

# Sunridge MCD Series – Ultimate Miniature Coaxial Interconnect, 1.55mm Mated Height

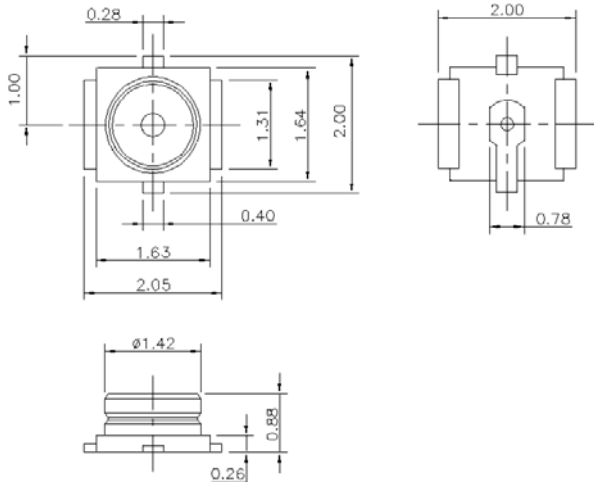


Sunridge MCD series coaxial product fulfills the rigorous requirements of high frequency data transmission in digital world. Constructed in supreme Teflon coax cable and advanced mechanical design, MCD delivers high electrical performance of a typical 1.3 max VSWR at 6.0GHz, while providing for a sturdy interconnection in a slim form factor of 2.0mm x 2.0mm footprint by 1.55mm mated height, the smallest coax interconnection device known today.



**Typical Application:**  
Smart cell phone, portable or wearable information devices, such as GPS receiver in wrist watch form factor, or hand-free sunglass cell phone.

## PCB Connector Pn: MCD-ST-00T



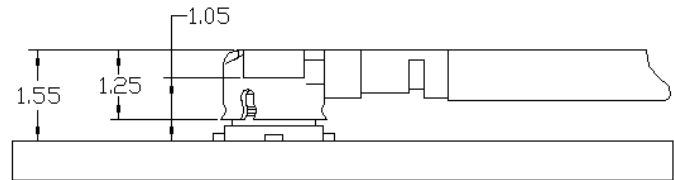
## Material Spec

- Outer Contact:** Copper Alloy, Gold Plated.
- Center Contact:** Copper Alloy, Gold Plated.
- Insulator:** Engineering Plastic.
- Cable:** Silver plated center conductor with Teflon dielectric and jacket.

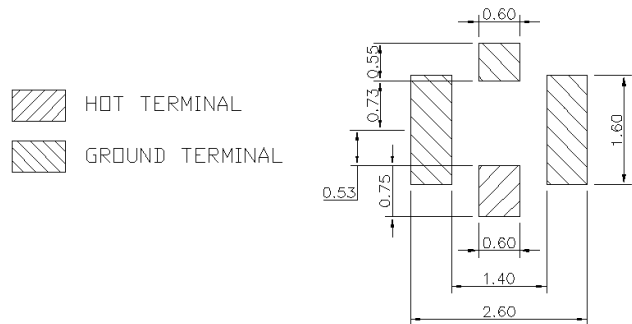
## Features

- **Space Economy:** 2.0mm x 2.0mm PCB footprint, mated height of 1.55mm.
- **Teflon Cable:** Silver plated center conductor, Teflon dielectric and jacket of 0.81mm or 0.91mm OD to make for intricate cable routing in an extremely limited space.
- **PCB connector:** Integral molded construction ensures product reliability.
- **Sturdy Connection:** Lead-in and interlock features among mating pair ensure solid coupling.
- **Accessory:** Extraction tool for easy replacement, and MCD-SMA adapter for tester fitting.

## Form Factor



## Recommended PCB Layout



Characteristics	
Frequency Range	DC to 6GHz
Nominal Impedance	50 ohm
Temperature Range	-40°C to +90°C
Contact Resistance	25m ohm max
Withstanding Voltage	AC 200Vrms
Insulation Resistance	500M ohm min
Durability	20 Cycles

[www.sunridgecorp.com](http://www.sunridgecorp.com)

(dimension: mm)



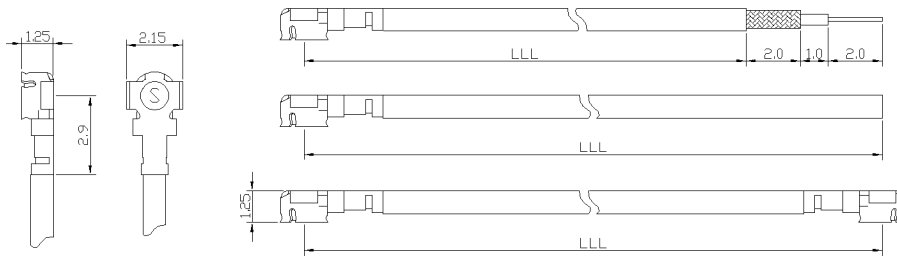
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## MCD Cable Assembly

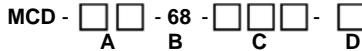


Pn: MCD-SH-68-LLL-T

Pn: MCD-SH-68-LLL-F

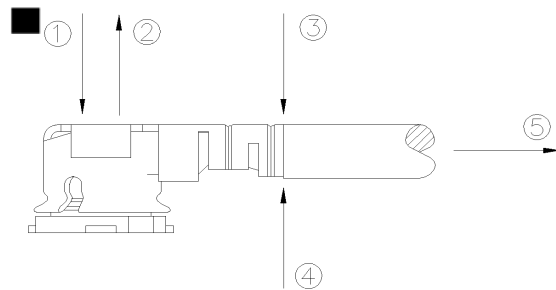
Pn: MCD-DH-68-LLL

### P/N Designation

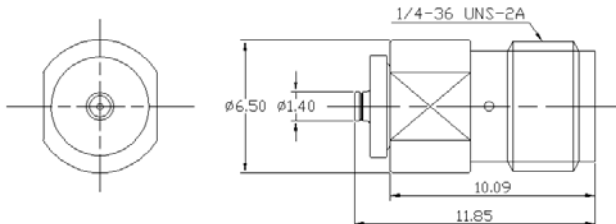


- A. Head Configuration:** SH: Single-Headed Cable construction  
DH: Double-Headed Cable construction
- B. Coaxial Cable Code:** #68 cable; see cable spec
- C. Length (in mm):** Ex: LLL = 200: 200mm.
- D. End Cut (SH only):** T : open end striped & tinned.  
F : open end flat cut

### Insertion/Extraction Tool Pn: ET-MCD



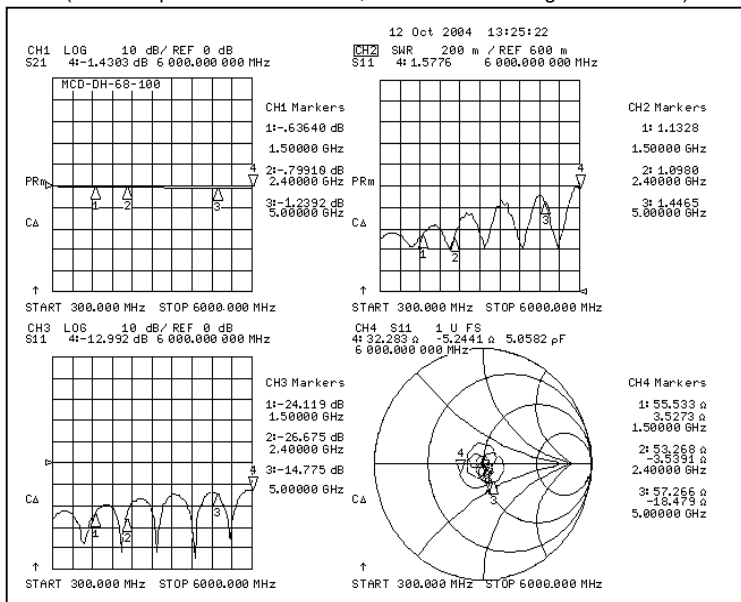
### Test Adaptor Pn: MCDP-SMAJ



- ① Insertion force: 500gf.  
② Extraction force (with tool): 400gf.  
③ Retention, downward force: 200gf max.  
④ Retention, upward force: 200gf max.  
⑤ Retention, pull back: 2,000gf max  
Durability: 30 cycles

### Performance Measurement Reference:

(Test sample: MCD-DH-68-100; Test instrument: Agilent 8753ES.)



### Cable Spec:

Cable Designation Code			#62	#68
#68 Inner Conductor	Strands/Wire Size	(No./mm)	7/0.07	7/0.05
	Silver plated copper wire	-	Silver plated copper wire	Silver plated copper wire
Dielectric	PFA	-	EPF	PFA
	0.4	(mm)	0.63	0.4
Outer Conductor	Silver plated copper wire	-	Tinned copper wire/copper tape	Silver plated copper wire
	0.05	(mm)	0.05	0.05
	0.65	(mm)	0.80	0.65
Jacket	PFA	-	FEP	PFA
	0.08	(mm)	0.05	0.08
Overall Dia.		(mm)	0.91	0.81
Nominal impedance		(Ohm)	50	50
Voltage rating		Vrms Max.	300	0.21
Nominal static capacitance		(pF/m)	97	96
Insertion loss	1GHz		2.00 dB/m	3.53 dB/m
	2GHz		2.60 dB/m	5.17 dB/m
	2.4GHz		3.10 dB/m	5.71 dB/m
	3GHz		3.50 dB/m	6.45 dB/m
	5GHz		4.00 dB/m	8.53 dB/m
	6GHz		4.40 dB/m	9.42 dB/m

(dimension: mm)



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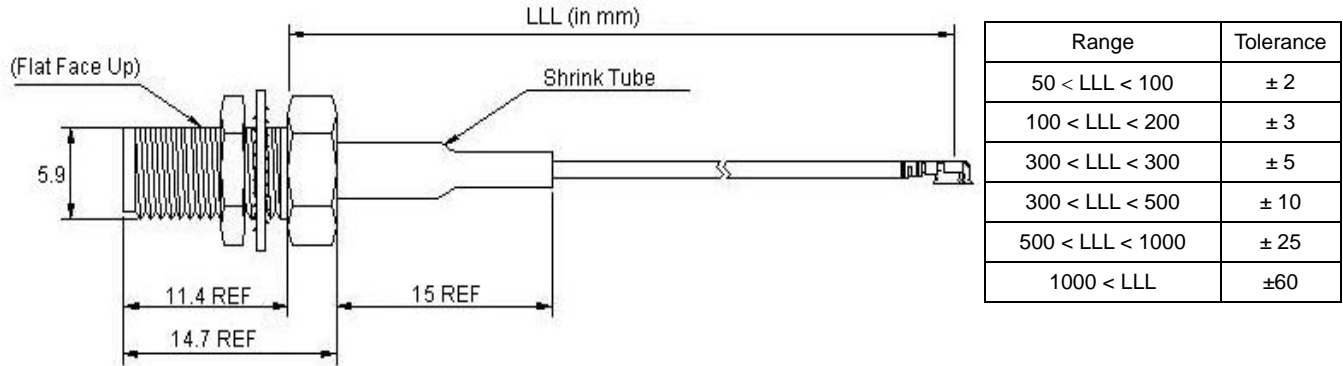




**MCD- Derivative Cable Assembly P/N Selector:**

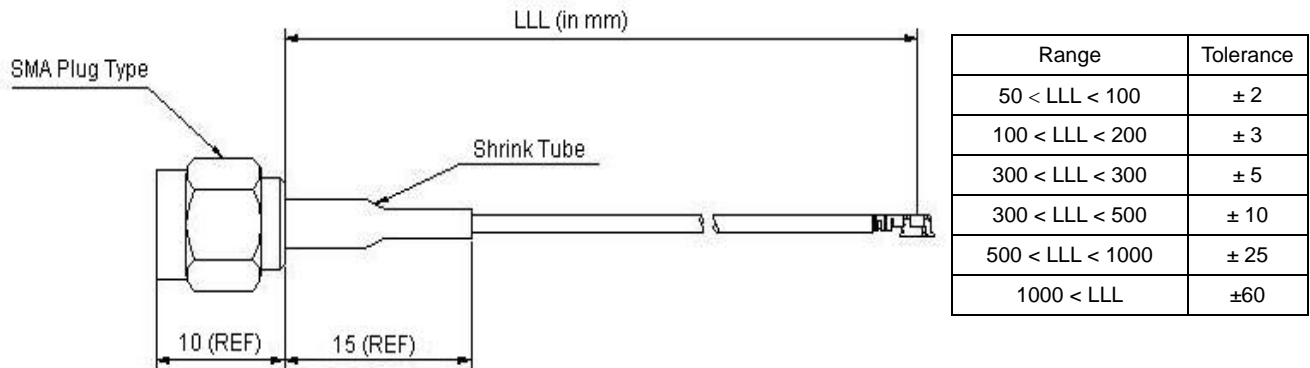
(Illustration of the most commonly used MCD-RF cable assy. A variety of other RF configurations is readily available at Sunridge Corp. Contact [engineering@sunridgecorp.com](mailto:engineering@sunridgecorp.com) for project inquiry.)

■ **MCD to SMA Bulkhead Jack Cable Assembly:**



Descriptions	Recommended Cable	Sunridge P/N
MCD to SMAJB	#68, 0.81 mm OD	MCD-RH-68-LLL-SMAJB003
MCD to SMAJB Reverse Polarity (RP)	#68, 0.81 mm OD	MCD-RH-68-LLL-SMAJB081
MCD to SMAJB with O-Ring Seal	#68, 0.81 mm OD	MCD-RH-68-LLL-SMAJB005
MCD to SMAJB RP, w/O-ring Seal	#68, 0.81 mm OD	MCD-RH-68-LLL-SMAJB083

■ **MCD to SMA Plug Cable Assembly:**



Descriptions	Recommended Cable	Sunridge P/N
MCD to SMAP	#68, 0.81 mm OD	MCD-RH-68-LLL-SMAP003
MCD to SMAP Reverse Polarity (RP)	#68, 0.81 mm OD	MCD-RH-68-LLL-SMAP081

