



N Male Low PIM Connector Solder Attachment for SPP-250-LLPL, SPO-250, SPF-250

RF Connectors Technical Data Sheet



TC-250-NM-LP

Times Microwave Systems Connector Specification

Configuration

- N Male Connector
- 50 Ohms
- Straight Body Geometry
- Connector Interface Types: SPP-250-LLPL, SPO-250, SPF-250
- Low PIM Design

Features

- Max. Operating Frequency 6 GHz
- Good VSWR of 1.35:1
- PIM levels lower than -160 dBc
- Silver Plated Phosphor Bronze Contact
- 196 μ m contact plating

Applications

- General Purpose Test
- Custom Cable Assemblies
- Distributed Antenna Systems (DAS)
- Wireless Communications
- Low PIM Applications

Description

Times Microwave's TC-250-NM-LP type N male connector offered by Pasternack with solder/solder attachment for Times' SPP-250-LLPL, SPO-250 and SPF-250 is part of our full line of RF components available for same-day shipping. Times Microwave's type N male connector operates up to a maximum frequency of 6 GHz and offers good VSWR of 1.35:1. The Times type N male connector also has low passive intermodulation of -160 dBc.

Times Microwave's type N male connector TC-250-NM-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			1.35:1	
Insertion Loss			0.25	dB
Passive Intermodulation			-160	dBc
Operating Voltage (DC)			1,000	Vdc
Inner Conductor DC Resistance			1	mOhms
Outer Conductor DC Resistance			1.5	mOhms
Insulation Resistance	5,000			MOhms

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [N Male Low PIM Connector Solder Attachment for SPP-250-LLPL, SPO-250, SPF-250 TC-250-NM-LP](#)



N Male Low PIM Connector Solder Attachment for SPP-250-LLPL, SPO-250, SPF-250

RF Connectors Technical Data Sheet



TC-250-NM-LP

Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC to 3	3 to 6				GHz
VSWR, Max	1.25:1	1.35:1				

Electrical Specification Notes:
Insertion Loss is $0.1 \times \sqrt{\text{FGHz}}$

Mechanical Specifications

Size

Length	1.13 in [28.7 mm]
Width/Dia.	0.94 in [23.88 mm]
Mating Torque	7.08 to 9.74 in-lbs [0.80 to 1.10 Nm]

Material Specifications

Description	Material	Plating
Contact	Phosphor Bronze	Silver 196 µin
Insulation	PTFE	
Body	Brass	Tri-Metal 118 µin
Coupling Nut	Brass	Tri-Metal 118 µin
Gasket	Silicone Rubber	

Environmental Specifications

Temperature

Operating Range	-55 to +155 deg C
Humidity	IP67
Shock	US MIL-STD 202G
Vibration	US MIL-STD 202G
Thermal Shock	US MIL-STD 202G

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 Male Low PIM Connector Solder Attachment for SPP-250-LLPL, SPO-250, SPF-250 TC-250-NM-LP](#)



N Male Low PIM Connector Solder Attachment for SPP-250-LLPL, SPO-250, SPF-250

RF Connectors Technical Data Sheet



TC-250-NM-LP

N Male Low PIM Connector Solder Attachment for SPP-250-LLPL, SPO-250, SPF-250 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.

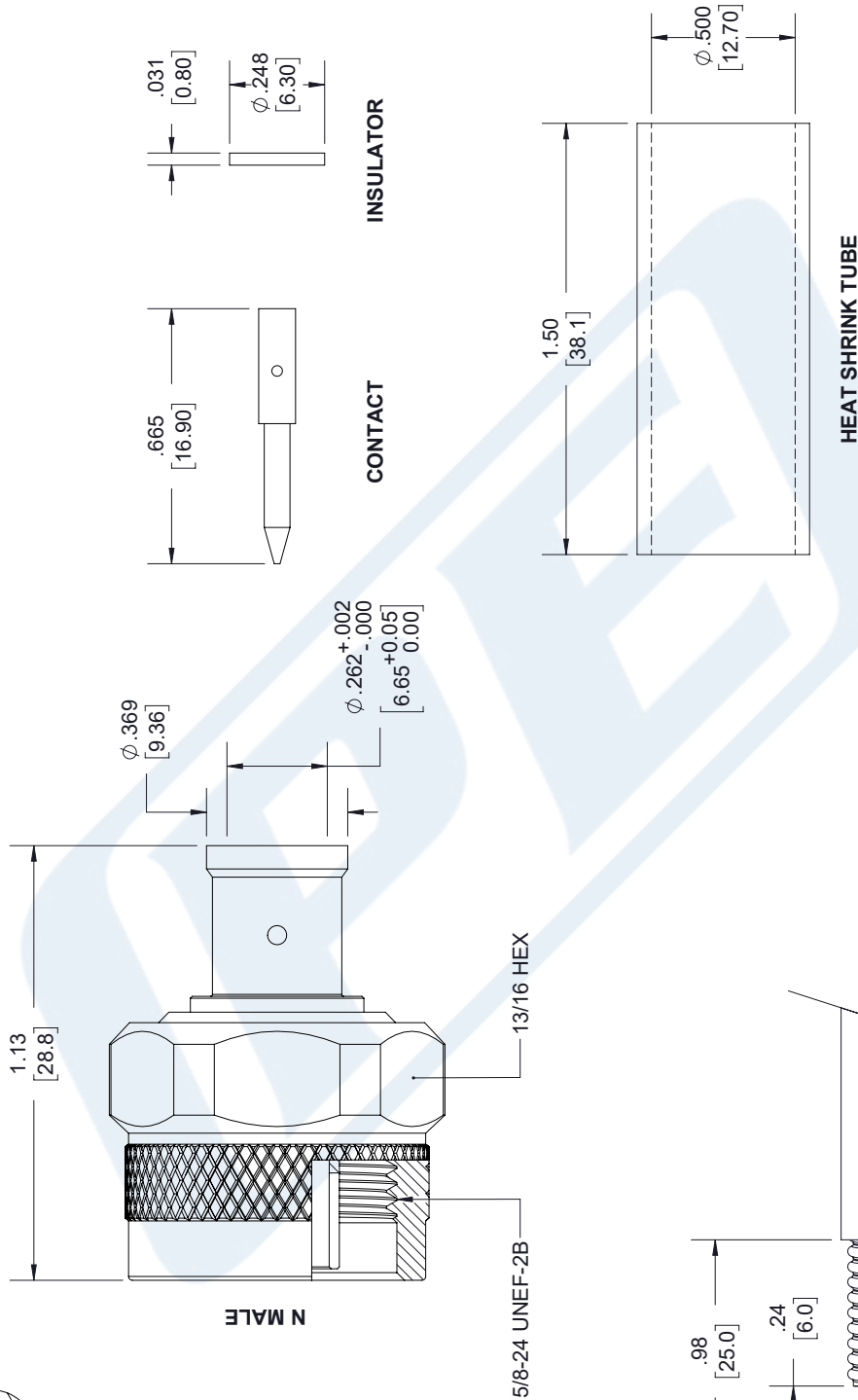
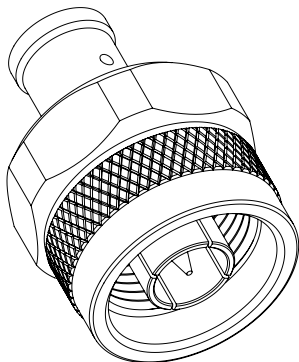
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [N Male Low PIM Connector Solder Attachment for SPP-250-LLPL, SPO-250, SPF-250 TC-250-NM-LP](https://www.pasternack.com/n-male-spp-250-llpl-spo-250-connector-tc-250-nm-lp-p.aspx)

URL: <https://www.pasternack.com/n-male-spp-250-llpl-spo-250-connector-tc-250-nm-lp-p.aspx>

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PCR TC-250-NM-LP	5/29/2020	SELLIS



STRIPPING DIMENSIONS

NOTES:

- CABLE ATTACHMENT:
• OUTER: SOLDER.
• INNER: SOLDER.

UNLESS OTHERWISE SPECIFIED
LEADING DIMENSIONS ARE INCHES
DIMENSIONS IN [] ARE MILLIMETERS

TOLERANCES:

.X = ± .2 [5.08]
.XX = ± .02 [.51]
.XXX = ± .005 [.13]

FRACTIONS
± 1/32
ANGLES ± 1°

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

ALL DIMENSIONS SHOWN
ARE FOR REFERENCE ONLY.

THIRD-ANGLE PROJECTION



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SHEET 1 OF 1

SCALE N/A

REV A



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SIZE A CAGE CODE 53919 DRAWN BY K.DANG ITEM NO. TC-250-NM-LP

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N Male Right Angle Low PIM Connector Solder Attachment for SPO-250, SPF-250, SPP-250-LLPL

RF Connectors Technical Data Sheet



TC-250-NM-RA-LP

Times Microwave Systems Connector Specification

Configuration

- N Male Connector
- 50 Ohms
- Right Angle Body Geometry
- Connector Interface Types: SPO-250, SPF-250, SPP-250-LLPL
- Low PIM Design

Features

- Max. Operating Frequency 6 GHz
- Good VSWR of 1.35:1
- PIM levels lower than -160 dBc
- Silver Plated Brass Contact
- 200 µin contact plating

Applications

- General Purpose Test
- Custom Cable Assemblies
- Distributed Antenna Systems (DAS)
- Wireless Communications
- Low PIM Applications

Description

Times Microwave's TC-250-NM-RA-LP type N male right angle connector offered by Pasternack with solder/solder attachment for Times' SPO-250, SPF-250 and SPP-250-LLPL is part of our full line of RF components available for same-day shipping. Times Microwave's type N male connector operates up to a maximum frequency of 6 GHz and offers good VSWR of 1.35:1. The Times type N 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 type N male right angle connector TC-250-NM-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			1.35:1	
Insertion Loss			0.25	dB
Passive Intermodulation			-160	dBc
Operating Voltage (DC)			2,500	Vdc
Insulation Resistance	5,000			MOhms

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



N Male Right Angle Low PIM Connector Solder Attachment for SPO-250, SPF-250, SPP-250-LLPL

RF Connectors Technical Data Sheet



TC-250-NM-RA-LP

Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC to 3	3 to 6				GHz
VSWR, Max	1.1:1	1.35:1				

Electrical Specification Notes:
Insertion Loss is $0.1 \cdot \sqrt{f(\text{GHz})}$

Mechanical Specifications

Size

Length	1.01 in [25.65 mm]
Width/Dia.	0.94 in [23.88 mm]
Height	1.53 in [38.86 mm]
Mating Torque	15.05 in-lbs [1.70 Nm]

Material Specifications

Description	Material	Plating
Contact	Brass	Silver 200 µin
Insulation	PTFE	
Body	Brass	Tri-Metal 80 µin
Coupling Nut	Brass	Tri-Metal 80 µin
Gasket	Silicone	

Environmental Specifications

Temperature

Operating Range	-55 to +125 deg C
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

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 Male Right Angle Low PIM Connector Solder Attachment for SPO-250, SPF-250, SPP-250-LLPL TC-250-NM-RA-LP](#)



N Male Right Angle Low PIM Connector Solder Attachment for SPO-250, SPF-250, SPP-250-LLPL

RF Connectors Technical Data Sheet



TC-250-NM-RA-LP

N Male Right Angle Low PIM Connector Solder Attachment for SPO-250, SPF-250, SPP-250-LLPL 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.

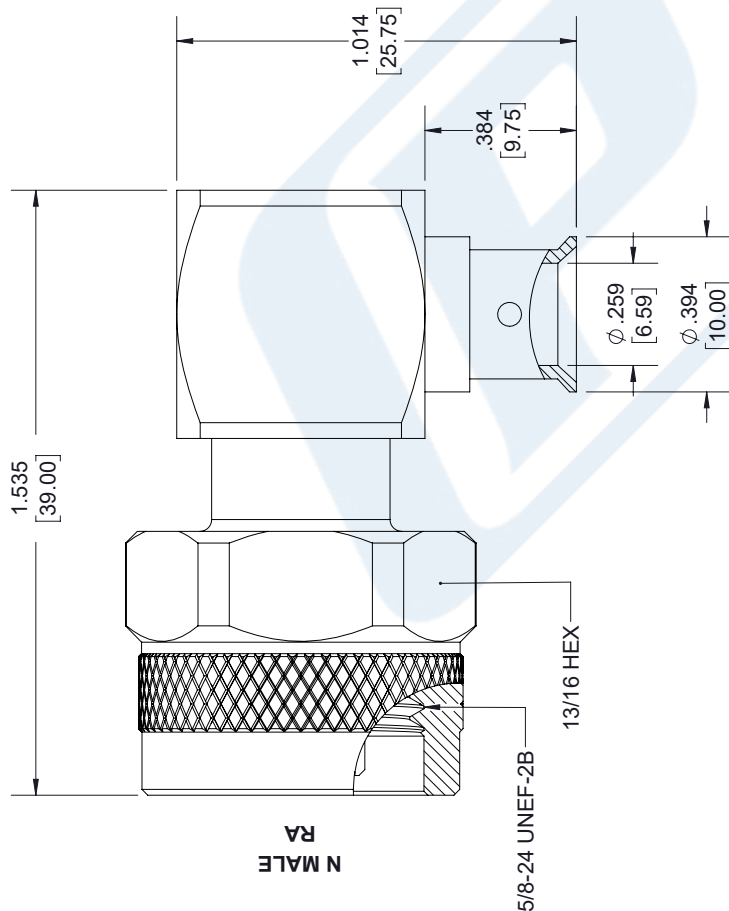
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URL: <https://www.pasternack.com/n-male-spo-250-spf-250-connector-tc-250-nm-ra-lp-p.aspx>

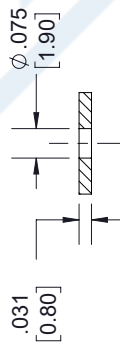
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TIMES MICROWAVE SYSTEMS **TC-250-NM-RA-LP CAD Drawing**
N Male Right Angle Low PIM Connector Solder Attachment
for SPO-250, SPF-250, SPP-250-LLPL

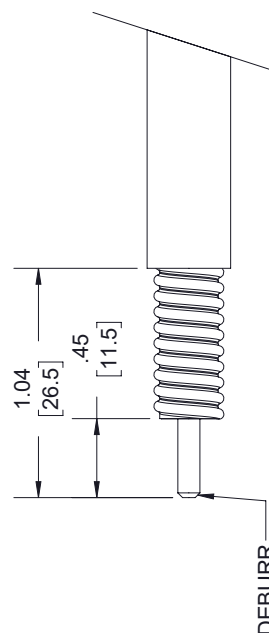
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	03/04/19	SELLIS



HEAT SHRINK TUBE



INSULATOR



STRIPPING DIMENSIONS

- NOTES:
- CABLE ATTACHMENT:
 - OUTER: SOLDER.
 - INNER: SOLDER.

UNLESS OTHERWISE SPECIFIED
LEADING DIMENSIONS ARE INCHES
DIMENSIONS IN [] ARE MILLIMETERS

TOLERANCES:

.X = ± .2	[.08]	FRACTIONS
.XX = ± .02	[.51]	± 1/32
.XXX = ± .005	[.13]	ANGLES ± 1°

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

ALL DIMENSIONS SHOWN
ARE FOR REFERENCE ONLY.

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an INFINITI® brand

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THIRD-ANGLE PROJECTION

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SHEET 1 OF 1
SCALE N/A

SIZE A CAGE CODE 53919 DRAWN BY K.DANG ITEM NO. TC-250-NM-RA-LP REV A



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

RF Cables Technical Data Sheet


SPP-250-LLPL

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


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
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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



SPP-250-LLPL

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

Plotted and Other Data

Notes:

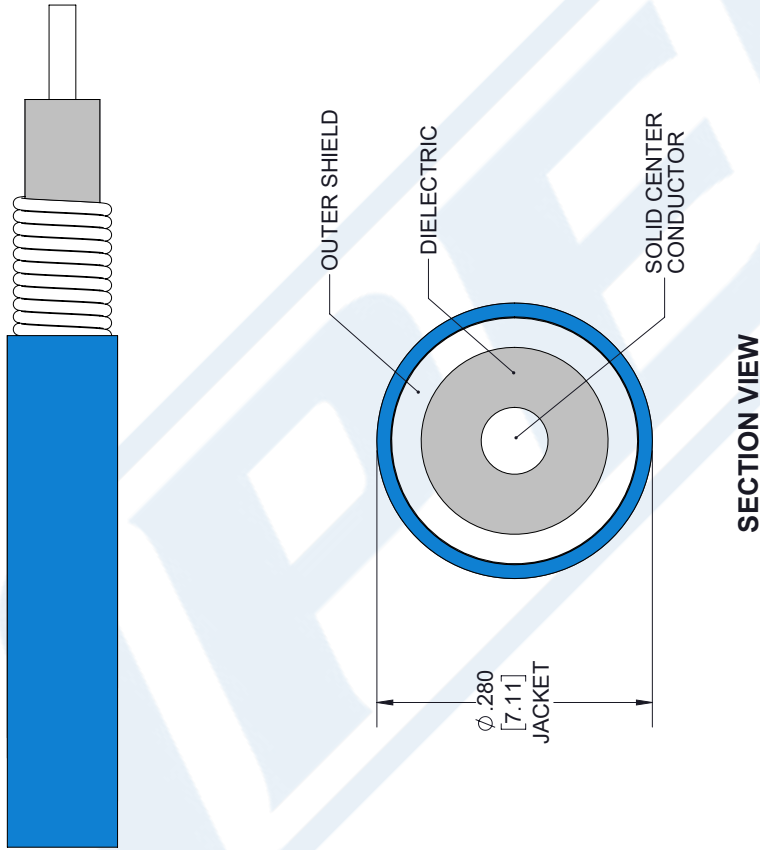
Low Loss SPP-250-LLPL Plenum Rated Corrugated Coax Cable with Blue FEP Jacket Superflexible from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the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

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](#)

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

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TIMES MICROWAVE SYSTEMS **SPP-250-LLPL CAD Drawing**
 Low Loss SPP-250-LLPL Plenum Rated Corrugated Coax
 Cable with Blue FEP Jacket Superflexible



STANDARD TOLERANCES

.X ±0.2
 .XX ±0.01
 .XXX ±0.005

*STANDARD TOLERANCES APPLY
 ONLY TO DIMENSIONS IN INCHES



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Website: www.pasternack.com | **E-Mail:** sales@pasternack.com

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].

CAD FILE 022118

SCALE N/A

SIZE A

7361