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TIMES MICROWAVE SYSTEMS

TC-250-NM-LP DATA SHEET

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



Times Microwave Systems Connector Specification

Type N male connector with solder/solder attachment for Times' SPP-250-LLPL, SPO-250 and SPF-250, part number TC-250-NM-LP, from Times Microwave offered by Fairview Microwave is in-stock and ships same day. This type N male connector operates up to a maximum frequency of 6 GHz and offers good VSWR of 1.35:1. The type N male connector also has low passive intermodulation (PIM) of -160 dBc.

Times Microwave's type N male connector TC-250-NM-LP datasheet specifications and outline drawing are shown in this PDF below. Our extensive offering of RF, microwave and millimeter wave connectors allows designers to configure and customize their signal connections however they like. From providing an I/O for a board design to creating a custom cable assembly configuration, Fairview Microwave has a connector solution to meet your needs. Fairview Microwave also has the expertise to build your custom cable assemblies for you and ship them same-day.

Electrical Specifications

Description	Min	Typ	Max	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 Cond. DC Resistance			1	mOhms
Outer Cond. DC Resistance			1.5	mOhms
Insulation Resistance	5,000			MOhms

Performance by Frequency

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

Electrical Specification Notes:
Insertion Loss is 0.1*sqrt(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]

Configuration:

- N Male Connector
- 50 Ohms
- Straight Body Geometry
- SPP-250-LLPL, SPO-250, SPF-250 Interface Type
- Solder/Solder Attachment
- Low PIM Design

Features:

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

Applications:

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

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sales@fairviewmicrowave.com

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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:

N Male Low PIM Connector Solder Attachment for SPP-250-LLPL, SPO-250, SPF-250 Cable from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: N Male Low PIM Connector Solder Attachment for SPP-250-LLPL, SPO-250, SPF-250 Cable TC-250-NM-LP

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

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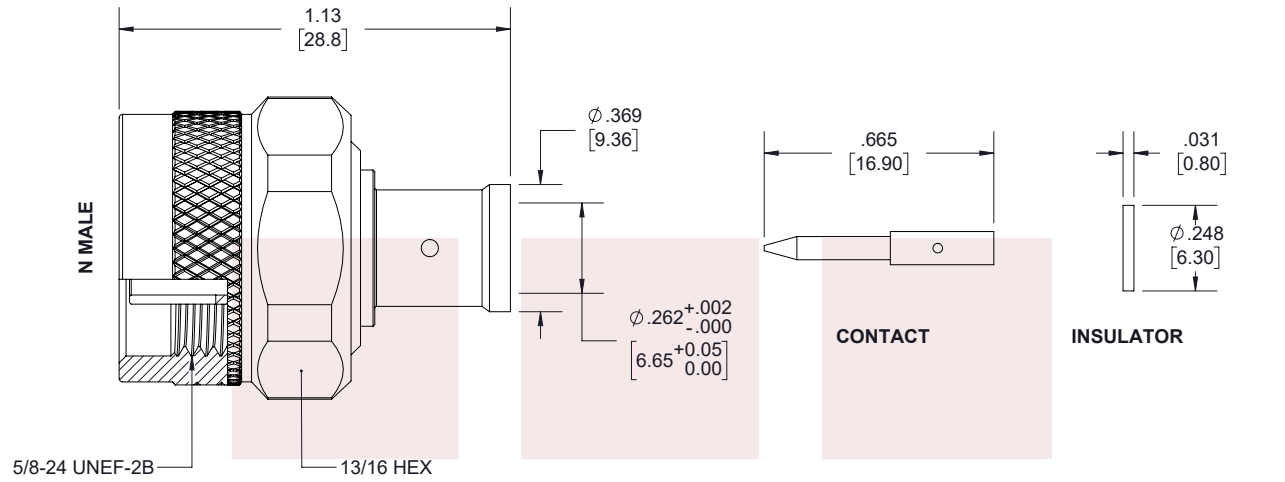
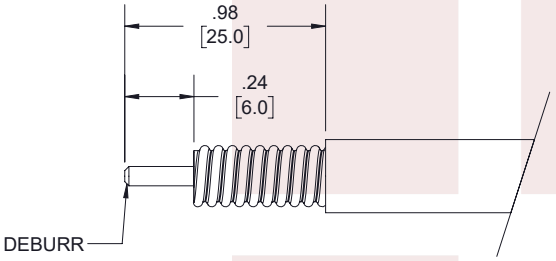
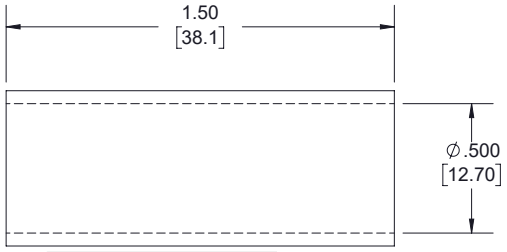
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PCR TC-250-NM-LP	5/29/2020	S.ELLIS



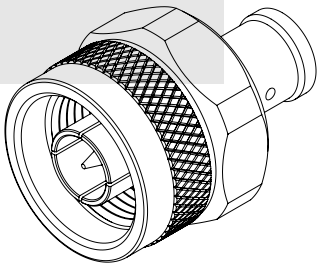


STRIPPING DIMENSIONS



HEAT SHRINK TUBE

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



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TITLE

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

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

THIRD-ANGLE PROJECTION

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SHEET 1 OF 1

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

SCALE N/A

SIZE	CAGE CODE	DRAWN BY	ITEM NO.	REV
A	3FKR5	K.DANG	TC-250-NM-LP	A

T-Rev.D

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TIMES MICROWAVE SYSTEMS

TC-250-NM-LP DATA SHEET

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



Times Microwave Systems Connector Specification

Type N male connector with solder/solder attachment for Times' SPP-250-LLPL, SPO-250 and SPF-250, part number TC-250-NM-LP, from Times Microwave offered by Fairview Microwave is in-stock and ships same day. This type N male connector operates up to a maximum frequency of 6 GHz and offers good VSWR of 1.35:1. The type N male connector also has low passive intermodulation (PIM) of -160 dBc.

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Electrical Specifications

Description	Min	Typ	Max	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 Cond. DC Resistance			1	mOhms
Outer Cond. DC Resistance			1.5	mOhms
Insulation Resistance	5,000			MOhms

Performance by Frequency

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

Electrical Specification Notes:
Insertion Loss is 0.1*sqrt(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]

Configuration:

- N Male Connector
- 50 Ohms
- Straight Body Geometry
- SPP-250-LLPL, SPO-250, SPF-250 Interface Type
- Solder/Solder Attachment
- Low PIM Design

Features:

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

Applications:

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

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sales@fairviewmicrowave.com

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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:

N Male Low PIM Connector Solder Attachment for SPP-250-LLPL, SPO-250, SPF-250 Cable from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: N Male Low PIM Connector Solder Attachment for SPP-250-LLPL, SPO-250, SPF-250 Cable TC-250-NM-LP

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

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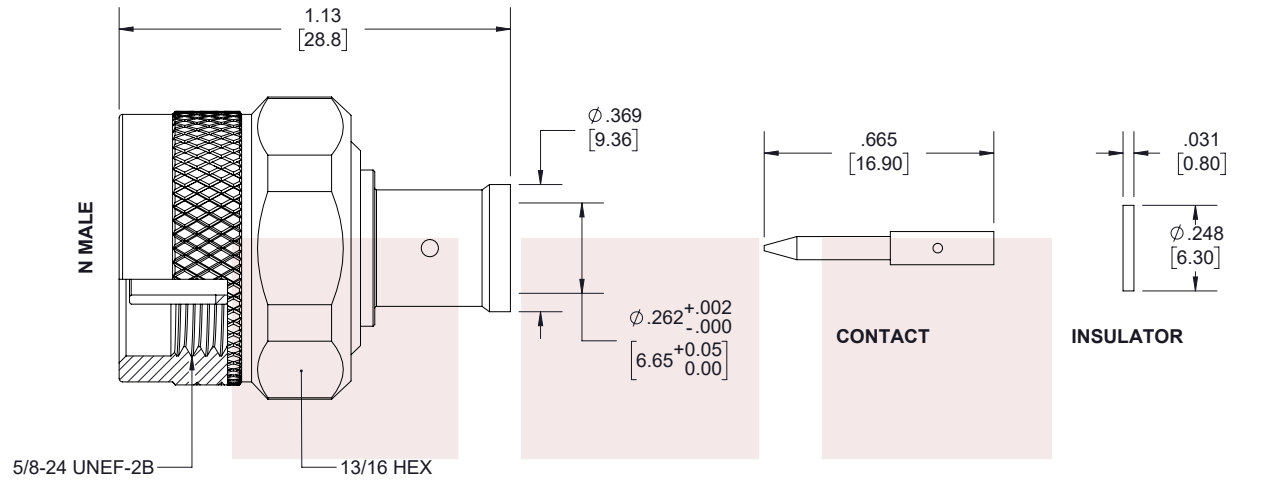
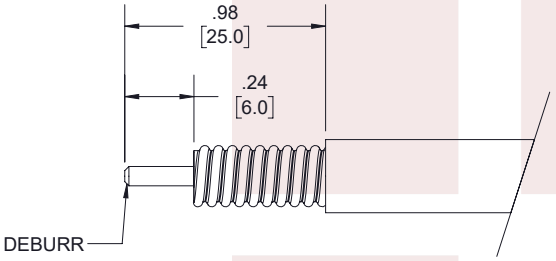
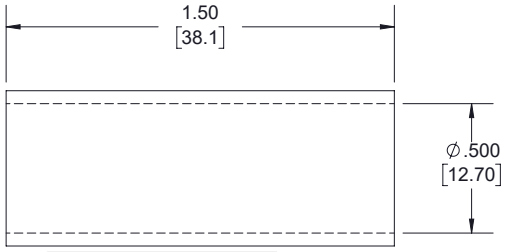
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PCR TC-250-NM-LP	5/29/2020	S.ELLIS



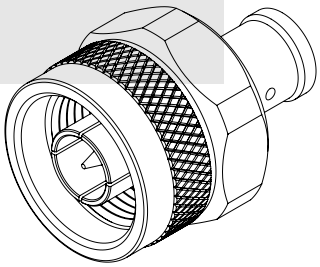


STRIPPING DIMENSIONS



HEAT SHRINK TUBE

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



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TITLE

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

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.XXX = ±.005 [.13]
FRACTIONS ± 1/32
ANGLES ± 1°

CABLE LENGTH (L) TOLERANCES:

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300 [7620] < L = +5%L / -0

THIRD-ANGLE PROJECTION

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SHEET 1 OF 1

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SCALE N/A

SIZE	CAGE CODE	DRAWN BY	ITEM NO.	REV
A	3FKR5	K.DANG	TC-250-NM-LP	A

T-Rev.D

Fairview Microwave
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TIMES MICROWAVE SYSTEMS **SPO-250**
DATA SHEET

SPO-250 Low Loss Corrugated Coax Cable Black PE Jacket Superflexible Outdoor Rated



Times Microwave Systems Coax Cable Specification

SPO-250 low loss outdoor rated coax cable by Times Microwave is part of our full line of RF components available for same-day shipping. The SPO-250 coaxial cable features a low loss dielectric with an 83% velocity of propagation (VoP), solid copper center conductor and a helically corrugated, copper outer conductor. These features combine to make the Times Microwave SPO-250 a super flexible, low PIM coax cable that is well suited for use as an antenna jumper cable, Distributed Antenna Systems (DAS), small cell, and other outdoor applications. The tough, black polyethylene jacket provides moisture and UV protection and is suitable for outdoor use.

Our datasheet specifications and drawing with dimensions for Times Microwave SPO-250 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, Fairview Microwave has the right SPO-250 cable assembly for the job. See our web site to find the right connector cable combination for your application.

Configuration:

- Low Loss Corrugated Cable
- 1 Shield(s)

Features:

- PIM < -160 dBc
- Lightweight and Super Flexible
- Low Loss Dielectric 83% VoP
- Shielding > 100 dB
- Durable Black Polyethylene Outer Jacket
- Outdoor Rated

Applications:

- Distributed Antenna Systems (DAS)
- Antenna Installations
- Small Cell
- Outdoor Applications
- Commination Tower Install

Electrical Specifications

Description	Min	Typ	Max	Units
Frequency Range	DC		5.8	GHz
Impedance		50		Ohms
Velocity of Propagation		83		%
Passive Intermodulation			-160	dBc
Nominal Capacitance		24 [78.74]		pF/ft [pF/m]
Nominal Inductance		0.054 [0.18]		uH/ft [uH/m]

Performance by Frequency Band

Description	F1	F2	F3	F4	F5	Units
Frequency	0.45	1.5	2	2.5	5.8	GHz
Attenuation, Typ	4.1 13.45	7.8 25.59	9.13 29.95	10.33 33.89	16.65 54.63	dB/100ft dB/100m
Power In (CW), Max	1,110	580	500	440	280	Watts

Mechanical Specifications

Diameter	0.303 in [7.7 mm]
Weight	0.052 lbs/ft [0.08 Kg/m]
Min. Bend Radius (Installation)	1.25 in [31.75 mm]
Bending Moment	0.5 lbs-ft [0.68 N-m]

Construction Specifications

Description	Material and Plating	Diameter
Inner Conductor	Copper Clad Aluminum, 1 Strands	0.075 in [1.91 mm]

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sales@fairviewmicrowave.com

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Conductor Type	Solid	
Dielectric	Foam PE	0.177 in [4.5 mm]
Outer Conductor	Copper Corrugated	0.252 in [6.4 mm]
Jacket	PE, Black	0.303 in [7.7 mm]

Environmental Specifications

Temperature

Operating Range -40 to +85 deg C

Compliance Certifications (see product page for current document)

Plotted and Other Data

Notes:

SPO-250 Low Loss Corrugated Coax Cable Black PE Jacket Superflexible Outdoor Rated from Fairview Microwave has same day shipment for domestic and International orders. Our RF, microwave and fiber optic products maintain a 99% availability and are part of the broadest selection in the industry.

Click the following link to obtain additional part information: SPO-250 Low Loss Corrugated Coax Cable Black PE Jacket Superflexible Outdoor Rated SPO-250

URL: https://www.fairviewmicrowave.com/spo250-low-loss-corrugated-coax-cable-pe-jacket-spo-250-p.aspx

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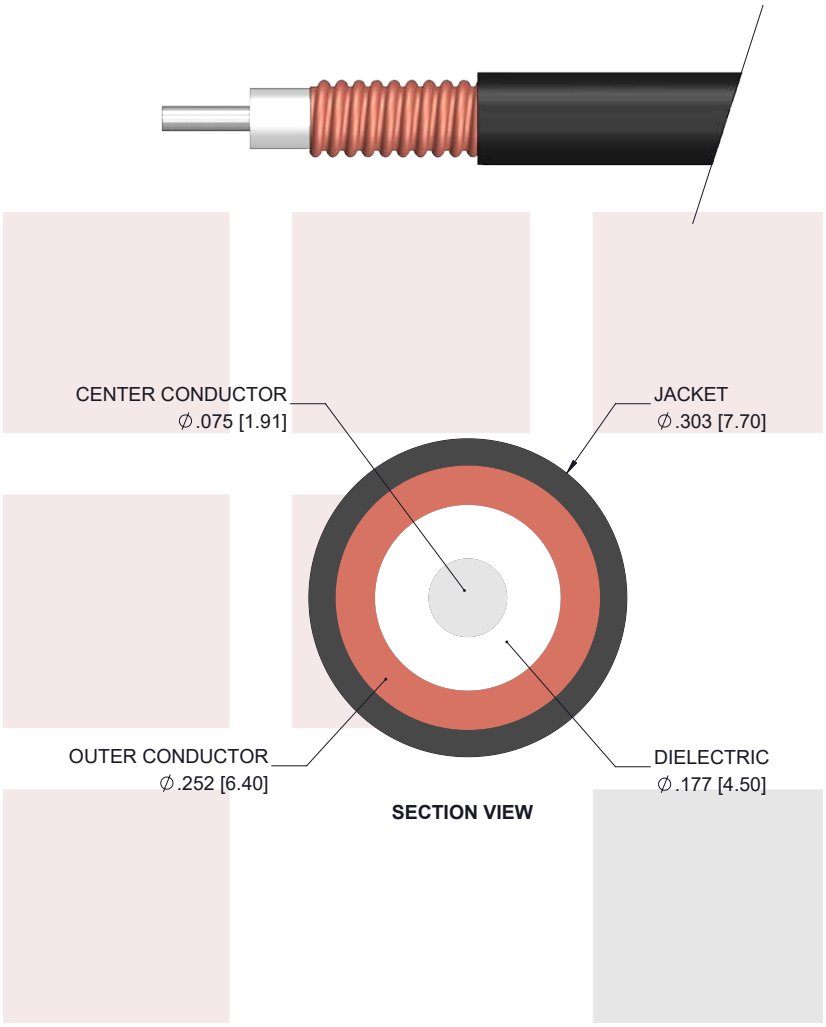

SECTION VIEW

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

*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

Fairview Microwave RF COMPONENTS ON DEMAND. Done!

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].

TITLE	DWG NO	CAGE CODE
SPO-250 Low Loss Corrugated Coax Cable Black PE Jacket Superflexible Outdoor Rated	SPO-250	3FKR5

CAD FILE	SHEET	SCALE	SIZE	
03/07/19	1 OF 1	N/A	A	7361

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