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# UMC UltraMiniature Connectors

Product Catalog

# ULTRA MINIATURE CONNECTORS

**Cinch Connectivity Solutions UMC Ultraminiature Coaxial Connectors and Cable Assemblies** are the answer for quality, snap-on connections built to meet your cost and performance targets.

The UMC cable plugs and jack receptacles offer 2.0mm and 2.5mm maximum mated height options with DC to 6 GHz electrical performance.

All parts are RoHS compliant and mate with the Hirose U.FL series connectors.

## Applications

1. Wireless LAN, Mini-PCI, and Hand-Held RF Devices
2. GSM, GPRS & CDMA Mobile Phones
3. PDA & Notebook Computer
4. GPS
5. Bluetooth
6. Microwave radio and measurement

## Features

1. Excellent cost to performance ratio.
2. Ultra-low profile connections (2.0mm & 2.5mm max. mated height).
3. R/A plug to R/A plug cable assemblies on .81mm, 1.13mm, 1.32mm and 1.37mm cables.
4. UMC cables available in a variety of standard off-the-shelf lengths (from 50mm to 500mm).
5. Between-series cables available with standard & reverse polarity SMA plugs and Bulkhead jacks or MMCX plugs on one end of the cable and the UMC plug on the other end.
6. Surface-mount jack receptacles available on tape and reel (2,500 per reel).
6. In-series UMC adapters available to support testing requirements.
7. All cabled plugs and jack receptacles are supplied with gold plated contacts and bodies.
8. UMC connectors mate with Hirose U.FL series connectors.

ISO 9001:2000



*HIROSE is a trademark of Hirose Electric U.S.A.  
Hirose Electric U.S.A. is not affiliated with the UMC product*

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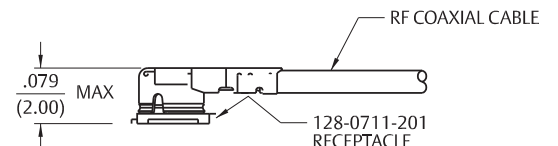
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## PRODUCT SPECIFICATIONS

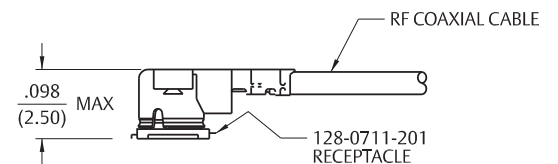
### Electrical Characteristics

Impedance	50 $\Omega$ (Nominal)
Temperature Range	-40°C to +90°C
Frequency Rating	0-6 GHz
VSWR	1.30 max (0-6 GHz)
Contact Resistance	20 m $\Omega$ max. (Center) 20 m $\Omega$ max. (Outer, for plug) 10 m $\Omega$ max. (Outer, for receptacle)
Withstanding Voltage	200 V AC
Insulation Resistance	500 M $\Omega$ min.
Durability	30 cycles
Holding Force (min.)	0.15 N (Female contact)

**LP Plug**  
**(Low Profile Plug)**



**MP Plug**  
**(Medium Profile Plug)**



# UMC CABLE ASSEMBLY

## Low Profile

### UMC Right Angle Cable Plug to UMC Right Angle Cable Plug



Part No.	Teflon Coaxial Cable O.D.	Cable Length	Connector A	Plug Mated Height	Connector B
415-0084-050	0.81 mm	50 mm	UMC LP PLUG	2.0 mm	UMC LP PLUG
415-0084-100	0.81 mm	100 mm	UMC LP PLUG	2.0 mm	UMC LP PLUG
415-0084-150	0.81 mm	150 mm	UMC LP PLUG	2.0 mm	UMC LP PLUG
415-0084-200	0.81 mm	200 mm	UMC LP PLUG	2.0 mm	UMC LP PLUG
415-0084-250	0.81 mm	250 mm	UMC LP PLUG	2.0 mm	UMC LP PLUG
415-0084-300	0.81 mm	300 mm	UMC LP PLUG	2.0 mm	UMC LP PLUG
415-0084-500	0.81 mm	500 mm	UMC LP PLUG	2.0 mm	UMC LP PLUG

## Medium Profile

### UMC Right Angle Cable Plug to UMC Right Angle Cable Plug

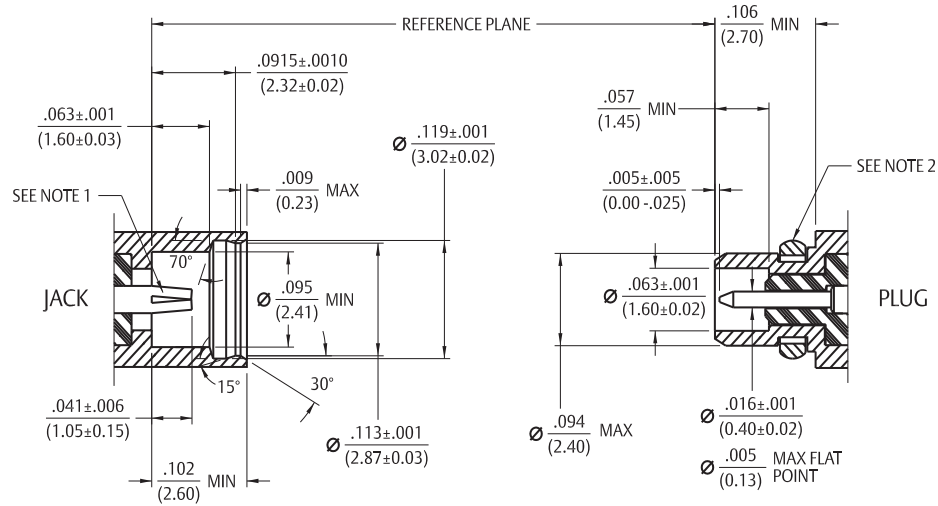


Part No.	Teflon Coaxial Cable O.D.	Cable Length	Connector A	Plug Mated Height	Connector B
415-0084-050	0.81 mm	50 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0084-100	0.81 mm	100 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0084-150	0.81 mm	150 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0084-200	0.81 mm	200 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0084-250	0.81 mm	250 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0084-300	0.81 mm	300 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0084-500	0.81 mm	500 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0085-050	1.13 mm	50 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0085-100	1.13 mm	100 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0085-150	1.13 mm	150 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0085-200	1.13 mm	200 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0085-250	1.13 mm	250 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0085-300	1.13 mm	300 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0085-500	1.13 mm	500 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0087-050	1.32 mm	50 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0087-100	1.32 mm	100 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0087-150	1.32 mm	150 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0087-200	1.32 mm	200 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0087-250	1.32 mm	250 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0087-300	1.32 mm	300 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0087-500	1.32 mm	500 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0088-050	1.37 mm	50 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0088-100	1.37 mm	100 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0088-150	1.37 mm	150 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0088-200	1.37 mm	200 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0088-250	1.37 mm	250 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0088-300	1.37 mm	300 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG
415-0088-500	1.37 mm	500 mm	UMC MP PLUG	2.5 mm	UMC MP PLUG

# UMC MMCX CABLE ASSEMBLY

## NOTES

1. ID OF CONTACT TO MEET VSWR MATING CHARACTERISTICS AND CONNECTOR DURABILITY WHEN MATED WITH A DIA, .016±.001 MALE CONTACT.
2. MUST MEET THE FORCE TO ENGAGE AND DISENGAGE WHEN MATED WITH PART.



## Low Profile



### UMC Right Angle Cable Plug to MMCX Right Angle Plug

Part No.	Teflon Coaxial Cable O.D.	Cable Length	Connector A	Height	Connector B
415-0101-150	0.81 mm	150 mm	UMC LP PLUG	2.0 mm	MMCX RA PLUG
415-0101-250	0.81 mm	250 mm	UMC LP PLUG	2.0 mm	MMCX RA PLUG



## Medium Profile



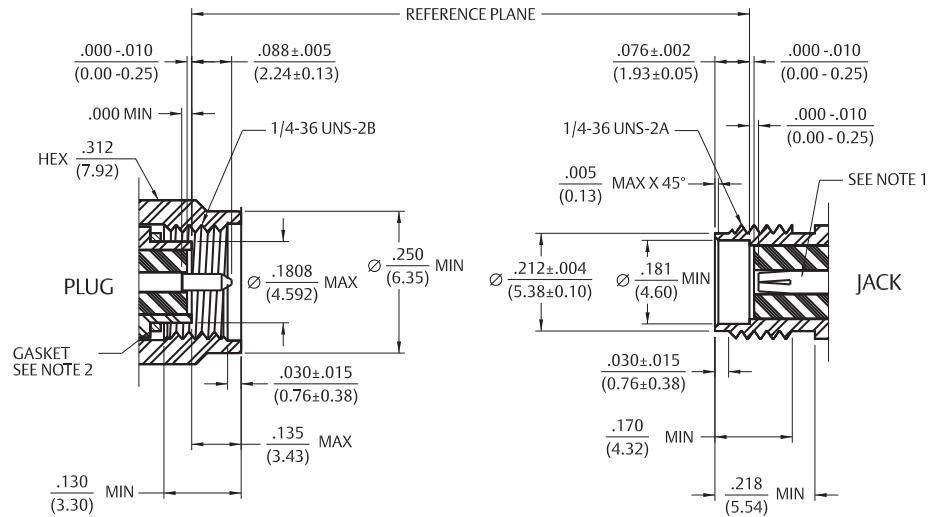
### UMC Right Angle Cable Plug to MMCX Right Angle Plug

Part No.	Teflon Coaxial Cable O.D.	Cable Length	Connector A	Height	Connector B
415-0102-150	0.81 mm	150 mm	UMC MP PLUG	2.5 mm	MMCX RA PLUG
415-0102-250	0.81 mm	250 mm	UMC MP PLUG	2.5 mm	MMCX RA PLUG
415-0103-150	1.37 mm	150 mm	UMC MP PLUG	2.5 mm	MMCX RA PLUG
415-0103-250	1.37 mm	250 mm	UMC MP PLUG	2.5 mm	MMCX RA PLUG

# UMC SMA CABLE ASSEMBLY

## NOTES

1. ID TO MEET VSWR, CONTACT RESISTANCE AND INSERTION WITHDRAWAL FORCES WHEN MATED WITH A DIA. .0355 - .0370 PIN.
2. GASKET IS NOT SUPPLIED WITH BRASS CONNECTORS.



## Low Profile



### UMC Right Angle Cable Plug to SMA Straight Plug

Part No.	Teflon Coaxial Cable O.D.	Cable Length	Connector A	Height	Connector B
415-0089-150	0.81 mm	150 mm	UMC LP PLUG	2.0 mm	SMA STR. PLUG
415-0089-250	0.81 mm	250 mm	UMC LP PLUG	2.0 mm	SMA STR. PLUG

## Medium Profile



### UMC Right Angle Cable Plug to SMA Straight Plug

Part No.	Teflon Coaxial Cable O.D.	Cable Length	Connector A	Height	Connector B
415-0090-150	0.81 mm	150 mm	UMC MP PLUG	2.5 mm	SMA STR. PLUG
415-0090-250	0.81 mm	250 mm	UMC MP PLUG	2.5 mm	SMA STR. PLUG
415-0091-150	1.37 mm	150 mm	UMC MP PLUG	2.5 mm	SMA STR. PLUG
415-0091-250	1.37 mm	250 mm	UMC MP PLUG	2.5 mm	SMA STR. PLUG

## Low Profile



### UMC Right Angle Cable Plug to SMA Straight Jack

Part No.	Teflon Coaxial Cable O.D.	Cable Length	Connector A	Height	Connector B
415-0095-150	0.81 mm	150 mm	UMC LP PLUG	2.0 mm	SMA STR BKHD. JACK
415-0095-250	0.81 mm	250 mm	UMC LP PLUG	2.0 mm	SMA STR BKHD. JACK

## Medium Profile



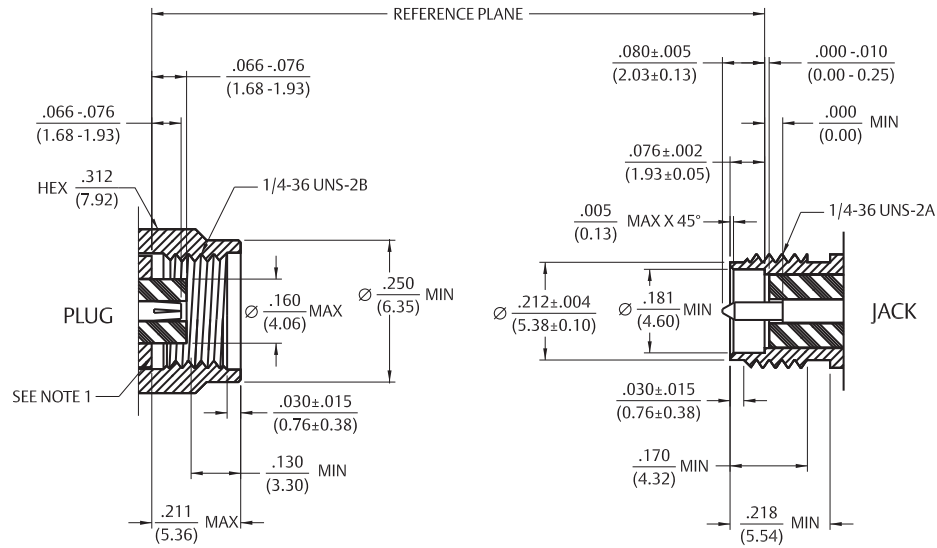
### UMC Right Angle Cable Plug to SMA Straight Jack

Part No.	Teflon Coaxial Cable O.D.	Cable Length	Connector A	Height	Connector B
415-0096-150	0.81 mm	150 mm	UMC MP PLUG	2.5 mm	SMA STR BKHD. JACK
415-0096-250	0.81 mm	250 mm	UMC MP PLUG	2.5 mm	SMA STR BKHD. JACK
415-0097-150	1.37 mm	150 mm	UMC MP PLUG	2.5 mm	SMA STR BKHD. JACK
415-0097-250	1.37 mm	250 mm	UMC MP PLUG	2.5 mm	SMA STR BKHD. JACK

# UMC SMA REVERSE POLARITY CABLE ASSEMBLY

## NOTES

1. ID TO MEET VSWR, CONTACT RESISTANCE AND INSERTION WITHDRAWL FORCES WHEN MATED WITH A DIA. .0355 - .0370 PIN.



## Low Profile



### UMC Right Angle Cable Plug to SMA Straight Reverse Polarity Plug

Part No.	Teflon Coaxial Cable O.D.	Cable Length	Connector A	Height	Connector B
415-0092-150	0.81 mm	150 mm	UMC LP PLUG	2.0 mm	SMA STR. RP PLUG
415-0092-250	0.81 mm	250 mm	UMC LP PLUG	2.0 mm	SMA STR. RP PLUG

## Medium Profile



### UMC Right Angle Cable Plug to SMA Straight Reverse Polarity Plug

Part No.	Teflon Coaxial Cable O.D.	Cable Length	Connector A	Height	Connector B
415-0093-150	0.81 mm	150 mm	UMC MP PLUG	2.5 mm	SMA STR. RP PLUG
415-0093-250	0.81 mm	250 mm	UMC MP PLUG	2.5 mm	SMA STR. RP PLUG
415-0094-150	1.37 mm	150 mm	UMC MP PLUG	2.5 mm	SMA STR. RP PLUG
415-0094-250	1.37 mm	250 mm	UMC MP PLUG	2.5 mm	SMA STR. RP PLUG

## Low Profile



### UMC Right Angle Cable Plug to SMA Straight Bulkhead Rev. Polarity Jack

Part No.	Teflon Coaxial Cable O.D.	Cable Length	Connector A	Height	Connector B
415-0098-150	0.81 mm	150 mm	UMC LP PLUG	2.0 mm	SMA STR BKHD. RP JACK
415-0098-250	0.81 mm	250 mm	UMC LP PLUG	2.0 mm	SMA STR BKHD. RP JACK

## Medium Profile



### UMC Right Angle Cable Plug to SMA Straight Bulkhead Rev. Polarity Jack

Part No.	Teflon Coaxial Cable O.D.	Cable Length	Connector A	Height	Connector B
415-0099-150	0.81 mm	150 mm	UMC MP PLUG	2.5 mm	SMA STR BKHD. RP JACK
415-0096-250	0.81 mm	250 mm	UMC MP PLUG	2.5 mm	SMA STR BKHD. RP JACK
415-0100-150	1.37 mm	150 mm	UMC MP PLUG	2.5 mm	SMA STR BKHD. RP JACK
415-0100-250	1.37 mm	250 mm	UMC MP PLUG	2.5 mm	SMA STR BKHD. RP JACK

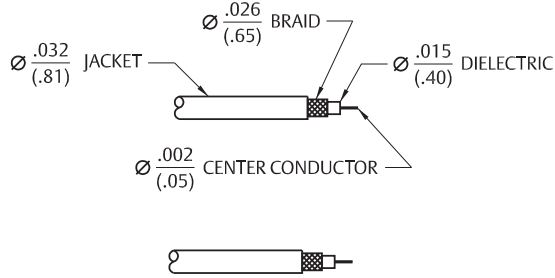
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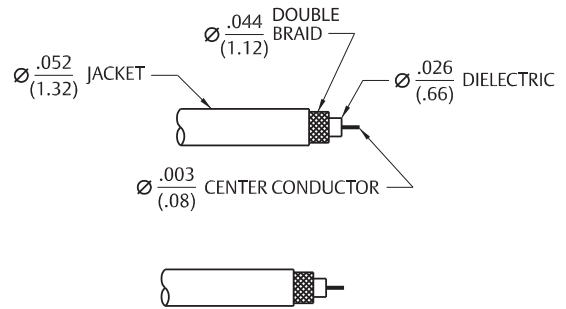


# UMC BARE END ASSEMBLY

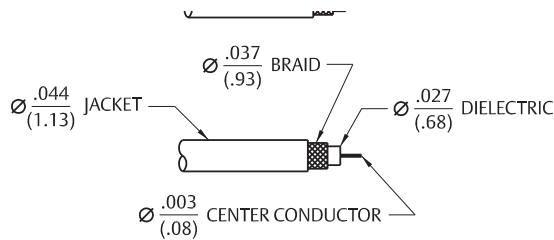
## 0.81 mm Coaxial Cable



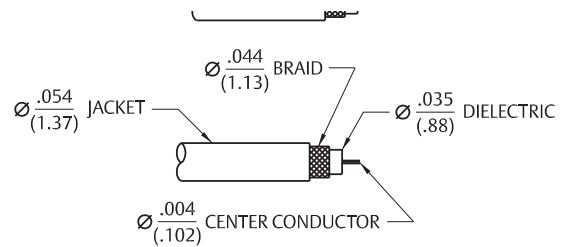
## 1.32 mm Coaxial Cable



## 1.13 mm Coaxial Cable



## 1.37 mm Coaxial Cable



## Low Profile

### UMC Right Angle Cable Plug to Bare End



Part No.	Teflon Coaxial Cable O.D.	Cable Length	Connector A	Height	Connector B
415-0104-150	0.81 mm	150 mm	UMC LP PLUG	2.0 mm	BARE END
415-0104-250	0.81 mm	250 mm	UMC LP PLUG	2.0 mm	BARE END

## Medium Profile

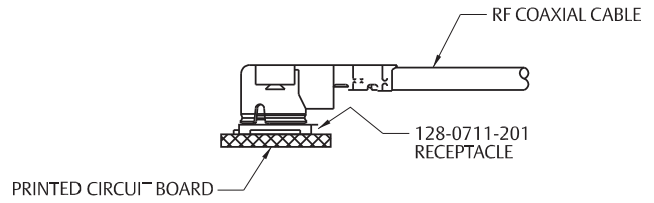
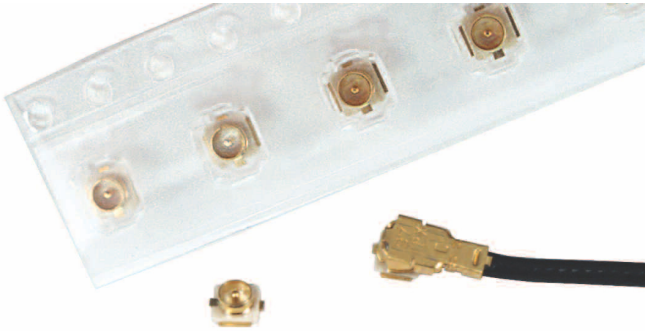
### UMC Right Angle Cable Plug to Bare End



Part No.	Teflon Coaxial Cable O.D.	Cable Length	Connector A	Height	Connector B
415-0105-150	0.81 mm	150 mm	UMC MP PLUG	2.5 mm	BARE END
415-0105-250	0.81 mm	250 mm	UMC MP PLUG	2.5 mm	BARE END
415-0106-150	1.13 mm	150 mm	UMC MP PLUG	2.5 mm	BARE END
415-0106-250	1.13 mm	250 mm	UMC MP PLUG	2.5 mm	BARE END
415-0107-150	1.32 mm	150 mm	UMC MP PLUG	2.5 mm	BARE END
415-0107-250	1.32 mm	250 mm	UMC MP PLUG	2.5 mm	BARE END
415-0108-150	1.37 mm	150 mm	UMC MP PLUG	2.5 mm	BARE END
415-0108-250	1.37 mm	250 mm	UMC MP PLUG	2.5 mm	BARE END

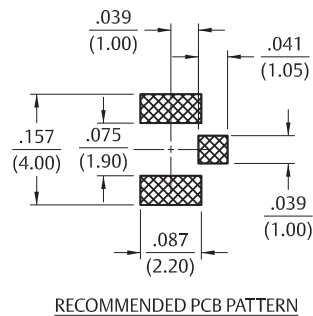
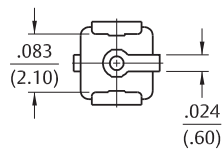
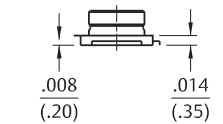
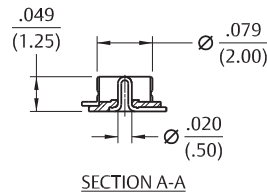
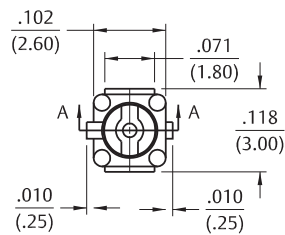
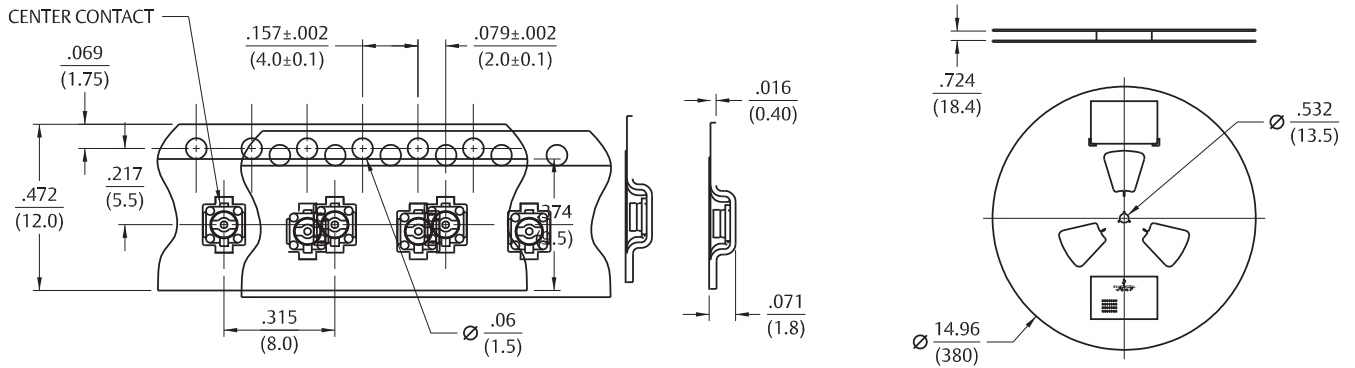
# UMC PCB JACK RECEPTACLE

## Straight Jack Receptacle - Surface Mount



Part No.	Tape & Reel
128-0711-201	2,500/REEL

## Tape and Reel



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# UMC ACCESSORIES

## SMA Conversion Adapter for Mating UMC Plugs (SMA Plug to UMC Jack)



**Part No.**

134-1019-361

Fig. 1

## SMA Conversion Adapter for Surface Mt. Jack Receptacle 128-0711-201 (SMA Jack to UMC Plug)



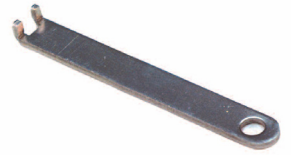
**Part No.**

134-1019-371

Fig. 2

## UMC Separation Key

FOREXTRACTION FROM A COUPLED CONDITION.



**Part No.**

128-0000-901

## Inspection Tool for Cable Assy.



**Part No.**

134-1019-381

Fig. 3

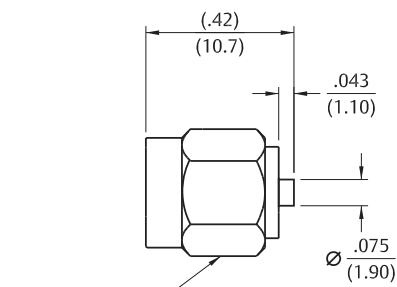


Fig. 1

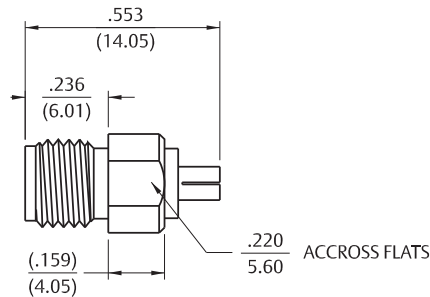


Fig. 2

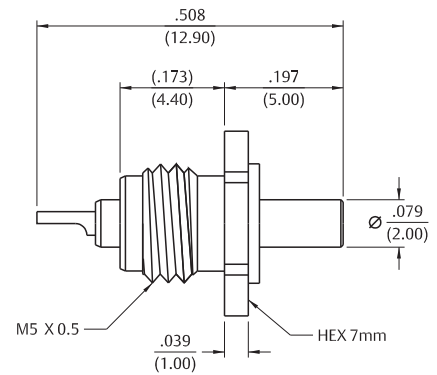


Fig. 3

# UMC TO U.FL CROSS REFERENCE

EMERSON/JOHNSON P/N	HIROSE	EMERSON/JOHNSON P/N	HIROSE
128-0711-201	U.FL-R-SMT(10)	415-0087-100	U.FL-2LP-066J2-A-100
415-0084-050	U.FL-2LP(V)-04N1-A-50	415-0087-150	U.FL-2LP-066J2-A-150
415-0084-100	U.FL-2LP(V)-04N1-A-100	415-0087-200	U.FL-2LP-066J2-A-200
415-0084-150	U.FL-2LP(V)-04N1-A-150	415-0087-250	U.FL-2LP-066J2-A-250
415-0084-200	U.FL-2LP(V)-04N1-A-200	415-0087-300	U.FL-2LP-066J2-A-300
415-0084-250	U.FL-2LP(V)-04N1-A-250	415-0087-500	U.FL-2LP-066J2-A-500
415-0084-300	U.FL-2LP(V)-04N1-A-300	415-0088-050	U.FL-2LP-088K2T-A-50
415-0084-500	U.FL-2LP(V)-04N1-A-500	415-0088-100	U.FL-2LP-088K2T-A-100
415-0085-050	U.FL-2LP-04N2-A-50	415-0088-150	U.FL-2LP-088K2T-A-150
415-0085-100	U.FL-2LP-04N2-A-100	415-0088-200	U.FL-2LP-088K2T-A-200
415-0085-150	U.FL-2LP-04N2-A-150	415-0088-250	U.FL-2LP-088K2T-A-250
415-0085-200	U.FL-2LP-04N2-A-200	415-0088-300	U.FL-2LP-088K2T-A-300
415-0085-250	U.FL-2LP-04N2-A-250	415-0088-500	U.FL-2LP-088K2T-A-500
415-0085-300	U.FL-2LP-04N2-A-300	415-0104-150	U.FL-LP(V)-04N1-A-150
415-0085-300	U.FL-2LP-04N2-A-500	415-0104-250	U.FL-LP(V)-04N1-A-250
415-0086-050	U.FL-2LP-068N2-A-50	415-0105-150	U.FL-LP-04N2-A-150
415-0086-100	U.FL-2LP-068N2-A-100	415-0105-250	U.FL-LP-04N2-A-250
415-0086-150	U.FL-2LP-068N2-A-150	415-0106-150	U.FL-LP-068N2-A-150
415-0086-200	U.FL-2LP-068N2-A-200	415-0106-250	U.FL-LP-068N2-A-250
415-0086-250	U.FL-2LP-068N2-A-250	415-0107-150	U.FL-LP-066J2-A-150
415-0086-300	U.FL-2LP-068N2-A-300	415-0107-250	U.FL-LP-066J2-A-250
415-0086-500	U.FL-2LP-068N2-A-500	415-0108-150	U.FL-LP-088K2T-A-150
415-0087-050	U.FL-2LP-066J2-A-50	415-0108-250	U.FL-LP-088K2T-A-250

## UMC Family: UMC MP, LP, ULP

### Competition with other Supplier's Product

Model Name	Emerson / Johnson			HIROSE		
	UMC MP	UMC LP	UMC ULP	U.FL-LP-040/066	U.FL-LP(V)-040	W.FL-LP-040
Mated Height (Max.)	2.5mm	2.0mm	1.55mm	2.5mm	2.0mm	1.55mm
Termination Style	Mechanical Termination			Soldering		
Plating of Shell	Gold	Gold	Gold	Silver	Silver	Silver
Plating of Contact	Gold	Gold	Gold	Gold	Gold	Gold
Applicable Coaxial Cable (Diameter)	AWG30(1.37mm)					
	AWG32(1.32mm)	AWG36(0.81mm)	AWG36(0.81mm)	AWG32(1.32mm)	AWG36(0.81mm)	AWG36(0.81mm)
	AWG32(1.13mm)			AWG36 (0.81mm)		
	AWG36(0.81mm)					
Frequencies	DC to 6GHz			DC to 6GHz		

## UMC Compatibility Table Emerson / Johnson Vs HIROSE

UMC Family	Mated Height (mm)	AWG (O.D. mm)	Emerson / Johnson		HIROSE	
			Plating (Contact / Ground)	Part No.	Plating (Contact / Ground)	Product No.
UMC Receptacle	2.5	N/A	Gold	128-0711-201	Gold/Silver	U.FL-R-SMT (10)
UMC MP Plug	2.5	30 (1.37)	Gold	415-0088-xxx	Gold/Silver	U.FL-LP-088
UMC MP Plug	2.5	32 (1.32)	Gold	415-0087-xxx	Gold/Silver	U.FL-LP-066
		32 (1.13)	Gold	415-0086-xxx	Gold/Silver	U.FL-LP-066
UMC LP Plug	2.0	36 (0.81)	Gold	415-0085-xxx	Gold/Silver	U.FL-LP-040
		36 (0.81)	Gold	415-0084-xxx	Gold/Silver	U.FL-LP(V)-040
UMC ULP Plug	1.55	N/A	Gold	415-0109-xxx	Gold/Silver	CL-331-0482-6-10

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Our diverse product offerings include: connectors, enclosures and cable assemblies utilizing multiple contact technologies including copper and fiber optics. Our product engineering and development activities employ cutting edge technologies for design and modeling, and our various technologies and expertise enable us to deliver custom solutions and products for our strategic partnerships. We also serve a broad range of commercial markets, largely through our highly efficient distribution network.

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