

N Female Bulkhead Mount Low PIM Connector
Solder Attachment for SPP-250-LLPL, SPF-250,
SPO-250, 1/4" Superflexible, PE-1/4SFHC



RF Connectors Technical Data Sheet


TIMES MICROWAVE SYSTEMS
An Amphenol Company

TC-250-NF-BH-LP

Times Microwave Systems Connector Specification

Configuration

- N Female Connector
- 50 Ohms
- Straight Body Geometry
- Connector Interface Types: SPP-250-LLPL, SPF-250,

- SPO-250, 1/4" Superflexible, PE-1/4SFHC
- Bulkhead
- Low PIM Design

Features

- Max. Operating Frequency 6 GHz
- Good VSWR of 1.3:1
- PIM levels lower than -160 dBc

- Silver Plated Phosphor Bronze Contact
- 200 μ in contact plating

Applications

- General Purpose Test
- Rack and Panel Mount Applications
- Wireless Communications

- Custom Cable Assemblies
- Low PIM Applications

- Distributed Antenna Systems (DAS)

Description

Times Microwave's TC-250-NF-BH-LP type N female bulkhead connector offered by Pasternack with solder/solder attachment for Times' SPP-250-LLPL, SPF-250, SPO-250, 1/4" Superflexible and PE-1/4SFHC is part of our full line of RF components available for same-day shipping. Times Microwave's type N female connector operates up to a maximum frequency of 6 GHz and offers good VSWR of 1.3:1. The Times type N female connector also has low passive intermodulation of -160 dBc. This type N bulkhead connector allows designers to create external connections on their product enclosures, and can be used in a variety of other rack mount and panel mount applications.

Times Microwave's type N female bulkhead connector TC-250-NF-BH-LP datasheet specifications and drawing with dimensions are shown below in this PDF. Pasternack's broad catalog of RF, microwave and millimeter wave connectors allows designers to configure and customize their signal connections however they like. Whether the need is to provide an I/O for a board design, or simply create a custom cable assembly configuration, Pasternack has the right connector for the job. Pasternack can also expertly build your custom cable assemblies for you and ship same-day.

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		6	GHz
VSWR			1.3:1	
Insertion Loss			0.244	dB
Passive Intermodulation			-160	dBc
Operating Voltage (DC)			1,500	Vdc
Dielectric Withstanding Voltage (AC)			1,500	Vrms
Inner Conductor DC Resistance			1	mOhms
Outer Conductor DC Resistance			1	mOhms

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [N Female Bulkhead Mount Low PIM Connector Solder Attachment for SPP-250-LLPL, SPF-250, SPO-250, 1/4" Superflexible, PE-1/4SFHC TC-250-NF-BH-LP](#)

N Female Bulkhead Mount Low PIM Connector
Solder Attachment for SPP-250-LLPL, SPF-250,
SPO-250, 1/4" Superflexible, PE-1/4SFHC



RF Connectors Technical Data Sheet


TIMES MICROWAVE SYSTEMS
An Amphenol Company

TC-250-NF-BH-LP

Insulation Resistance	5,000	MOhms
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Mechanical Specifications

Size

Length	1.34 in [34.04 mm]
Width/Dia.	0.87 in [22.10 mm]
Height	0.87 in [22.1 mm]
Weight	0.0815 lbs [36.97 g]
Mating Cycles	500 Cycles
Mating Torque	6 to 10 in-lbs [0.68 to 1.13 Nm]
Cable Retention Force	84 lbs 38.1 kg

Material Specifications

Description	Material	Plating
Contact	Phosphor Bronze	Silver 200 μ in
Insulation	PTFE	
Outer Conductor	Brass	Tri-Metal 100 μ in
Body	Brass	Tri-Metal 100 μ in
Gasket	Silicone Rubber	

Environmental Specifications

Temperature

Operating Range	-40 to +125 deg C
Humidity	IP67
Shock	MIL-STD 202G, Method 213, Condition I
Vibration	MIL-STD 202G, Method 204, Condition B
Thermal Shock	MIL-STD 202G, Method 107, Condition B

Environmental Specification Notes:
IEC 60068 55/125/21

Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [N Female Bulkhead Mount Low PIM Connector Solder Attachment for SPP-250-LLPL, SPF-250, SPO-250, 1/4" Superflexible, PE-1/4SFHC TC-250-NF-BH-LP](#)

N Female Bulkhead Mount Low PIM Connector
Solder Attachment for SPP-250-LLPL, SPF-250,
SPO-250, 1/4" Superflexible, PE-1/4SFHC



RF Connectors
Technical Data Sheet

T **TIMES** An Amphenol Company MICROWAVE SYSTEMS

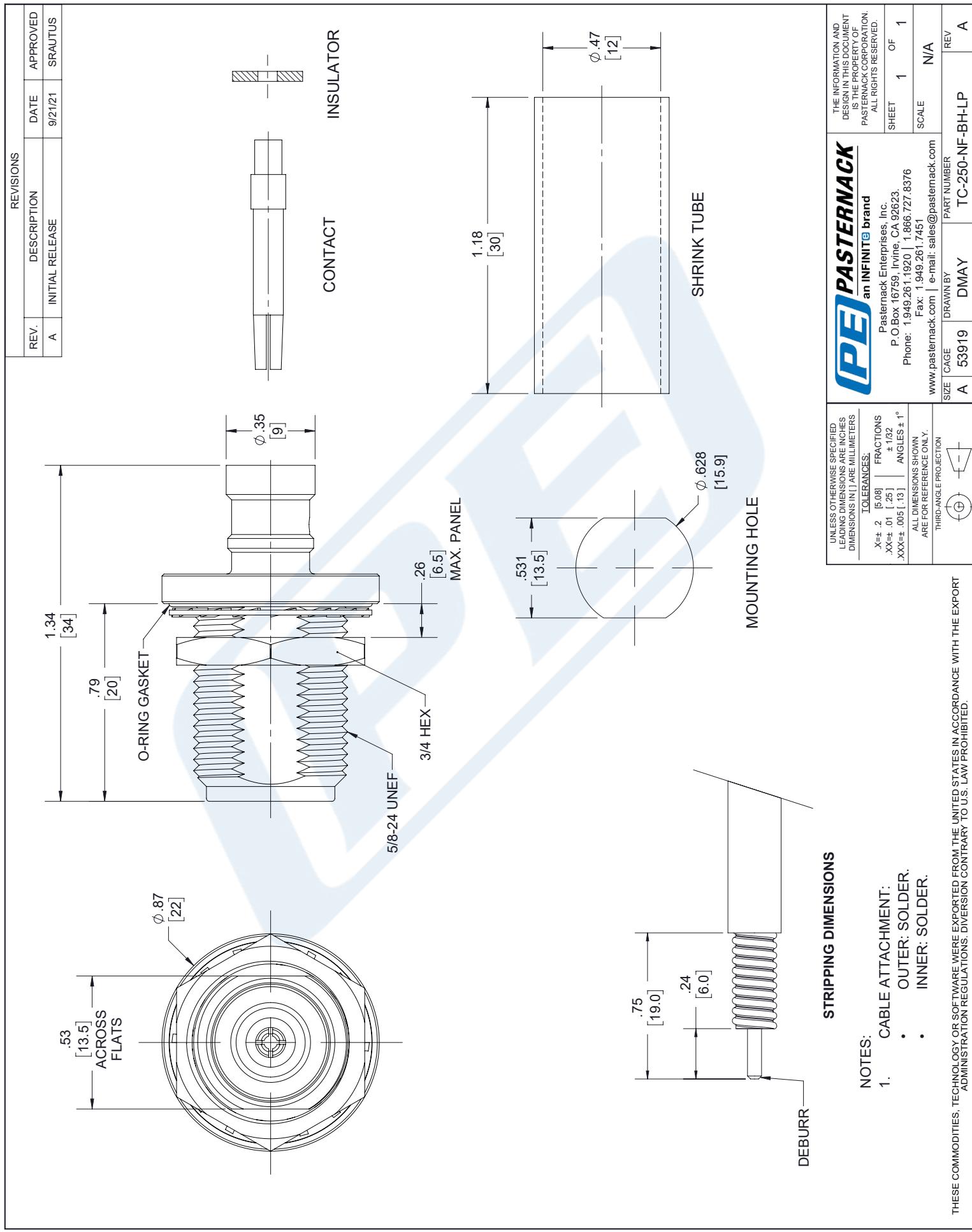
TC-250-NF-BH-LP

N Female Bulkhead Mount Low PIM Connector Solder Attachment for SPP-250-LLPL, SPF-250, SPO-250, 1/4" Superflexible, PE-1/4SFHC from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [N Female Bulkhead Mount Low PIM Connector Solder Attachment for SPP-250-LLPL, SPF-250, SPO-250, 1/4" Superflexible, PE-1/4SFHC TC-250-NF-BH-LP](#)

URL: <https://www.pasternack.com/n-female-spp-250-llpl-spf-250-connector-tc-250-nf-bh-lp-p.aspx>

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Pasternack reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Pasternack does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Pasternack does not assume any liability arising out of the use of any part or documentation.



SMA Male Right Angle Low PIM Connector Solder Attachment for SPP-250-LLPL, SPF-250, SPO-250, 1/4" Superflexible, PE-1/4SFHC



RF Connectors Technical Data Sheet


TIMES MICROWAVE SYSTEMS
An Amphenol Company

TC-250-SM-RA-LP

Times Microwave Systems Connector Specification

Configuration

- SMA Male Connector
- 50 Ohms
- Right Angle Body Geometry

- Connector Interface Types: SPP-250-LLPL, SPF-250, SPO-250, 1/4" Superflexible, PE-1/4SFHC
- Low PIM Design

Features

- Max. Operating Frequency 6 GHz
- Good VSWR of 1.3:1
- PIM levels lower than -160 dBc

- Silver Plated Brass Contact
- 200 µin contact plating

Applications

- General Purpose Test
- Wireless Communications

- Custom Cable Assemblies
- Low PIM Applications

- Distributed Antenna Systems (DAS)

Description

Times Microwave's TC-250-SM-RA-LP SMA male right angle connector offered by Pasternack with solder/solder attachment for Times' SPP-250-LLPL, SPF-250, SPO-250, 1/4" Superflexible and PE-1/4SFHC is part of our full line of RF components available for same-day shipping. Times Microwave's SMA male connector operates up to a maximum frequency of 6 GHz and offers good VSWR of 1.3:1. The Times SMA male connector also has low passive intermodulation of -160 dBc. Its right angle body geometry allows for easier connections in tight spaces.

Times Microwave's SMA male right angle connector TC-250-SM-RA-LP datasheet specifications and drawing with dimensions are shown below in this PDF. Pasternack's broad catalog of RF, microwave and millimeter wave connectors allows designers to configure and customize their signal connections however they like. Whether the need is to provide an I/O for a board design, or simply create a custom cable assembly configuration, Pasternack has the right connector for the job. Pasternack can also expertly build your custom cable assemblies for you and ship same-day.

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		6	GHz
VSWR			1.3:1	
Insertion Loss		0.25		dB
Passive Intermodulation			-160	dBc
Dielectric Withstanding Voltage (AC)			4,000	Vrms
Inner Conductor DC Resistance		3		mOhms
Outer Conductor DC Resistance			2.5	mOhms
Insulation Resistance	10,000			MOhms

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SMA Male Right Angle Low PIM Connector Solder Attachment for SPP-250-LLPL, SPF-250, SPO-250, 1/4" Superflexible, PE-1/4SFHC TC-250-SM-RA-LP](#)

SMA Male Right Angle Low PIM Connector Solder Attachment for SPP-250-LLPL, SPF-250, SPO-250, 1/4" Superflexible, PE-1/4SFHC



RF Connectors Technical Data Sheet


TC-250-SM-RA-LP

Electrical Specification Notes:
Insertion Loss is $-0.1 * \text{sqrt}(F(\text{GHz}))$

Mechanical Specifications

Size

Length	0.99 in [25.15 mm]
Width/Dia.	0.262 in [6.65 mm]
Height	0.262 in [6.65 mm]
Weight	0.045 lbs [20.41 g]
Mating Cycles	500 Cycles
Mating Torque	0 to 9.73 in-lbs [0.00 to 1.10 Nm]
Cable Retention Force	200 lbs 90.72 kg

Material Specifications

Description	Material	Plating
Contact	Brass	Silver 200 μ in
Insulation	PTFE	
Body	Brass	Tri-Metal 100 μ in
Coupling Nut	Brass	Tri-Metal 100 μ in

Environmental Specifications

Temperature

Operating Range	-40 to +125 deg C
Shock	MIL-STD 202, Method 213, Condition I
Vibration	MIL-STD 202, Method 204, Condition D
Thermal Shock	MIL-STD 202, Method 107, Condition B

Environmental Specification Notes:
IEC 60068 55/125/21

Compliance Certifications

(see [product page](#) for current document)

Plotted and Other Data

Notes:

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SMA Male Right Angle Low PIM Connector Solder Attachment for SPP-250-LLPL, SPF-250, SPO-250, 1/4" Superflexible, PE-1/4SFHC TC-250-SM-RA-LP](#)

SMA Male Right Angle Low PIM Connector Solder Attachment for SPP-250-LLPL, SPF-250, SPO-250, 1/4" Superflexible, PE-1/4SFHC



RF Connectors
Technical Data Sheet

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TC-250-SM-RA-LP

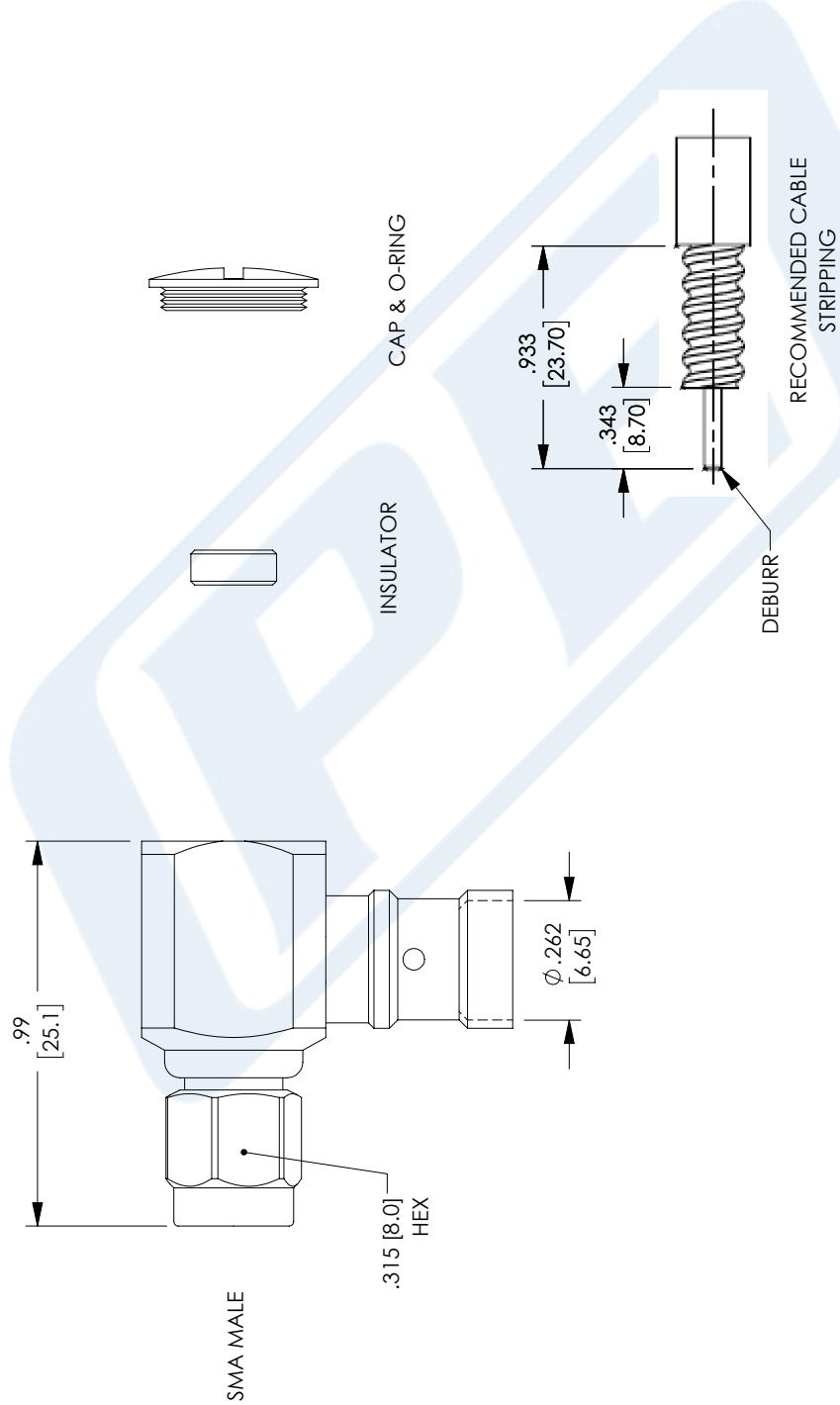
SMA Male Right Angle Low PIM Connector Solder Attachment for SPP-250-LLPL, SPF-250, SPO-250, 1/4" Superflexible, PE-1/4SFHC from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

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URL: <https://www.pasternack.com/sma-male-spp-250-llpl-spf-250-connector-tc-250-sm-ra-lp-p.aspx>

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REVISIONS				
REV.	DESCRIPTION	DATE	APPROVED	
A	INITIAL RELEASE	03/11/2021	SELLIS	



UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [] ARE MILLIMETERS		THIRD ANGLE PROJECTION
TOLERANCES:		THE INFORMATION AND DESIGN IN THIS DOCUMENT IS THE PROPERTY OF PASTERACK CORPORATION ALL RIGHTS RESERVED.
X = + 2 [5.08] FRACTIONS XX = ± .02 [± .51] ± 1/32 XXX = ± .005 [± .13] ANGLES ± 1°		PASTERACK Enterprises, Inc. P.O. Box 16759, Irvine, CA 92623. Phone: 1.949.261.1920 1.866.727.8376 Fax: 1.949.261.7451 Website: www.pasterack.com E-mail: sales@pasterack.com
CABLE LENGTH (L) TOLERANCES: L ≤ 12 [305] ± +1 [25] / -0 12 [305] < L ≤ 60 [1524] ± -2 [51] / -0 60 [1524] < L ≤ 120 [3048] ± +4 [102] / -0 120 [3048] < L ≤ 300 [7620] = +6 [152] / -0 300 [7620] < L = +5%L / -0		SHEET 1 OF 1 SCALE N/A ITEM NO. TC-250-SM-RA-LP DRAWN BY DFRSIELLO CAGE CODE 53919 SIZE A
ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.		

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Low Loss SPP-250-LLPL Plenum Rated Corrugated Coax Cable with Blue FEP Jacket Superflexible

RF Cables Technical Data Sheet

Times Microwave Systems Coax Cable Specification

Configuration

- Low Loss, Plenum Corrugated Cable

Features

- PIM < -160 dBc
- UL910 Plenum Rated Cable
- Lightweight and Extremely Flexible
- Low Loss
- Great Shielding >100 dB
- UV Resistant Jacket

Applications

- Distributed Antenna Systems (DAS)
- Plenum Installations
- Small Cells
- Multi-Carrier Communication Systems
- PIM Testing

Description

SPP-250-LLPL low loss plenum rated coax cable by Times Microwave is part of our full line of RF components available for same-day shipping. The SPP-250-LLPL coaxial cable features a low loss dielectric, solid copper center conductor and a helically corrugated, copper outer conductor. These features combine to make the Times Microwave SPP-250-LLPL an extremely flexible, low PIM coax cable that is well suited for Distributed Antenna Systems (DAS), plenum installations or small cells. The tough, FEP jacket provides moisture and UV protection.

Our datasheet specifications and drawing with dimensions for Times Microwave SPP-250-LLPL coax cable are shown below in this PDF. Whether the need is to provide a low PIM jumper connection, low PIM feeder cable or simply create a custom cable assembly configuration, Pasternack has the right SPP-250-LLPL cable assemblies for the job.

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		5.8	GHz
Impedance	50			Ohms
Velocity of Propagation	76			%
Shielding Effectiveness	100			dB
Passive Intermodulation			-160	dBc
Inner Conductor DC Resistance		3		Ohms/1000ft
Nominal Capacitance	27 [88.58]			pF/ft [pF/m]
Nominal Inductance	0.067 [0.22]			uH/ft [uH/m]

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Low Loss SPP-250-LLPL Plenum Rated Corrugated Coax Cable with Blue FEP Jacket Superflexible SPP-250-LLPL](#)



Low Loss SPP-250-LLPL Plenum Rated Corrugated Coax Cable with Blue FEP Jacket Superflexible

RF Cables Technical Data Sheet


TIMES
 An Amphenol Company

SPP-250-LLPL

Performance by Frequency Band

Description	F1	F2	F3	F4	F5	Units
Frequency	0.45	1.9	2.3	4.9	5.8	GHz
Attenuation, Typ	3.8	8.1	9	13.5	14.8	dB/100ft
	12.47	26.57	29.53	44.29	48.56	dB/100m
Input Power (CW), Max	1,010	470	430	280	260	Watts

Mechanical Specifications

Diameter	0.28 in [7.11 mm]
Weight	0.072 lbs/ft [0.11 Kg/m]
Min. Bend Radius (Installation)	1.25 in [31.75 mm]
Bending Moment	0.8 lbs-ft [1.08 N-m]

Construction Specifications

Description	Material and Plating	Diameter
Inner Conductor	Copper, 1 Strands	0.068 in [1.73 mm]
Conductor Type	Solid	
Dielectric	PTFE	0.19 in [4.83 mm]
Outer Conductor	Copper Corrugated	0.25 in [6.35 mm]
Jacket	FEP, Blue	0.28 in [7.11 mm]

Environmental Specifications

Temperature	
Operating Range	-55 to +200 deg C

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Low Loss SPP-250-LLPL Plenum Rated Corrugated Coax Cable with Blue FEP Jacket Superflexible SPP-250-LLPL](#)



Low Loss SPP-250-LLPL Plenum Rated Corrugated Coax Cable with Blue FEP Jacket Superflexible

RF Cables Technical Data Sheet

T
TIMES
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An Amphenol Company

SPP-250-LLPL

Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

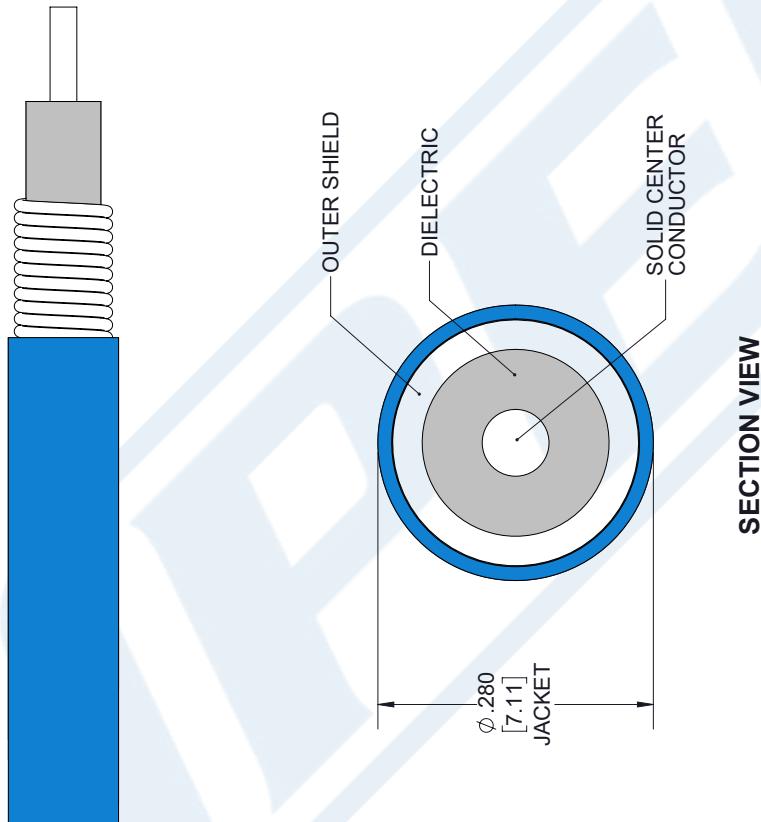
Notes:

Low Loss SPP-250-LLPL Plenum Rated Corrugated Coax Cable with Blue FEP Jacket Superflexible from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

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URL: <https://www.pasternack.com/low-loss-corrugated-spp250llpl-fep-jacket-spp-250-llpl-p.aspx>

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STANDARD TOLERANCES		
.X	± 0.2	
.XX	± 0.01	
.XXX	± 0.005	

*STANDARD TOLERANCES APPLY
ONLY TO DIMENSIONS IN INCHES



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DWG TITLE	SPP-250-LLPL
CAGE CODE	53919

NOTES:
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.
3. DIMENSIONS ARE IN INCHES [mm].