

Low Loss FAKRA Code A / Black Plug to SMA Male Cable LMR-100 Coax with LF Solder



FMCA10031

Configuration

- Connector 1: FAKRA Plug
- Connector 2: SMA Male
- Cable Type: LMR-100A
- Coax Flex Type: Flexible

Features

- Max Frequency 4 GHz
- Shielding Effectivity > 90 dB
- 66% Phase Velocity
- Double Shielded
- PVC Jacket

Applications

- General Purpose
- Laboratory Use

Description

The FAKRA Code / Black plug to SMA male cable using LMR-100 coax, part number FMCA10031, from Fairview Microwave is in-stock and ships same day. This Fairview FAKRA to SMA cable assembly has a plug to male gender configuration with 50 ohm flexible LMR-100A coax. Fairview Microwave's flexible RF cable assemblies are ideal for applications where tight bends and continual flexure are required. The FMCA10031 FAKRA plug to SMA male cable assembly operates to 4 GHz. The double shielding of this Fairview cable assembly provides excellent shielding effectiveness of better than 90 dB.

Custom versions of most RF cable assemblies can be built and shipped same day. Custom cable assembly lengths can be obtained by specifying the desired length on the web site at time of order or by contacting a sales representative. Other RF cable assembly value added services including connector orientation or clocking, heat shrink booting and labeling are also available. RF testing can also be performed to document the electrical performance of your cable assembly.

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		4	GHz
VSWR			1.4:1	
Velocity of Propagation		66		%
RF Shielding	90			dB
Group Delay		1.54 [0.05]		ns/ft [ns/m]
Capacitance		30.8 [101.05]		pF/ft [pF/m]
Inductance		0.077 [0.25]		uH/ft [uH/m]
DC Resistance Inner Conductor		81 [265.75]		Ohms/1000ft [Ohms/Km]
DC Resistance Outer Conductor		9.5 [31.17]		Ohms/1000ft [Ohms/Km]
Jacket Spark			2,000	Vrms

Specifications by Frequency

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Part Number	Length	Description	F1	F2	F3	F4	F5	Units	Weight (lbs)
			Frequency	100	250	500	1000	4000	
FMCA10031	Custom Lengths Available	Insertion Loss (Typ.)	0.06	0.12	0.17	0.24	0.5	dB/ft	
			0.21	0.38	0.55	0.79	1.65	dB/m	
FMCA10031-24	24 Inch	Insertion Loss (Typ.)	0.48	0.58	0.68	0.83	1.36	dB	0.04
FMCA10031-36	36 Inch	Insertion Loss (Typ.)	0.55	0.7	0.85	1.07	1.86	dB	0.049
FMCA10031-48	48 Inch	Insertion Loss (Typ.)	0.61	0.81	1.01	1.31	2.36	dB	0.058
FMCA10031-100CM	100 CM	Insertion Loss (Typ.)	0.56	0.73	0.9	1.14	2	dB	0.052
FMCA10031-200CM	200 CM	Insertion Loss (Typ.)	0.77	1.11	1.44	1.93	3.65	dB	0.082

The insertion loss data for the base model does not include loss due to the connectors. Each length includes insertion loss due to the connectors.

Loss due to Connector 1: 0.25 dB
 Loss due to Connector 2: 0.1 dB
 Base Weight: 0.031 pounds
 Additional Weight per Inch: 0.07833 pounds

Mechanical Specifications

Cable Assembly

Width/Diameter 0.5 in [12.7 mm]
 Weight 0.031 lbs [14.06 g]

Cable

Cable Type LMR-100A
 Impedance 50 Ohms
 Inner Conductor Type Solid
 Inner Conductor Material and Plating Copper Clad Steel
 Dielectric Type PE
 Number of Shields 2
 Shield Layer 1 Aluminum Tape
 Shield Layer 2 Tinned Copper Braid
 Jacket Material PVC, Black
 Jacket Diameter 0.11 in [2.79 mm]
 One Time Minimum Bend Radius 0.25 in [6.35 mm]
 Repeated Minimum Bend Radius 1 in [25.4 mm]
 Bending Moment 0.1 lbs-ft [0.14 N-m]
 Flat Plate Crush 10 lbs/in [0.18 Kg/mm]
 Tensile Strength 15 lbs [6.8 Kg]

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Connectors

Description	Connector 1	Connector 2
Type	FAKRA Plug	SMA Male
Impedance	50 Ohms	50 Ohms
Configuration	Straight	Straight
Color	BK	
Contact Material and Plating	Phosphor Bronze, Gold	Brass, Gold
Contact Plating Specification		15 µin minimum
Dielectric Type	PTFE	PTFE
Outer Conductor Material and Plating	Brass, Nickel	
Body Material and Plating	Plastic	Brass, Nickel
Body Plating Specification		200 µin minimum
Coupling Nut Material and Plating		Brass, Nickel
Coupling Nut Plating Specification		200 µin minimum

Environmental Specifications

Operating Range Temperature -40 to +85 deg C

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

Plotted and Other Data

Notes:

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FMCA10031

Typical Performance Data

How to Order

Part Number Configuration:

FMCA10031

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Example: FMCA10031-12 = 12 inches long cable
FMCA10031-100cm = 100 cm long cable

Low Loss FAKRA Code A / Black Plug to SMA Male Cable LMR-100 Coax with LF Solder 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.

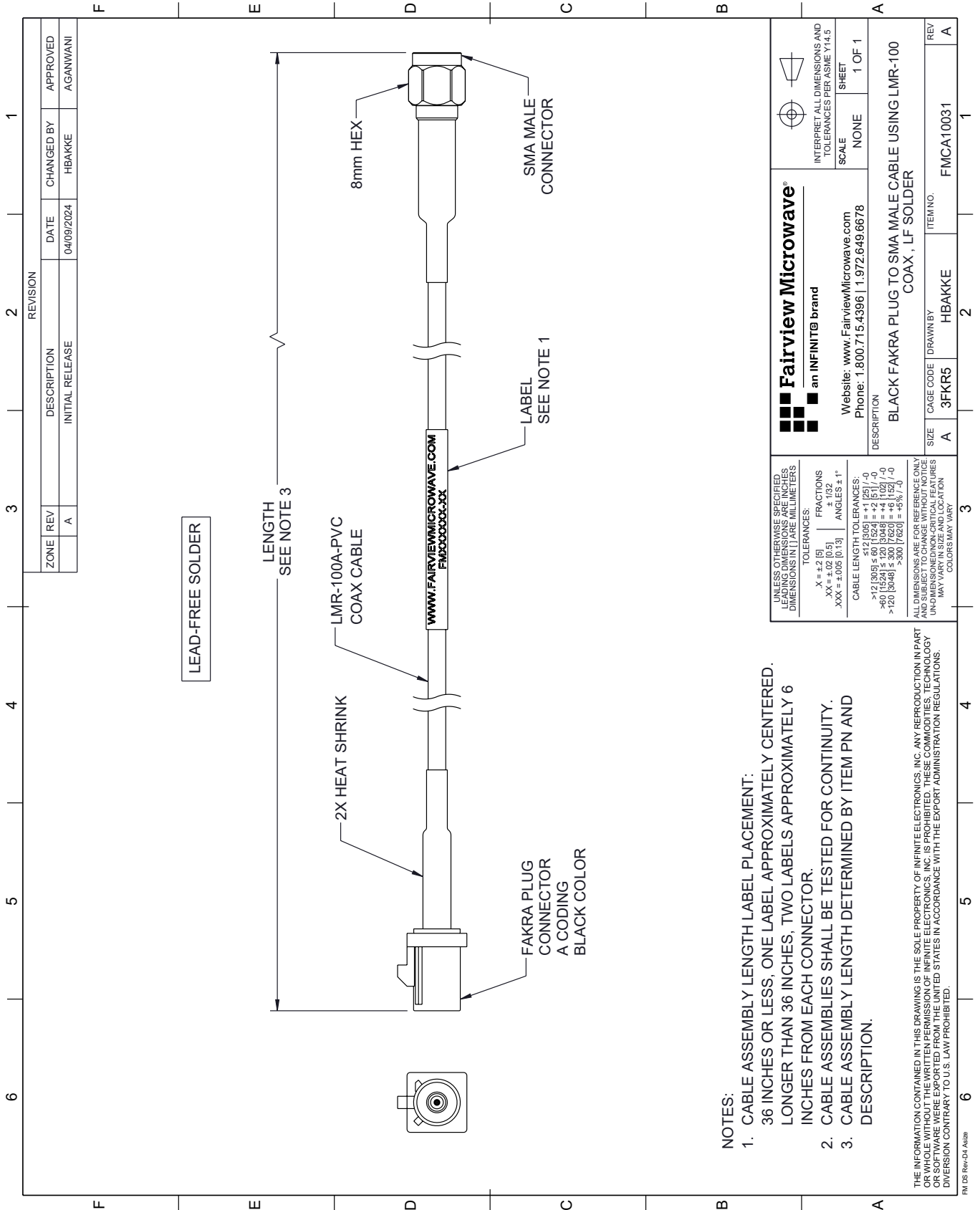
For additional information on this product, please click the following link: [Low Loss FAKRA Code A / Black Plug to SMA Male Cable LMR-100 Coax with LF Solder FMCA10031](#)

URL: <https://www.fairviewmicrowave.com/low-loss-fakra-plug-to-sma-male-cable-lmr-100-coax-with-lf-solder-fm-ca10031-p.aspx>

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FMCA10031 CAD Drawing

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NOTES:

1. CABLE ASSEMBLY LENGTH LABEL PLACEMENT: 36 INCHES OR LESS, ONE LABEL APPROXIMATELY CENTERED, LONGER THAN 36 INCHES, TWO LABELS APPROXIMATELY 6 INCHES FROM EACH CONNECTOR.
2. CABLE ASSEMBLIES SHALL BE TESTED FOR CONTINUITY.
3. CABLE ASSEMBLY LENGTH DETERMINED BY ITEM PN AND DESCRIPTION.

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FM DS Rev-D4 Alt2b

REVISION		DATE	CHANGED BY	APPROVED
ZONE	REV			
	A	04/09/2024	HBAKKE	AGANWANI
DESCRIPTION				
INITIAL RELEASE				

<p>Fairview Microwave® an INFINIT® brand</p>		<p>INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5</p>
<p>Website: www.FairviewMicrowave.com Phone: 1.800.715.4396 1.972.649.6678</p>		<p>SCALE: NONE SHEET: 1 OF 1</p>
<p>DESCRIPTION: BLACK FAKRA PLUG TO SMA MALE CABLE USING LMR-100 COAX, LF SOLDER</p>		
SIZE	CAGE CODE	ITEM NO.
A	3FKR5	FMCA10031
REV	DRAWN BY	
A	HBAKKE	

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

TOLERANCES:
 .X = ±.2 [5]
 .XX = ±.02 [0.5]
 .XXX = ±.005 [0.13]

FRACTIONS: ± 1/32
 ANGLES ± 1°

CABLE LENGTH TOLERANCES:
 <12 [305] ≤ 60 [1524] = ±.1 [25] / -0
 >60 [1524] ≤ 120 [3048] = ±.4 [102] / -0
 >120 [3048] ≤ 300 [7620] = ±.6 [15] / -0

ALL DIMENSIONS ARE FOR REFERENCE ONLY. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE NON-CRITICAL FEATURES. UNLESS OTHERWISE SPECIFIED, DIMENSIONS MAY VARY. COLORS MAY VARY.