

# NITROWAVE™ CABLE TECHNOLOGY

HIGH-PERFORMANCE, PHASE & AMPLITUDE STABLE

DC TO  
**110**  
GHz

Samtec's new **Nitrowave™ Phase & Amplitude Stable RF Cable** offers improved stability with flexure. The coaxial structure – with an outer jacket colored in **distinctive Samtec orange** – is designed to meet the demands of aerospace, defense, datacom, computer/semiconductor, and instrumentation markets. Performance is optimized at frequencies beyond traditional industry targets to support emerging applications.

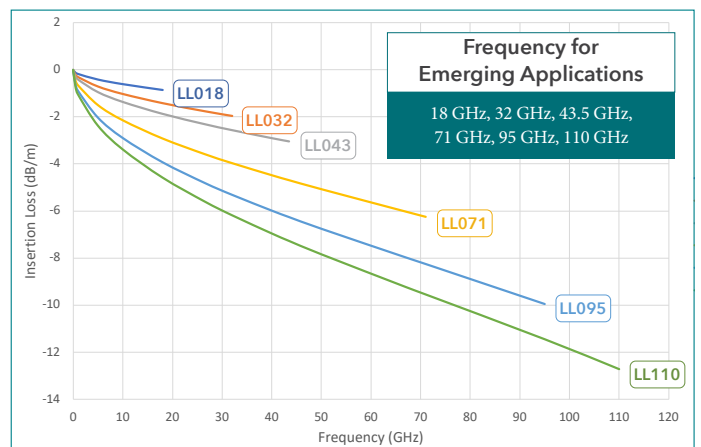
## NITROWAVE™ CABLE TECHNOLOGY

- High-performance, low-loss microwave cable assemblies
- Phase and amplitude stable with flexure
- Consistent contact resistance between layers
- Lower density dielectric minimizes loss
- State-of-the-art shielding techniques and Dynamic Performance Layer (DPL)
- Silver plating enhancements mitigate corrosion potential
- Electrical performance optimized at next gen frequencies (GHz): 18, 32, 43.5, 71, 95, 110
- Mechanical and environmental robustness
- Phase vs. Bending =  $< 0.2^\circ \times F(\text{GHz})$
- VSWR = 1.4:1 @ 43.5 GHz (LL043 Series)
- Typical phase vs. temp & power handling



Series	LL018	LL032	LL043*	LL071	LL095	LL110
Impedance (Ω)	50					
Max Frequency (GHz)	18	32	43.5	71	95	110
Outer Dia. (inches)	0.309	0.192	0.141	0.094	0.076	0.068
Min Static Bend Radius	1.25	0.375	0.25	0.125	0.156	0.156
Velocity of Propagation (%)	77					
Min Shielding Effectiveness (dB)	-90					
Temp Range (°C)	-65 °C to +125 °C					
Insertion Loss	See Maximum IL Chart					
End 1/End 2	1.00 mm, 1.35 mm, 1.85 mm, 2.40 mm, 2.92 mm, SMPM, SMP, SMA, N Type, TNCA					

## MAXIMUM INSERTION LOSS (dB/m)



**HIGH-PERFORMANCE MICROWAVE CABLE**

**Cable Assemblies**  
LL071



**FEATURES**

- Impedance:** 50 Ω
- Outer Diameter:** 0.094"
- Bend Radius:** 0.125"
- Velocity of Propagation:** 77 %
- Min. Shielding Effectiveness:** -90 dB
- Temp Range:** -65 °C to +125 °C

SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH	PHASE MATCHING	PHASE MATCHING CABLES
--------	-----------------	-----------------	----------------	----------------	-----------------------

**LL071**  
= High-Performance Cable to 71 GHz

Specify END OPTIONS from chart

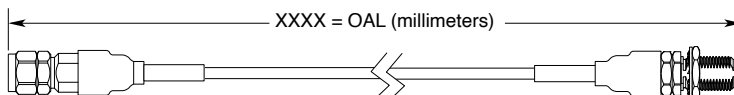
-"XXXX"  
= Overall Length in millimeters  
-0100 (100 mm) 3.94" min.

Leave blank for no phase matching  
-1 = 1 Pico Seconds

Leave blank for 1 cable. (Only available with no phase matching option)

-02 to 16 = No. of cables

PRELIMINARY



LL071-18SP-18BJ-XXXX-X-XX

END OPTION	INTERFACE TYPE	GENDER	MAXIMUM RETURN LOSS (PER END)	MAXIMUM VSWR (PER END)	FREQUENCY
-18SP	1.85 mm	PLUG	21.53	1.183	DC TO 71 GHz
-18BJ	1.85 mm	BULKHEAD JACK	21.53	1.183	DC TO 71 GHz
-92SP	2.92 mm	PLUG	21.53	1.183	DC TO 43.5 GHz

**Cable Assemblies**  
LL043



**FEATURES**

- Impedance:** 50 Ω
- Outer Diameter:** 0.141"
- Bend Radius:** 0.25"
- Velocity of Propagation:** 77 %
- Min. Shielding Effectiveness:** -90 dB
- Temp Range:** -65 °C to +125 °C

SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH	PHASE MATCHING	PHASE MATCHING CABLES
--------	-----------------	-----------------	----------------	----------------	-----------------------

**LL043**  
= High-Performance Cable to 43.5 GHz

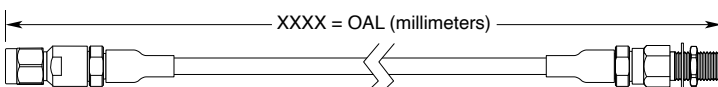
Specify END OPTIONS from chart

-"XXXX"  
= Overall Length in millimeters  
-0100 (100 mm) 3.94" min.

Leave blank for no phase matching  
-1 = 1 Pico Second

Leave blank for 1 cable. (Only available with no phase matching option)

-02 to 16 = No. of cables



LL043-92SP-92BJ-XXXX-X-XX

END OPTION	INTERFACE TYPE	GENDER	MAXIMUM RETURN LOSS (PER END)	MAXIMUM VSWR (PER END)	FREQUENCY
-92SP	2.92 mm	PLUG	21.53	1.183	DC TO 43.5 GHz
-92BJ	2.92 mm	BULKHEAD JACK	21.53	1.183	DC TO 43.5 GHz
-24SP	2.40 mm	PLUG	21.53	1.183	DC TO 43.5 GHz
-24BJ	2.40 mm	BULKHEAD JACK	21.53	1.183	DC TO 43.5 GHz
-01SP	SMA	PLUG	21.53	1.183	DC TO 26.5 GHz
-01BJ	SMA	BULKHEAD JACK	21.53	1.183	DC TO 26.5 GHz