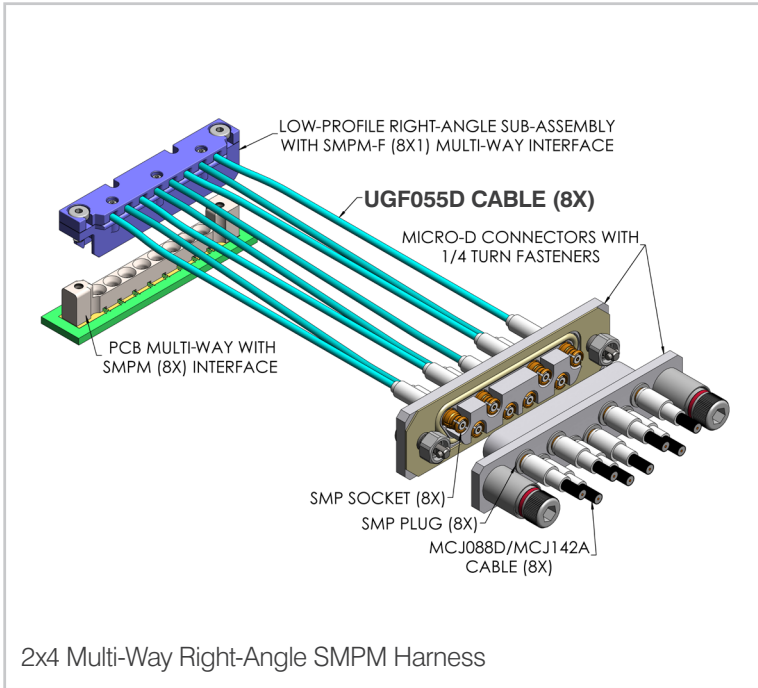


# UGF055D Miniature Multi-Channel RF Cable Assemblies

## INTRODUCTION

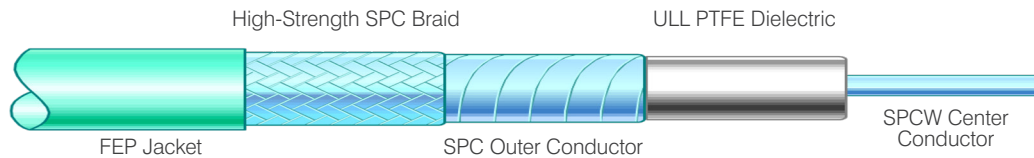


Specifically designed for high-density microwave applications up to 70 GHz, the UGF055D is a miniature multi-channel RF assembly that stands up to the most demanding space-flight, defense, and 5G environments. The ultra-low-loss UGF055D boasts:

- » UTIFLEX® cable
- » Lowest possible VSWR and insertion loss
- » High-performance thread-on and push-on connectors
- » Multi-way harness configurations for launching directly onto PCBs

Employing all the cable and connector performance and proven reliability of our UTIFLEX line – only in a smaller and higher-performing package – UGF055D features a double-shielded cable construction with a rugged FEP outer jacket. Popular connector options include 1.85 mm, 2.92 mm, SMP, and SMPM.

## CABLE CONSTRUCTION

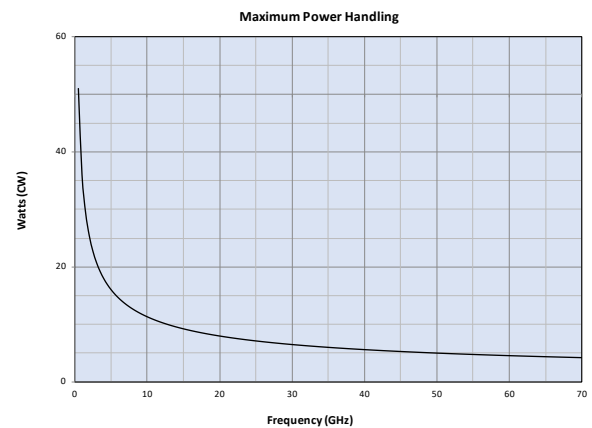
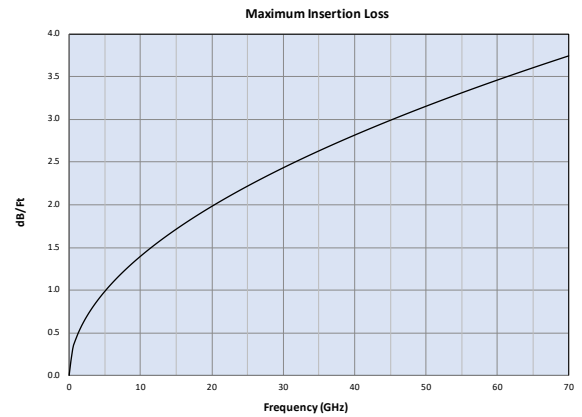


FEATURES	BENEFITS
Line sizes to match high-frequency connectors	• Lowest possible return loss (VSWR) and insertion loss
Helical metal-wrapped outer conductor	• Maximizes RF shielding and flexibility, especially critical for high-density multi-way applications
MIL and/or space-rated materials	• Available M39012 Group A and B compliant, and as required, restricted use of prohibited materials such as pure tin, cadmium, and zinc
100% test and inspection of electrical and mechanical requirements	• Allows peace of mind and for receipt and integration of assemblies/harnesses without additional quality checks
Vertical integration of connectors, cables, and assemblies	• CarlisleIT-produced connectors and cables are designed for optimized assembly and matching, enhancing performance and reliability of finished assemblies/harnesses
Compatible with high-density PCB launch mechanism	• Enables direct launch to PCBs with proven SMPM technology, reducing footprint, and lowering installation costs

# UGF055D Miniature Multi-Channel RF Cable Assemblies

## SPECIFICATIONS & PERFORMANCE

Mechanical		
Center Conductor Diameter	0.010" (0.25 mm)	
Outer Shield Diameter	0.046" (1.17 mm)	
Overall Diameter	0.055" +/- 0.004" (1.40 +/- 0.10 mm)	
Mass	≤ 1.5 g/ft (4.9 g/m)	
Minimum Static Bend Radius	0.300" (7.62 mm)	
Electrical		
Impedance	50 Ω	
Velocity of Propagation	79%	
RF Shielding	≥ 100 dB	
Maximum Frequency	70 GHz	
Insertion Loss	@ 1 GHz	≤ .42 dB/ft (1.37 dB/m)
	@ 10 GHz	≤ 1.39 dB/ft (5.57 dB/m)
	@ 26.5 GHz	≤ 2.38 dB/ft (7.8 dB/m)
	@ 40 GHz	≤ 3.00 dB/ft (9.85 dB/m)
	@ 70 GHz	≤ 3.7 dB/ft (12.1 dB/m)
	Stability	≤ 5% change
Environmental		
Thermal Shock	20 Cycles, -65 °C to +125 °C	
Vibration	MIL-STD-202, Method 204, Condition B	
Stress Crack Resistance	MIL-DTL-17, Paragraph 4.8.17	
Cold Bend	MIL-STD-17, Paragraph 4.8.19	



## AVAILABLE CONNECTORS

Frequency Range	Connector Options
DC-18 GHz	SMA: Plug, Bulkhead Jack
DC-40 GHz	2.92 mm: Plug, Bulkhead Jack
	SMP: Plug, Jack, Right-Angle Jack, Bulkhead Jack, Multi-Way
DC-70 GHz	1.85 mm: Plug, Bulkhead Jack
	SMPM: Plug, Jack, Right-Angle Jack, Bulkhead Jack, Multi-Way PCB Launch



See our complete line of Cable Assemblies & Harnesses at:  
[CarlisleIT.com/products/cable-assemblies-harnesses](http://CarlisleIT.com/products/cable-assemblies-harnesses)

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