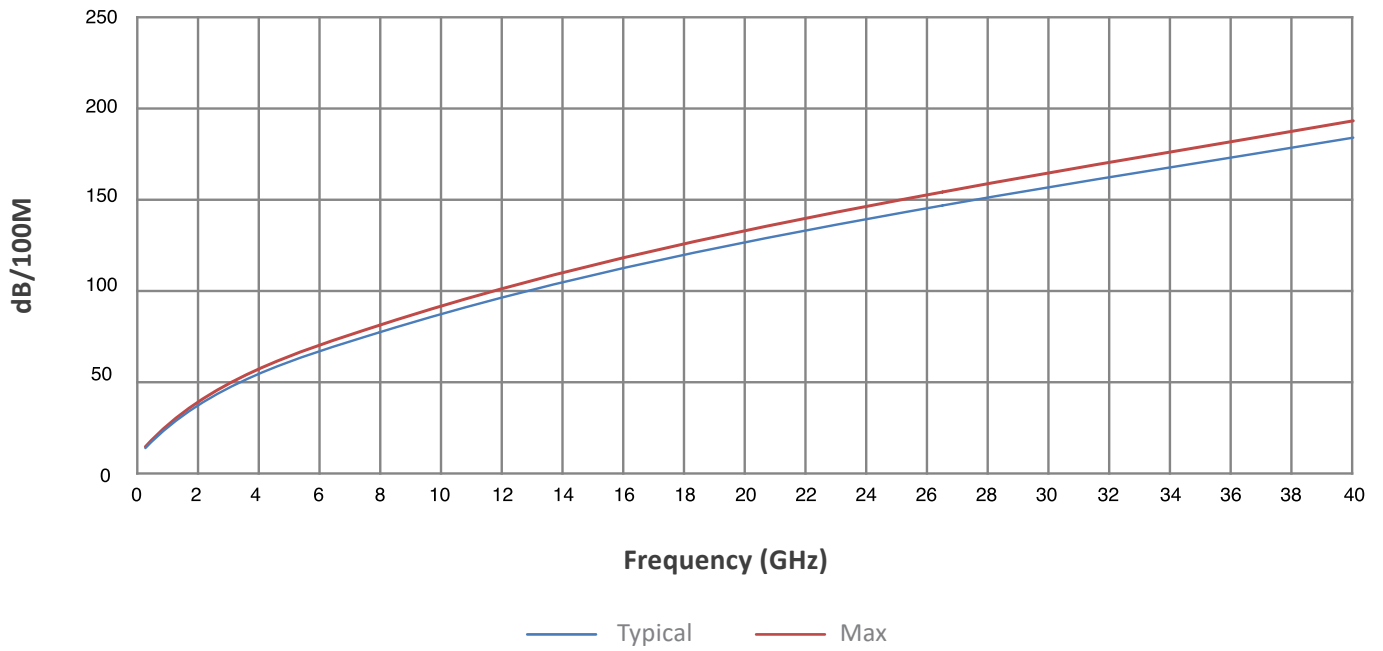
VP26 Attenuation



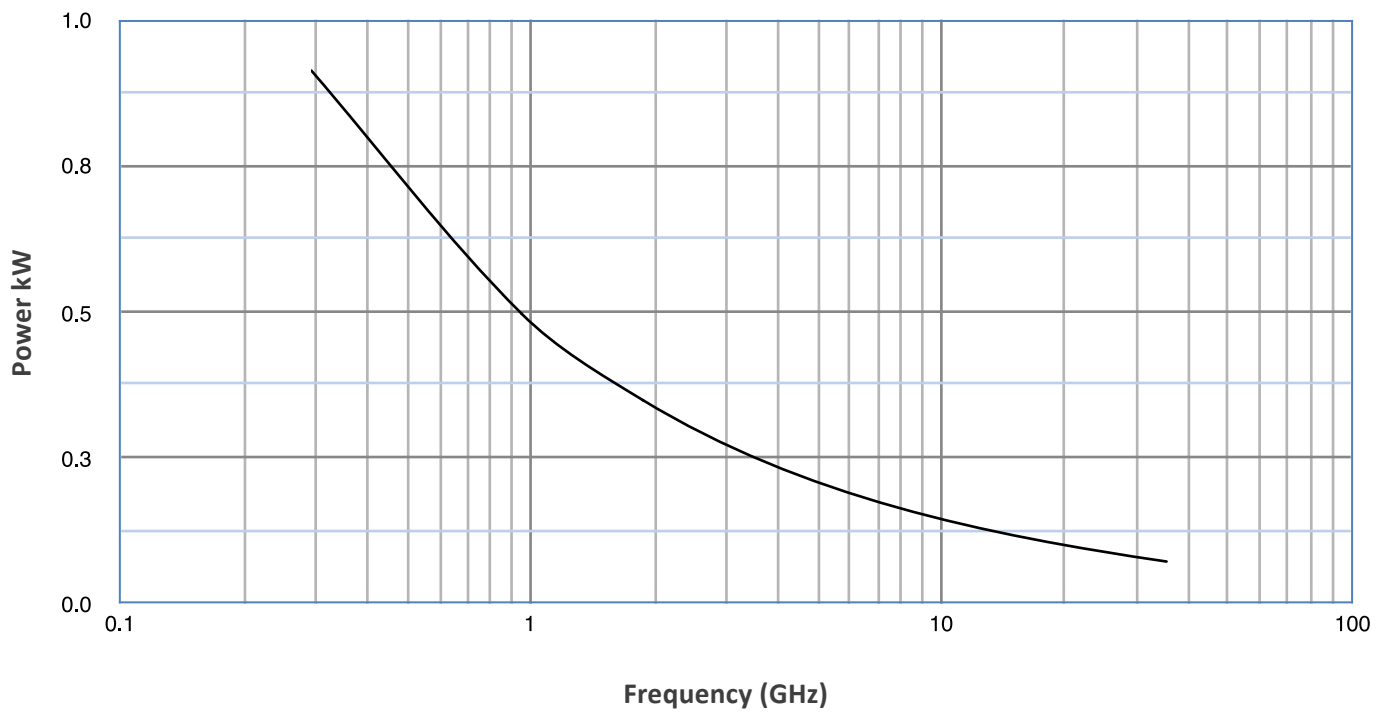
VP26 Average Power



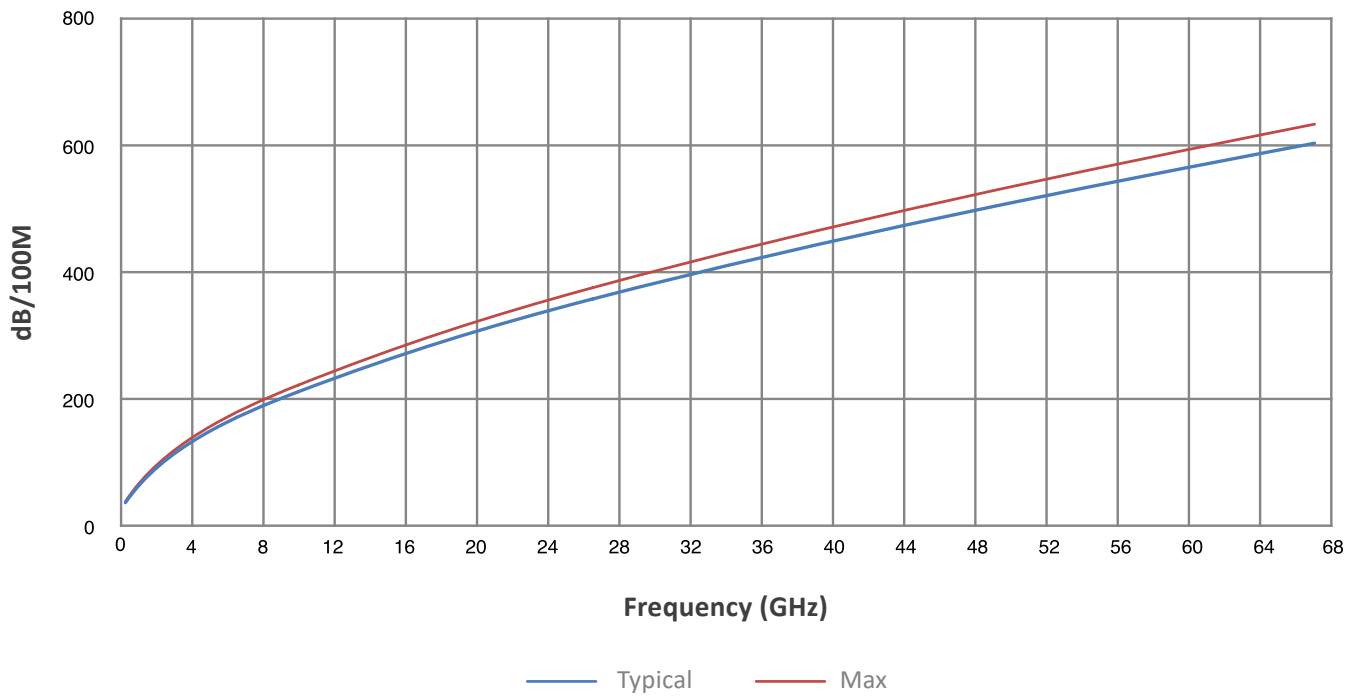
VP40 Attenuation



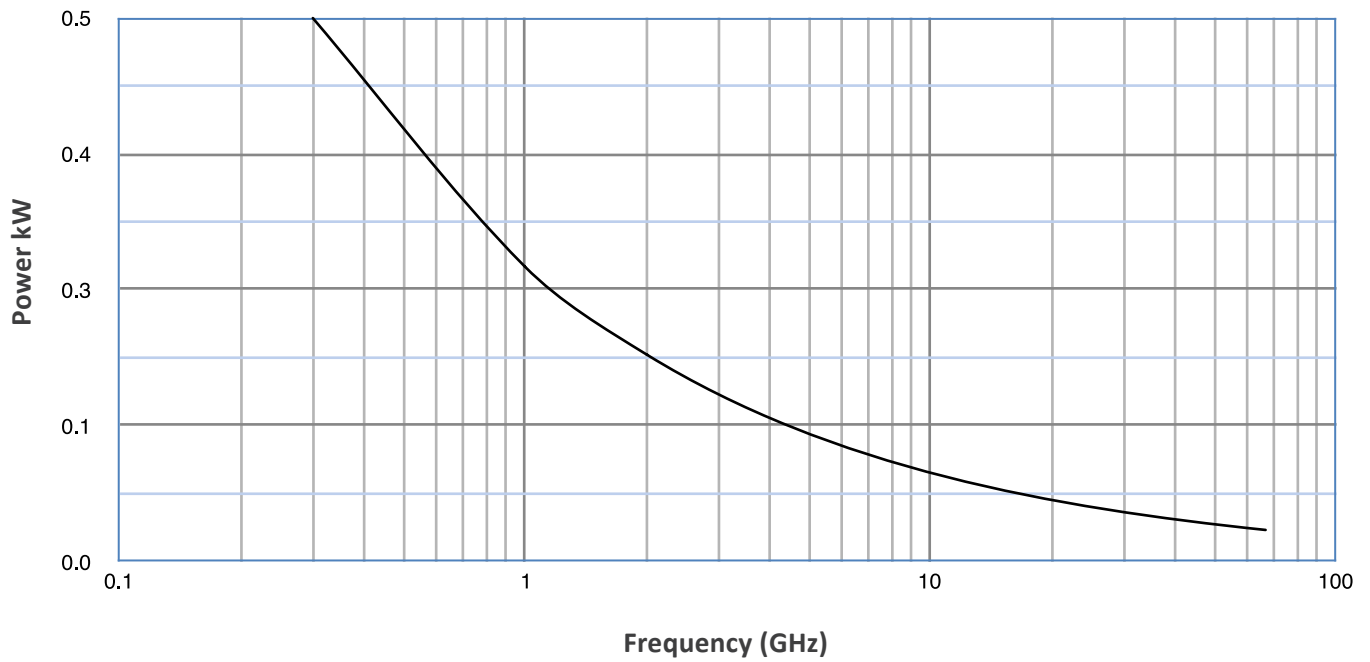
VP40 Average Power



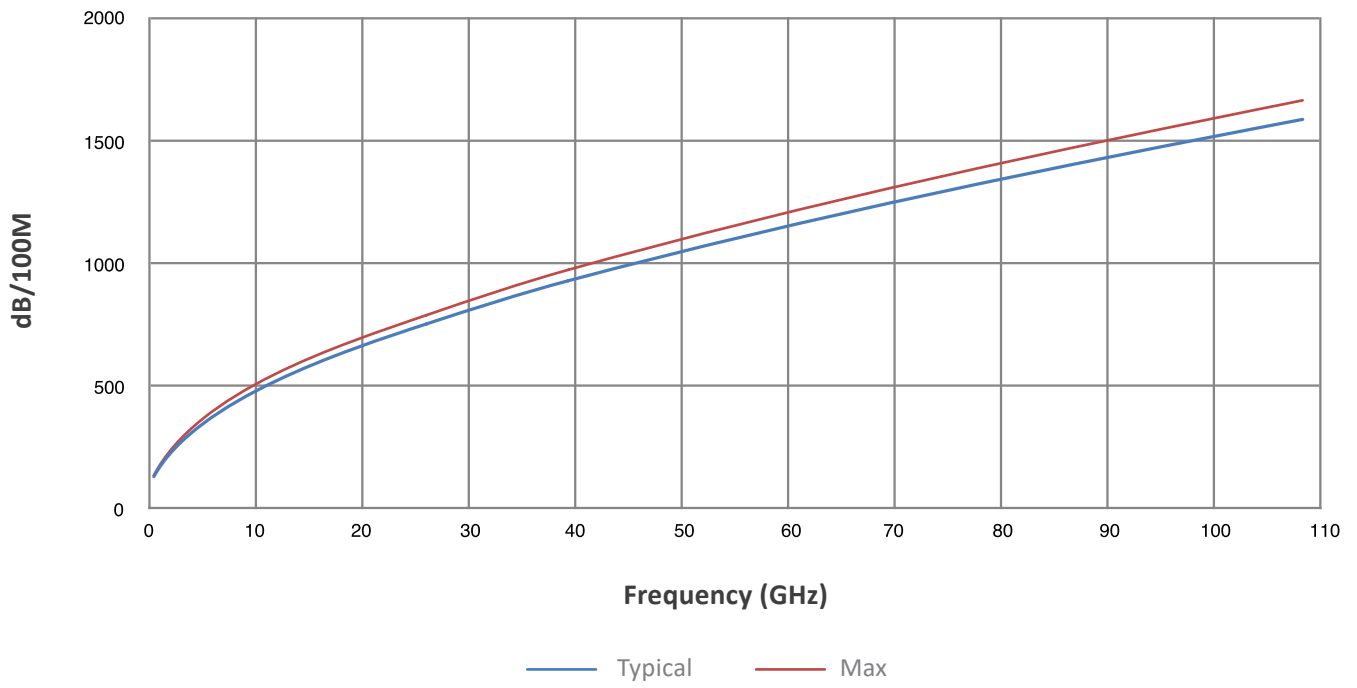
VP67 Attenuation



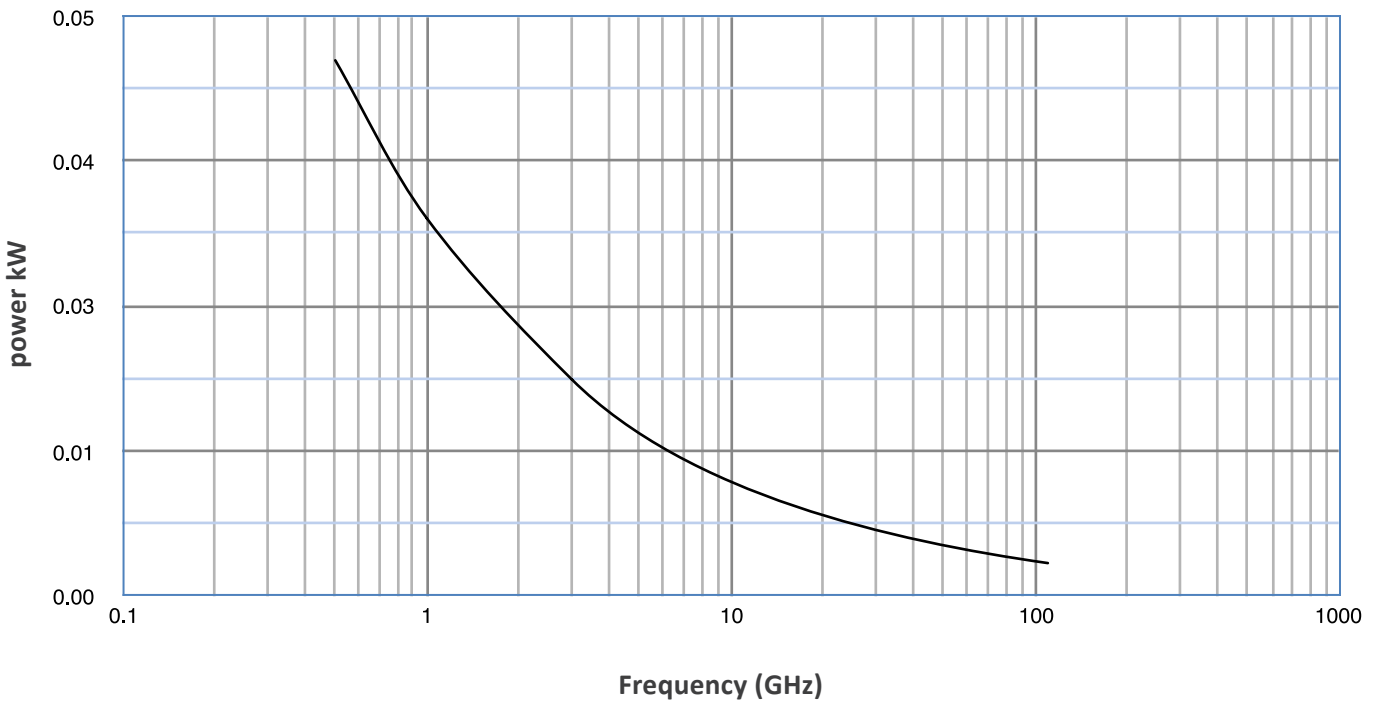
VP67 Average Power



VP110 Attenuation



VP110 Average Power



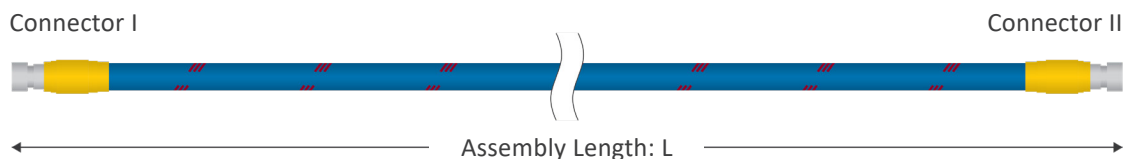
**Attenuation (Typical @25°C & VSWR = 1:1)
& Power (VSWR = 1:1; 40°C; Sea Level)**

Frequency (MHz)	VP26		VP40		VP50		VP67		VP110	
	Attenuation (dB/100m)	Average Power (kW)	Attenuation (dB/100m)	Average Power (kW)	Attenuation (dB/100m)	Average Power (kW)	Attenuation (dB/100m)	Average Power (kW)	Attenuation (dB/100m)	Average Power (kW)
300	12.49	1.608	17.34	0.940	23.87	0.750	34.20	0.500	73.53	0.0598
1000	22.96	0.875	31.91	0.511	43.79	0.409	63.00	0.271	135.00	0.0326
3000	40.18	0.500	55.97	0.291	76.40	0.234	110.66	0.155	235.93	0.0186
4000	46.58	0.431	64.93	0.251	88.45	0.202	128.43	0.133	273.32	0.0161
6000	57.40	0.350	80.13	0.203	108.82	0.165	158.64	0.108	336.57	0.0131
8000	66.64	0.302	93.13	0.175	126.12	0.142	184.48	0.093	390.42	0.0113
10000	74.85	0.268	104.70	0.156	141.47	0.127	207.55	0.082	438.25	0.0100
12000	82.34	0.244	115.28	0.141	155.44	0.115	228.63	0.075	481.81	0.0091
14000	89.27	0.225	125.09	0.130	168.35	0.106	248.21	0.069	522.14	0.0084
18000	101.92	0.197	143.02	0.114	191.82	0.093	284.03	0.060	595.58	0.0074
24000	118.75	0.169	166.93	0.098	222.91	0.080	331.89	0.052	693.05	0.0063
26500	125.20	0.160	176.12	0.093	234.80	0.076	350.30	0.049	730.38	0.0060
29000			184.95	0.088	246.19	0.073	368.01	0.046	766.17	0.0057
32000			195.13	0.084	259.28	0.069	388.45	0.044	807.38	0.0054
40000			220.51	0.074	291.75	0.061	439.44	0.039	909.68	0.0048
50000					328.51	0.055	397.73	0.034	1025.81	0.0043
67000							587.27	0.029	1202.59	0.0037
90000									1414.29	0.0031
110000									1580.98	0.0028

Calculate Attenuation = $K1 \cdot \sqrt{FMHz} + K2 \cdot FMHz$

	VP26	VP40	VP50	VP67	VP110
K1	0.7156867	0.9915499	1.3707349	1.9537172	4.2166070
K2	0.0003280	0.0005549	0.0004400	0.0012174	0.0016590

Selecting The Suitable Cable: Part Number Construction



Cable Type-Length Conn (I)Conn (II) - A

VP26-01000 DMM DMF-N



1	Cable Type	Cable Code	2	Length Requirement	Length Code			
	VEROPHASE Operating@Max 26.5GHz	VP26		1000mm	01000			
3	Connector (I)	Connector Code	4	Connector (II)	Connector Code	5	With Armor	No Armor
	3.5mm (Male)	DMM		3.5mm (Female)	DMF		A	N

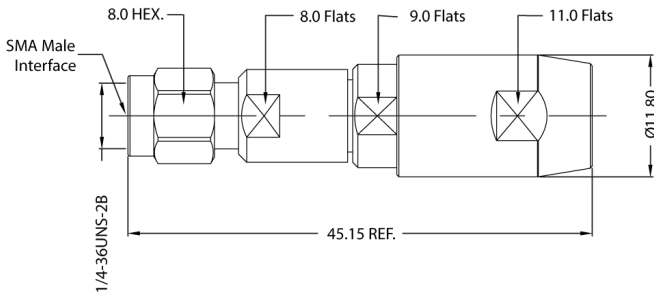
Criteria for Connector Selection

Connector Type	Mate	Connector Codes			Max Operating Frequency (GHZ)	VP26	VP40	VP50	VP67	VP110
SMA	M	S	M	M	26.5	•	•	•		
N Type	M	N	N	M	18.0	•		•		
3.5mm	M	D	M	M	26.5	•	•	•		
3.5mm	F	D	M	F	26.5			•		
2.92mm	M	K	M	M	40.0		•	•	•	
2.92mm RA	M	R	K	M	40.0			•		
2.92mm	F	K	M	F	40.0		•	•	•	
2.4mm	M	L	M	M	50.0		•	•	•	
2.4mm	F	L	M	F	50.0		•		•	
1.85mm	M	V	M	M	67.0				•	
1.85mm	F	V	M	F	67.0				•	
1.0mm	M	W	M	M	110.0					•
1.0mm	F	W	M	F	110.0					•

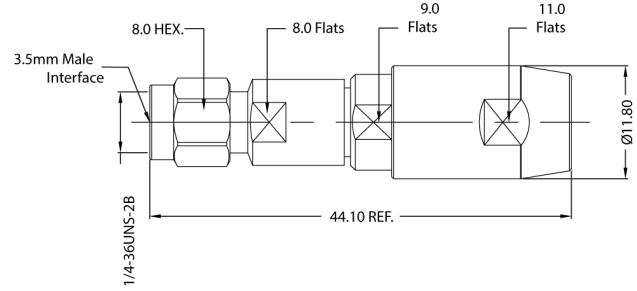
Available Standard Connectors

VP26

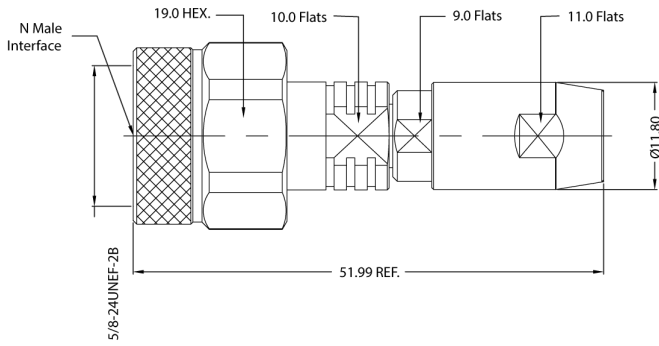
Type	SMA Male	Code	SMM
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Type	3.5mm Male	Code	DMM
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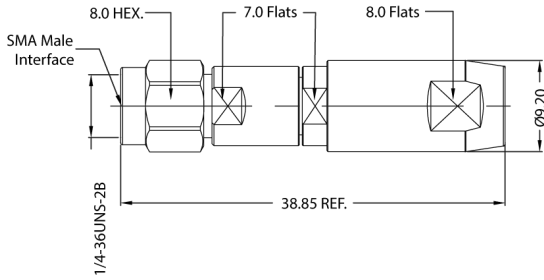
Type	Type N Male	Code	NNM
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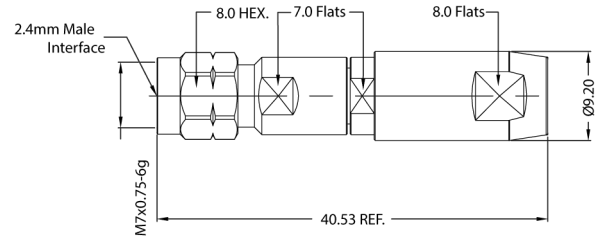
Available Standard Connectors

VP40

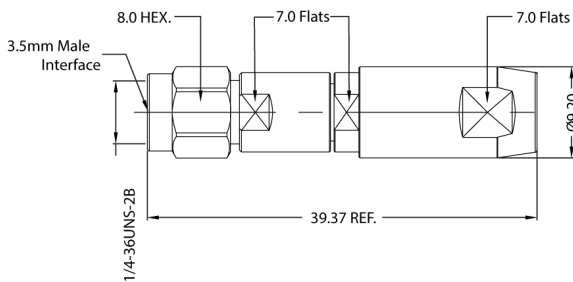
Type SMA Male Code SMM



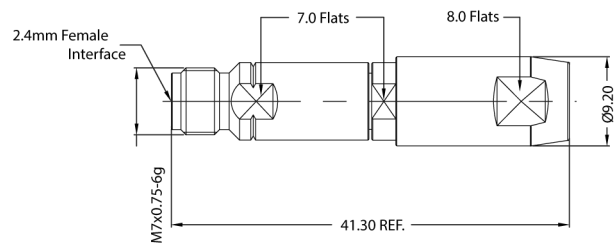
Type 2.4mm Male Code LMM



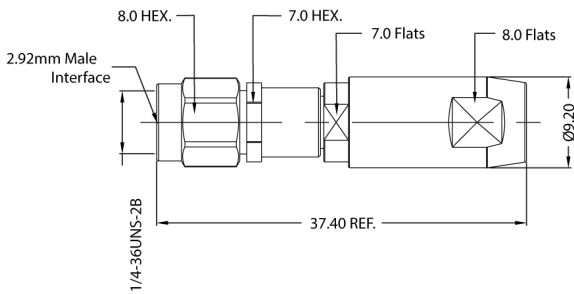
Type 3.5mm Male Code DMM



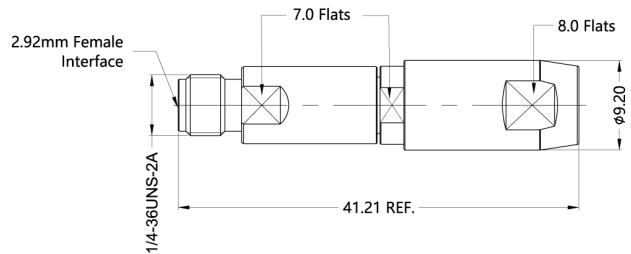
Type 2.4mm Female Code LMF



Type 2.92mm Male Code KMM



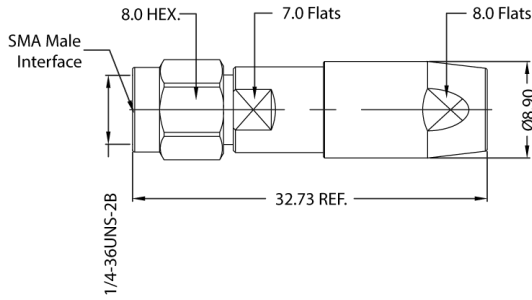
Type 2.92mm Female Code KMF



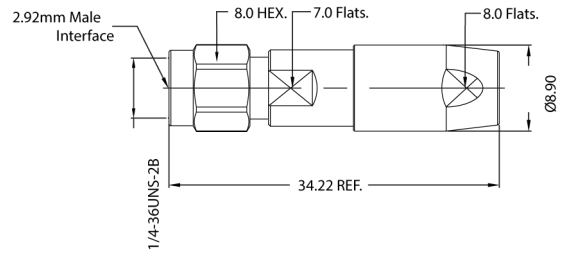
Available Standard Connectors

VP50

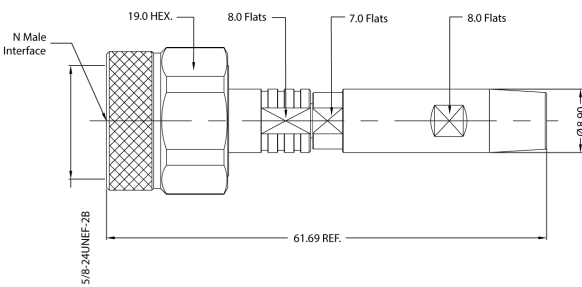
Type SMA Male **Code** SMM



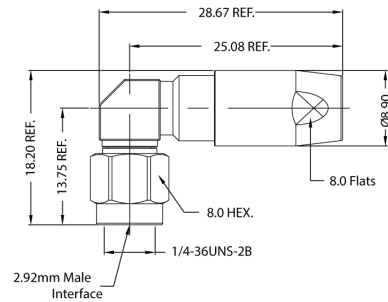
Type 2.92mm Male **Code** KMM



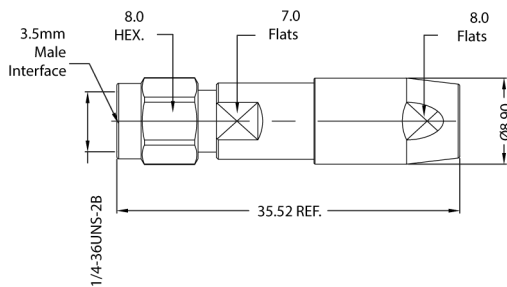
Type Type N Male **Code** NNM



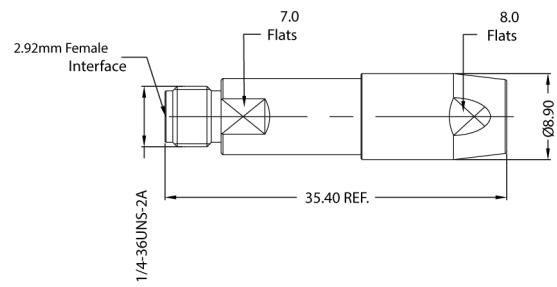
Type 2.92mm Male RA **Code** RKM



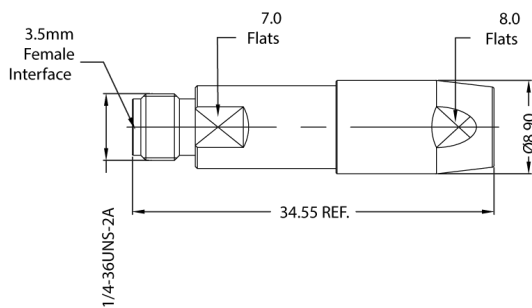
Type 3.5mm Male **Code** DMM



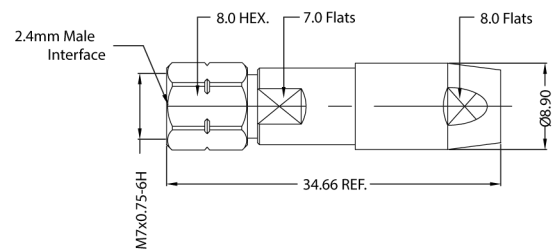
Type 2.92mm Female **Code** KMF



Type 3.5mm Female **Code** DMF



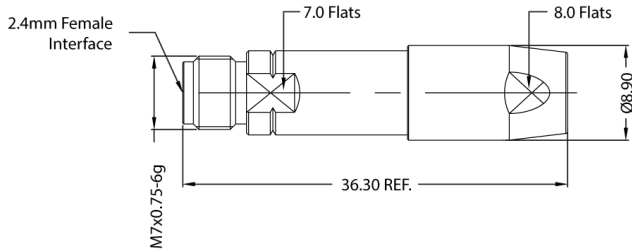
Type 2.4mm Male **Code** LMM



Available Standard Connectors

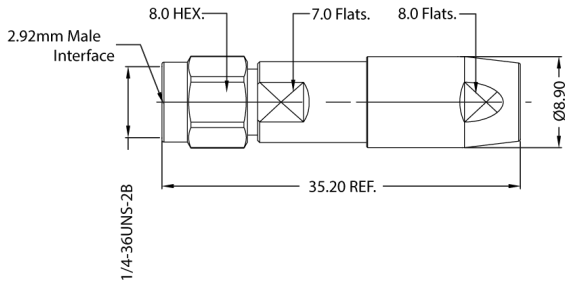
VP50

Type	2.4mm Female	Code	LMF
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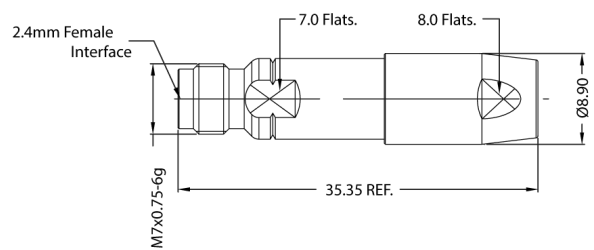


VP67

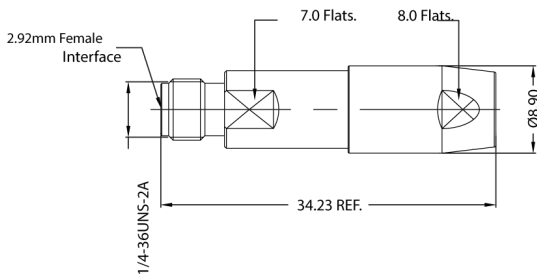
Type	2.92mm Male	Code	KMM
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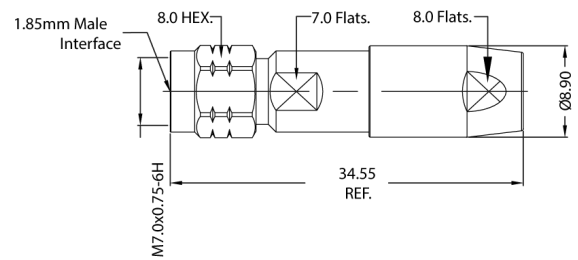
Type	2.4mm Female	Code	LMF
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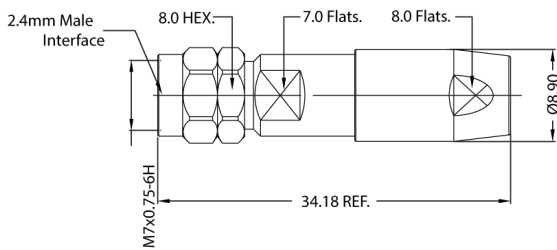
Type	2.92mm Female	Code	KMF
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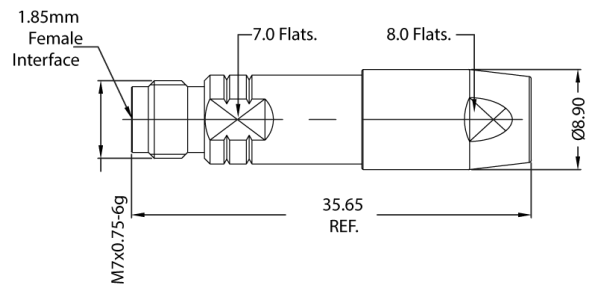
Type	1.85mm Male	Code	VMM
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Type	2.4mm Male	Code	LMM
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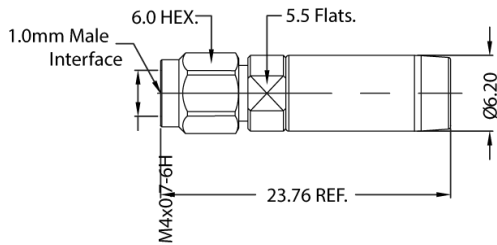
Type	1.85mm Female	Code	VMF
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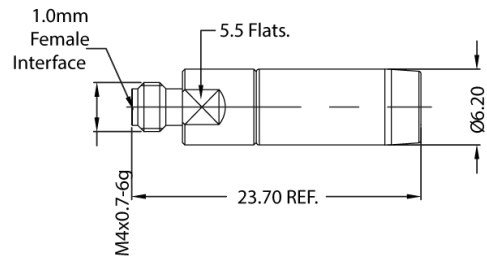
Available Standard Connectors

VP110

Type	1.0mm Male	Code	WMM
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Type	1.0mm Female	Code	WMF
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