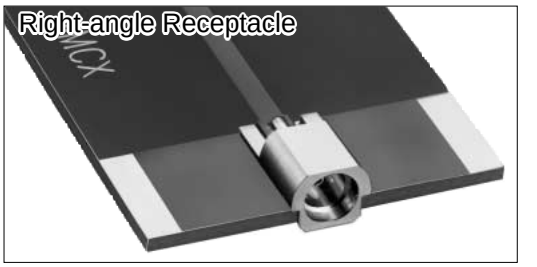
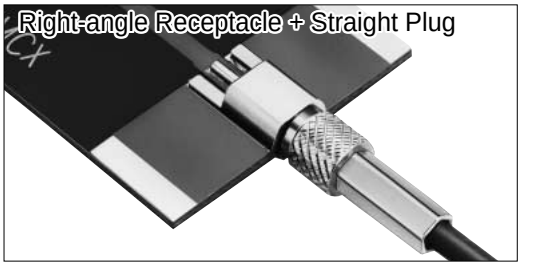
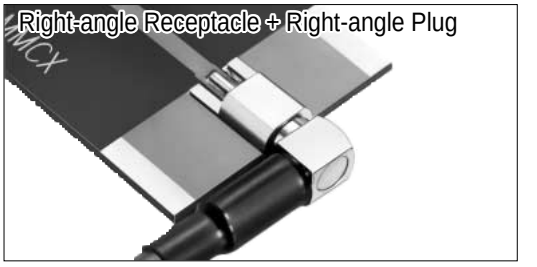
NEW

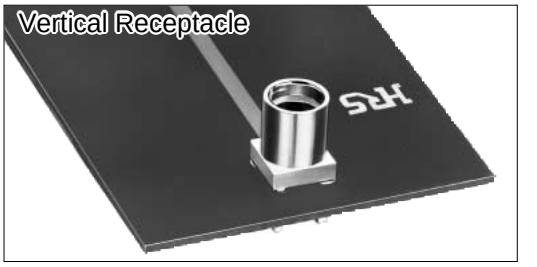
Ultra Miniature Snap-on Coaxial Connector (PC Card Type Ⅱ Mountable)

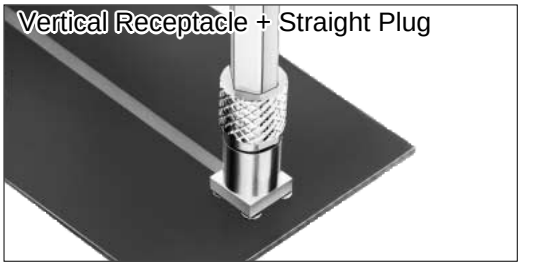
MMCX Series

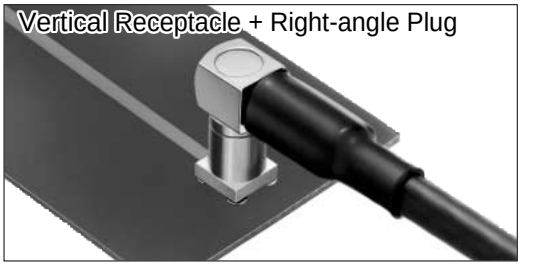












■Features

1. Snap-on coupling mechanism makes it easy to engage and disengage.

The rugged snap-on interface which uses no slotting in the outer conductor maintains mechanical stability by allowing constant mating force and rotation without degradation of electrical performance.

2. Low Profile accommodates PCMCIA type Ⅱ cards

The MMCX-LR-SMT with a height of only 3.51mm can be mounted on the bottom of the type Ⅱ card. For installation on the PCB surface, the connector has a 0.36mm offset from the card centerline, which allows the card center axis to coincide with the connector center axis.

3. Designed for ultra thin cable

Industry Standard RG-type coaxial cable

⋯ RG-178B/U (ϕ1.8)

⋯ RG-316/U (ϕ2.59 max.)

ϕ1.48 single shielded cable (one of the smallest available)

⋯ DFSS111-U1979 (ϕ1.48) made by Junkosha Inc.

⋯ CO-6F·FH-SB (ϕ1.48) made by Hitachi Cable Ltd.

⋯ RF-MF507 (ϕ1.48) made by Nissei Electric Co., Ltd.

4. Cable Assemblies with multiple design options

By using ϕ1.48 single shielded cable, the opposite end of the assembly can be connected with N, BNC, HRM (SMA type), TNC and H.FL series.

5. Matched Excellent Impedance

The interface is slotless to minimize RF leakage. High frequency characteristics achieve a maximum voltage standing-wave ratio (VSWR) of 1.2 at DC-6GHz (typical value, that is not applicable to all products).

6. Compatibility

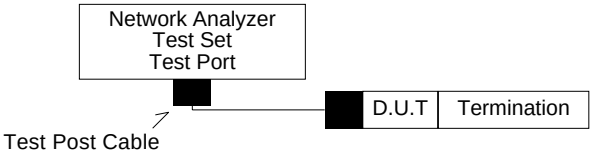
Mates will all industry standard MMCX connectors.

■Product Specifications

Rating	Nominal characteristic impedance Rated frequency	50Ω DC-6GHz	Operating Temperature Range Operating Relative Humidity	-55℃～ +85℃ 90% max.

Item	Specification	Condition
1. Insulation Resistance	500MΩ min.	Measured at 500V DC
2. Withstanding Voltage	Neither short nor breakdown	500V AC for 1 minute
3. Contact Resistance	10mΩ max. (center), 5mΩ max. (outer)	Measured at 100mA (DC or 1000Hz)
4. Female Contact Retention	0.2N～2N	Measured with the ϕ0.37 pin gauge.
5. Insertion and withdrawal force (plug)	Insertion force: 15N max. withdrawal force: 6～15N	Measured with an appropriate connector.
6. Voltage standing wave ratio	1.2 max. 1.2 max. (MMCX-LR-SMT only) 1.4 max. (MMCX-LR-SMT only)	DC～6GHz DC～4GHz 4GHz～6GHz Measured at 0.45GHz～6GHz
7. Vibration	No electrical discontinuity for 1μ m or more No damage, cracks, or parts looseness	Frequency: 10～500Hz, Either amplitude: 0.75mm, acceleration: 98m/s^2 Tested at 12 cycles in three axial directions, respectively (total 36 cycles)
8. Shock	No damage, cracks, or parts looseness	Acceleration: 735m/s^2, durability: For 6ms and half-sine wave, tested three times in coaxial directions.
9. Moisture Resistance	Contact resistance: 20mΩ max. (center) 10mΩ max. (outer) Insulation resistance: 100MΩ min	Temperature of 40℃, humidity of 95% doration 96 hours
10. Temperature Cycle	Contact resistance: 20mΩ max. (center) 10mΩ max. (outer) No damage, cracks, or parts looseness	Temperature of: -55℃ →+20～35℃ →+85℃ →+20～35℃ Time: 30 minutes →5 minutes max. →30 minutes →5 minutes min. 5 cycles
11. Operating Life	Contact resistance: 20mΩ max. (center) 10mΩ max. (outer)	500 cycles
12. Resistance to Corrosion	No marked corrosion	Continuously for 48 hours in 5% salty water

✻Voltage standing wave ratio (V.S.W.R.) measuring system.
The above voltage standing wave ratio (V.S.W.R.) standard value is measured in the measuring system as shown below.



NOTE 1 : The cable connector is measured with double ended 15cm cable assembly.
NOTE 2 : The PCB connector is mounted on the 50Ω printed circuit board, to which Hirose's adaptor is connected.

■Material

Parts	Material	Finish
Body	Brass Stainless steel (conversion adaptor)	Gold plating
Male center contact	Phosphor bronze	Gold plating
Female center contact	Beryllium bronze	Gold plating
Male/female in-line contact	Beryllium copper (conversion adaptor)	Gold plating
Insulator	PTFE	—
Fixing ring	Beryllium copper (plug)	Nickel plating
Crimp sleeve	Copper	Gold plating
Cover	Brass (plug)	Gold plating

■Structure of Product Number

Please use this to specify the product, If needed, please select and order the product listed on pages 4 to 8 of this brochure.

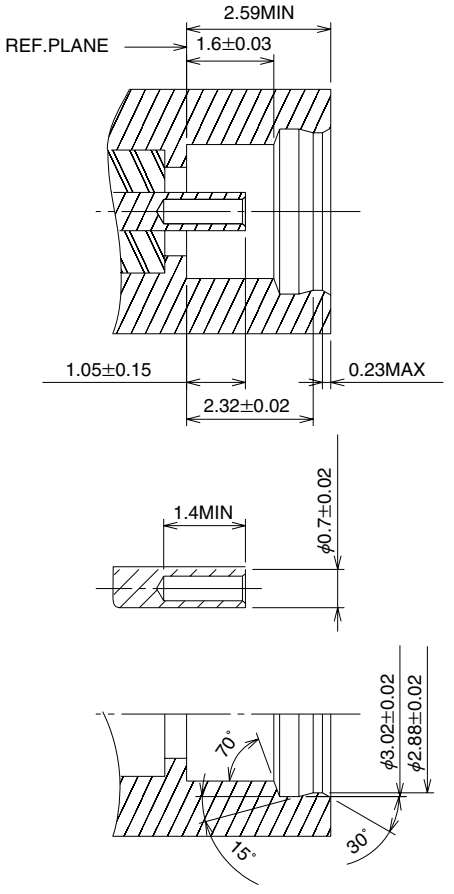
MMCX – [***] – [***]

❶ ❷ ❸

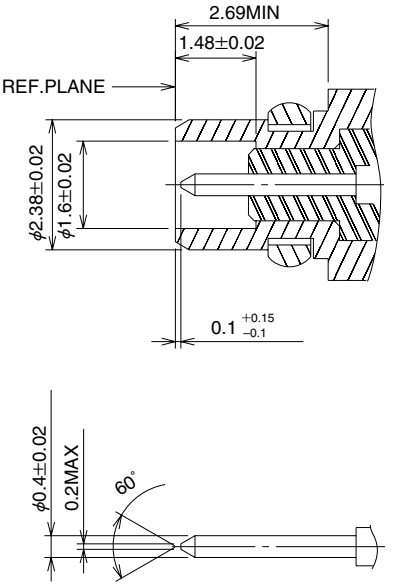
❶ Series name : MMCX	❸ Applicable cable, PCB mounting style
❷ Connector type	178B/U : RG-178B/U (ϕ1.8)
P : Straight plug	31B/U : R/G-316/U (ϕ2.59 max)
LP : Right Angle plug	PHSB : ϕ1.48 single shielded cable
J : Straight jack	PC : PCB Through Hole type
R : Receptacle	SMT : PCB Surface Mount type

◆Interface Dimensions

[Jack]

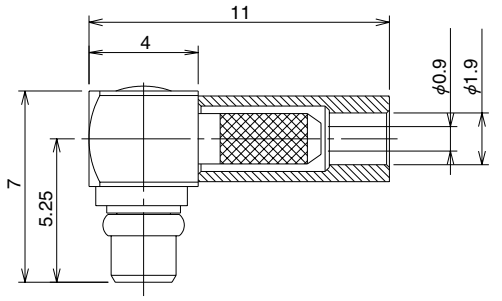


[Plug]



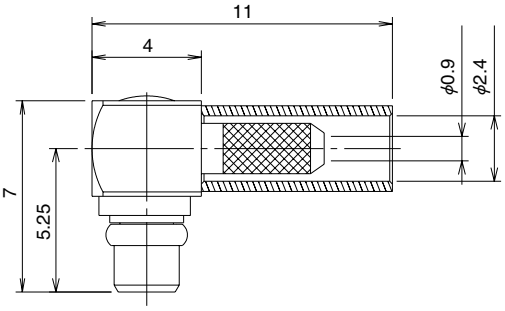
■Right Angle Plug

● ϕ1.48 Single Shield Cable



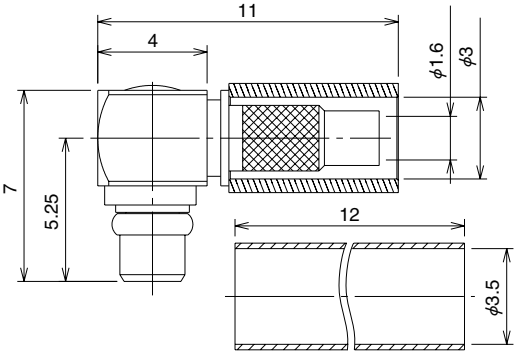
Product No.	HRS No.
MMCX-LP-FHSB	CL339-0007-3

●RG-178B/U and equivalent



Product No.	HRS No.
MMCX-LP-178B/U	CL339-0001-7

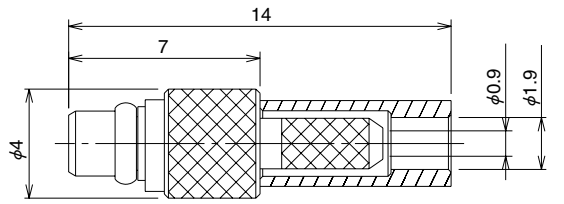
●R/G-316/U and equivalent



Product No.	HRS NO.
MMCX-LP-316/U	CL339-0006-0

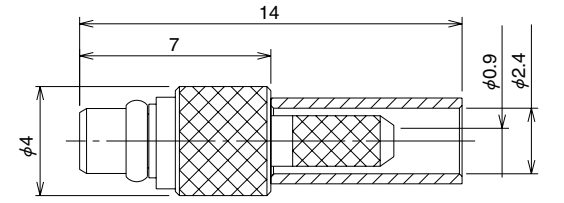
■Straight Plug

●ϕ1.48 Single Shielded Cable



Product No.	HRS No.
MMCX-P-FHSB	CL339-0008-6

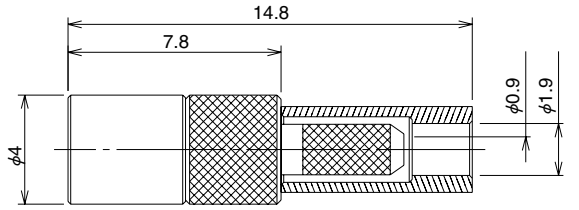
●RG-178B/U and equivalent



Product No.	HRS No.
MMCX-P-178B/U	CL339-0010-8

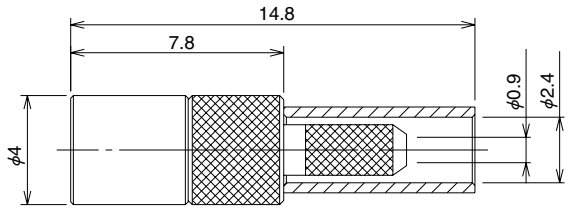
■Straight Jack

●ϕ1.48 Single Shielded Cable



Product No.	HRS No.
MMCX-J-FHSB	CL339-0009-9

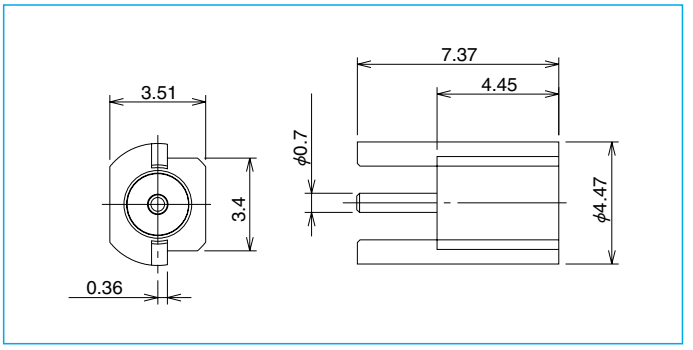
●RG-178B/U and equivalent



Product No.	HRS No.
MMCX-J-178B/U	CL339-0011-0

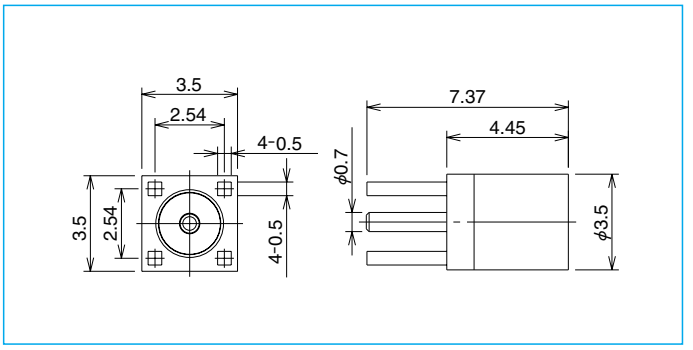
■Receptacle

●Right Angle, PCB Surface Mount



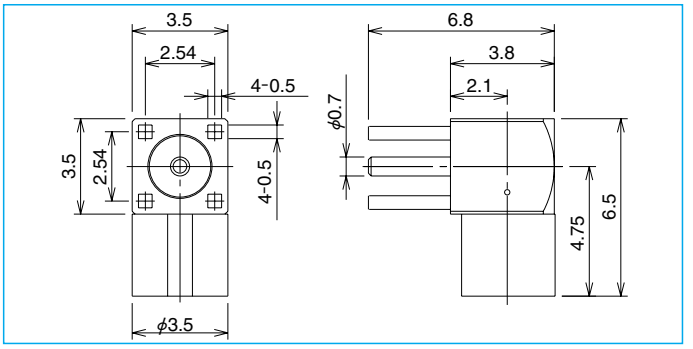
Product No.	HRS No.	Packaging
MMCX-LR-SMT	CL339-0003-2	50 pcs PER case

●Vertical, PCB Through Hole

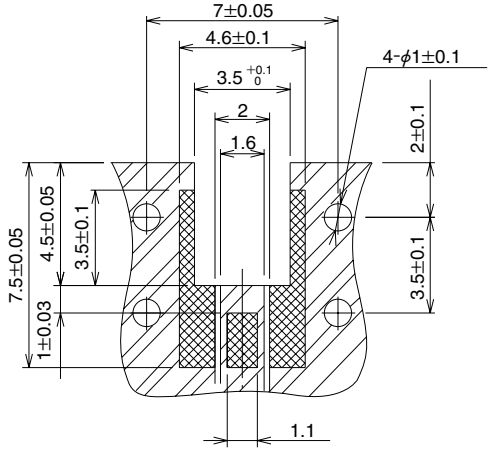


Product No.	HRS No.	Packaging
MMCX-R-PC	CL339-0005-8	50 pcs PER case

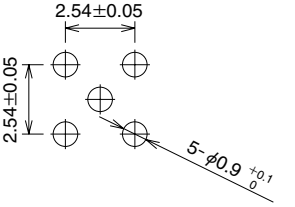
●Right Angle, PCB Through Hole



Product No.	HRS No.	Packaging
MMCX-LR-PC-1	CL339-0013-6	50 pcs PER case



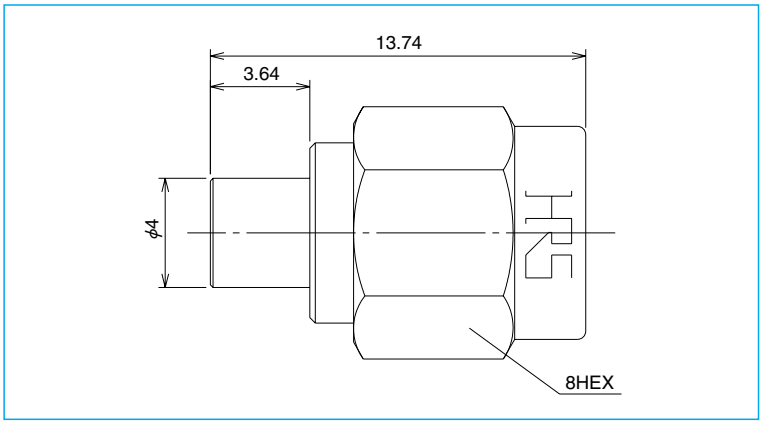
Recommended PCB Footprints (MMCX-LR-SMT)
(Reference) Glass epoxy FR-4 t=0.8 (■=4.6)



Recommended PCB Footprints (MMCX-R-PC)
(MMCX-LR-PC-1)

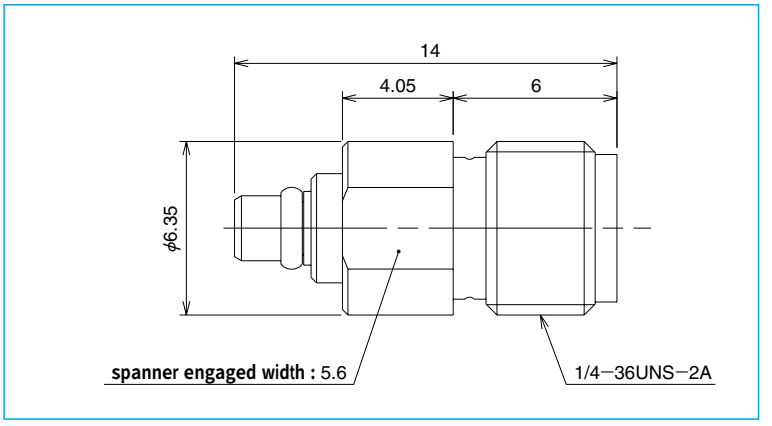
■Conversion Adaptor

●SMA Conversion Adaptor (Mating area: SMA side plug – MMCX side jack)



Product No.	HRS No.
HRMP-MMCXJ	CL311-0312-1

●SMA Conversion Adaptor (Mating area: SMA side jack – MMCX side plug)



Product No.	HRS NO.
HRMJ-MMCXP	CL311-0313-4

Creative Links to World Electronics

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This brochure was revised in April 2001. This specifications subject to change without notice.