

SUBMINIATURE COAXIAL CONNECTORS

QMA series



Member of the Quick Lock Formula



ISO 9001 APPROVED



COMPANY Profile

Radiall welcomes
Applied Engineering Products (AEP)
as a new member of its group of companies
manufacturer of RF coaxial connectors
and cable assemblies

*Founded in 1952 in France, Radiall started as a family owned company making coaxial plugs. Today, Radiall is an international and global manufacturer of interconnect components including **RF coaxial connectors and cable assemblies, antennas, fiber optic components, microwave components, filter and multipin connectors** for the Automotive, Civil Aviation, Defense, Industrial, Medical, Space and Telecommunications.*



QSE (Quality Safety Environment) POLICY

Radiall maintains a quality management system conforming to international standards, including for environmental protection. Our customers' recognition for the quality of our products and the sustainability of our company, demonstrates the efficiency of our quality system.



CERTIFICATIONS

Certified ISO 9001 since 1994, Radiall has a pro-active policy in terms of conforming to international standards. Today, all Radiall sites are certified to **ISO 9001:2000** and some

dedicated activities are AS9100 or TS 16949. Our process approach gives us the tool for continuous improvement in all our activities.



A major step in our environment policy was the **ISO 14001** certification in 2001 of the Voreppe plant. Radiall complies with European directives such as **RoHS** for hazardous substance restrictions and **EuP** for environmentally friendly designs for energy-using products.

Some Radiall product lines are on **MIL, ESA/SCC** Qualified Product Lists.

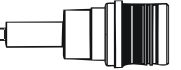
Radiall is consequently proud to be recognized by leading industrial customers for the quality of its service and products.



A WORLDWIDE ENGINEERING & MANUFACTURING CAPABILITY

With expertise centers and manufacturing locations in 3 continents. Radiall offers its customers, through 13 industrial sites, the proximity they need to obtain the best quality of service and delivery performance. Our facilities feature state of the art equipment for the many technologies involved in the design, manufacturing and assembly of interconnect products. Manufacturing plants based in **China, India, Tunisia** and **Mexico** give the opportunity to offer Radiall quality at competitive prices.

Technical information and sales contacts are available on: www.radiall.com



	Page
Introduction	4-6
Characteristics	7
Plugs and jacks	8-9
Panel receptacles	10
PCB receptacles	11
Receptacle and accessories.....	12
Adapters	13
Between series adapters	14
Miniature coaxial attenuators and DC block	16
Switches	17-19
Tooling	20-22
Tools for semi-rigid cables	23-24
Tooling and panel drilling	25
Receptacles packaging	26
Assembly instructions	27-32
Index of Radiall part numbers.....	33-35

The "Quick Lock Formula®".

QMA and QN connectors, patented products, become some real standard for the RF Telecommunications industry.

The "**QLF**" trademark, **Quick Lock Formula®**, standard applies to **QMA** and QN series and guarantees the full intermateability between suppliers using this trademark. Using QLF certified connectors also guarantees the high level of performance of the RF transmission.

QMA (Quick Lock SMA) and QN connectors (Quick Lock N) enable fast, secured and easy matings with minimum space requirements. The **QMA** and QN series are the perfect alternative to SMA and N connectors in new generation telecommunication systems as well as in many other RF applications.



Cost effective solution

The **QMA** series, Quick Lock Formula® approved, is the new patented innovative **snap-on** generation of brass SMA connectors. With the same interface dimensions, **QMA** connectors have the same high electrical performances as the SMA series with an easier and faster mounting design. **QMA** series offers a cost effective solution for new generations of base stations.

The **QMA** series is designed for DC to 18 GHz. Engagement life is 100 matings, just as standard commercial SMA connectors, with total reliability. They are easy and fast to connect and disconnect.

The new **QMA** series offers a large range of connectors: straight and right angle plugs, bulkhead jacks, flange receptacles, PCB receptacles, adapters ... Models are either full crimp, crimp or solder type for flexible, semi-rigid or conformable cables.

Saving mounting time: 10 times faster!

With its snap-on mating system, **QMA** connectors are 10 times quicker to mount than a screw-on SMA. It takes less than 2 seconds to connect **QMA** connectors in field conditions.

Risk in damaging or scratching the panel is limited as no torque wrench is required.



Screw-on connectors: SMA

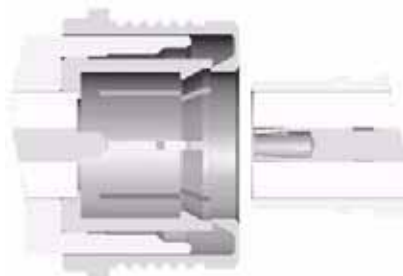


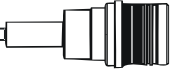
Snap-on connectors and member of the Quick Lock formula® approved: QMA

Secure connection: Click!

Snap-on connection is insured by a chamfer. Moreover, a positive locking system insures a good and secure connection. The disengagement force is lower than the panel tear-off force, preventing from any panel damaging.

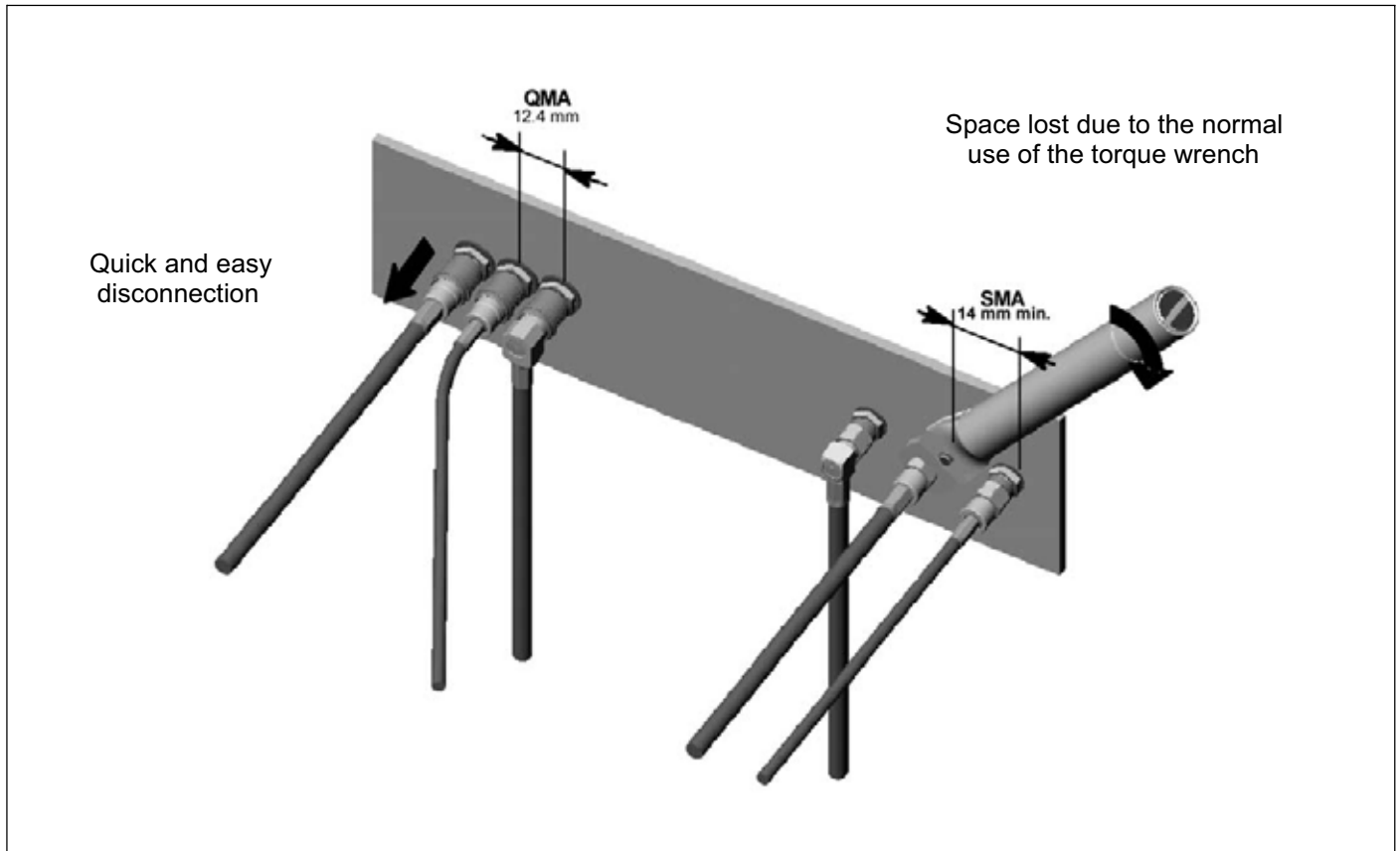
QMA connectors have been successfully tested against vibration.





Space-saving

QMA connectors have a lower space requirement since space for the use of a torque wrench is not necessary. The distance between connectors is therefore optimized on the panel.



For very compact assembly in which there is not enough space to disconnect by hand, a very easy to use extraction tool (p.21) is available to disconnect either straight or right angle **QMA** connectors.

Flexibility: 360° rotation

The cabled plug can freely rotate around the jack, which allows more flexibility during the mounting process and eases installation in the equipment.

Moreover, it prevents from any added stress on the cable and any return loss reduction due to cable bending.

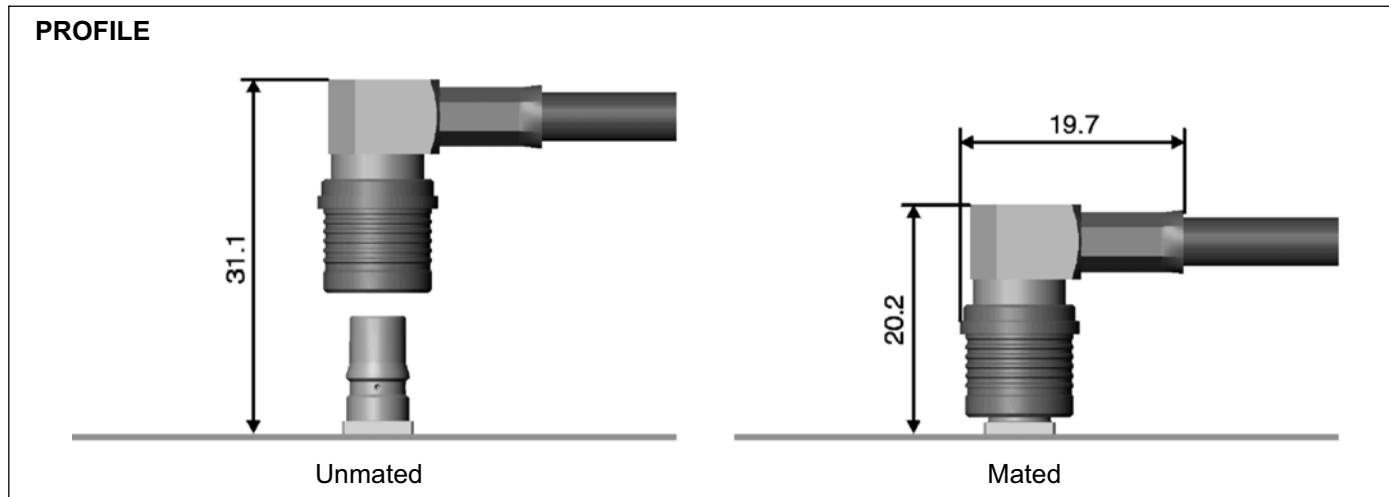


QMA implementation

You can at anytime switch from **SMA** to **QMA** connectors since panel or PCB cut out and crimping tool required are the same.

Packaging

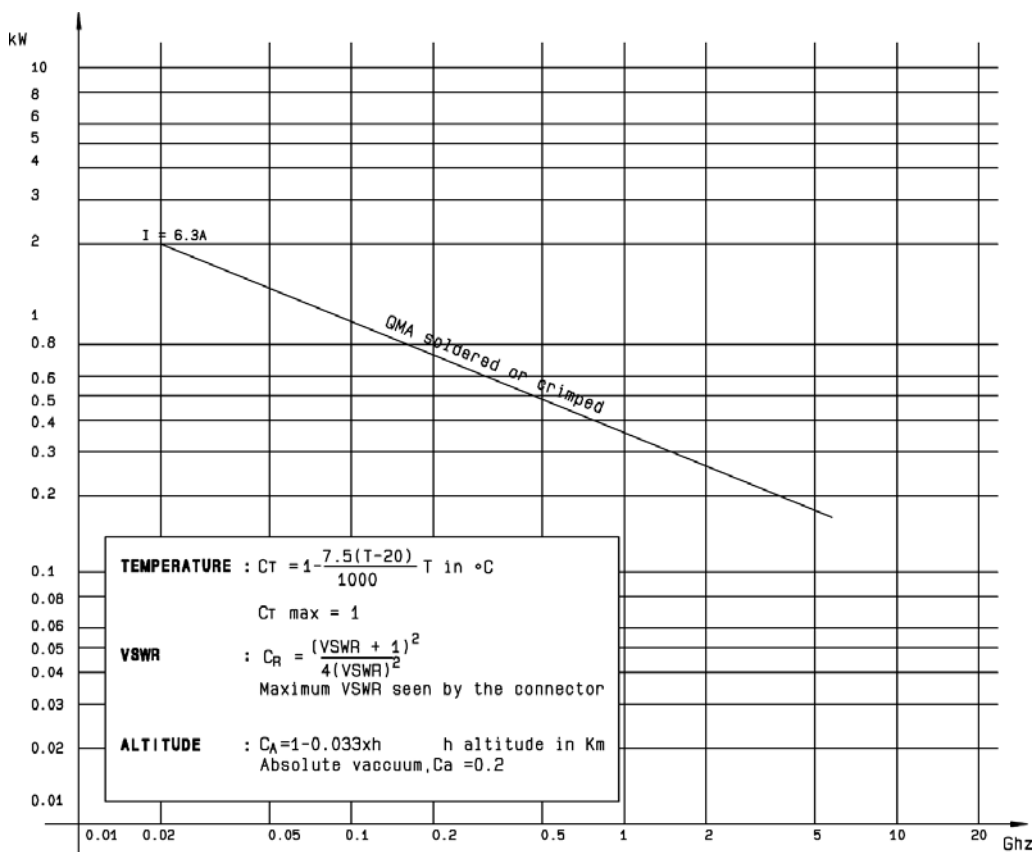
Standard packaging is 100 pieces. Unit packaging is available upon request. SMT receptacles are delivered in tape and reel of 100, 250 or 300 pieces

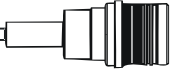


Measure adapters

In order to ease the implementation of **QMA** connectors in new systems, Radiall has developed a full range of **QMA/SMA 3.5** adapters (p.14)

Power range



**ELECTRICAL CHARACTERISTICS**

Impedance	50 Ω
Frequency range	DC - 6 GHz (optimized) DC - 18 GHz (working range)
V.S.W.R. typical	DC - 3 GHz 1.06 3 GHz - 6 GHz 1.12
Max insertion loss	0.25 dB
Insulation resistance	5000 M Ω
Voltage rating	≤ 500 V RMS 50 Hz, sea level
Dielectric withstanding voltage	1500 V RMS 50 Hz, sea level
Contact resistance	center contact < 3 m Ω outer contact < 2.5 m Ω
Admissible power @ 2.5 GHz (continuous power)	125 W @ T = 40°C (150 W @ T = 23°C)
Passive Intermodulation	-120 dBc @ 1.8 GHz (2x20W) (static)
RF leakage	DC - 3 GHz -80 dB min 3 - 6 GHz -70 dB min

MECHANICAL CHARACTERISTICS

Mechanical endurance	100 matings
Engagement and disengagement force	Engagement 25 N Disengagement 20 N
Retention force for interface	> 60 N
Cable retention	2.6 / 50 S 90 N 2.6 / 50 D 110 N 5 / 50 S 180 N 5 / 50 D 200 N 5.7 / 50 D 220 N
Distance between connectors: c. to c.	12.4 mm min.
Vibration	40 m.s ⁻² at 500 Hz

ENVIRONMENTAL CHARACTERISTICS

Temperature range	-40, +105°C
-------------------	-------------

MATERIALS

Connector bodies	Brass
Male center contact	Brass
Female center contact	Beryllium copper
Outer contact	Bronze
Other metallic parts	Brass
Insulators	PTFE

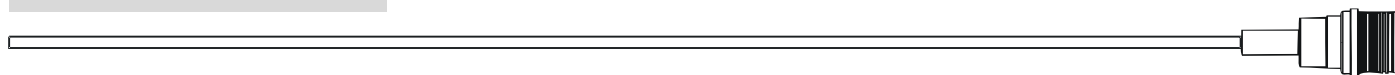
PLATING

Bodies	BBR*
Solder bodies	BBR*
SMT Bodies	NPGR**
Outer contacts	BBR*
Center contacts	NPGR**

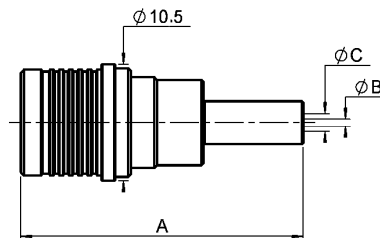
* Bright Bronze Radiall

** Nickel Phosphorous Gold Radiall

All dimensions are given in mm.

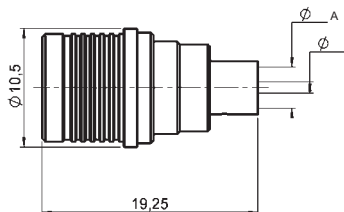


STRAIGHT PLUGS FULL CRIMP TYPE FOR FLEXIBLE CABLES



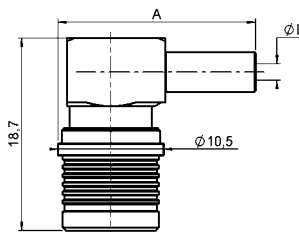
Cable	Part number	Dimensions (mm)			Captive center contact	Assembly instructions	Finish
		A	B	C			
2.6 / 50 S	R123 071 000	25.5	0.6	1.61	yes	M01	BBR
2.6 / 50 D	R123 072 000	25.5	0.6	1.61	yes	M01	BBR
5 / 50 S	R123 075 000	28.5	1.05	3.11	yes	M01	BBR
5 / 50 D	R123 076 000	28.5	1.05	3.11	yes	M01	BBR

STRAIGHT PLUGS SOLDER TYPE FOR SEMI-RIGID CABLES



Cable	Part number	Dimensions (mm)		Captive center contact	Assembly instructions	Finish
		A	B			
.085"	R123 054 000	2.275	0.6	yes	M05	BBR
.141"	R123 055 000	3.675	1	yes	M05	BBR
.141"	R123 055 007	3.675	1	yes	M05	NPGR

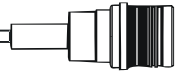
RIGHT ANGLE PLUGS CRIMP TYPE FOR FLEXIBLE CABLES



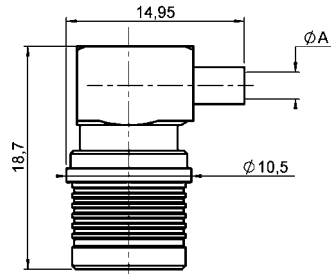
A right angle plug for 5.7 mm dia. cable is also available, please consulte us.

Cable	Part number	Dimensions (mm)		Captive center contact	Assembly instructions	Finish
		A	B			
2.6 / 50 S	R123 172 000	19.7	1.61	yes	M02	BBR
2.6 / 50 D	R123 174 000	19.7	1.61	yes	M02	BBR
5 / 50 S	R123 175 000	22.7	3.1	yes	M02	BBR
5 / 50 D	R123 176 000	22.7	3.1	yes	M02	BBR

Packaging: 100 pces. For unit packaging, add "W" after the P/N.

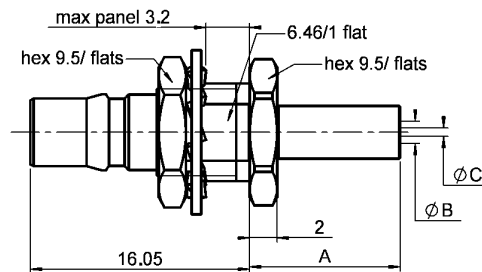


RIGHT ANGLE PLUGS SOLDER TYPE FOR SEMI-RIGID CABLES



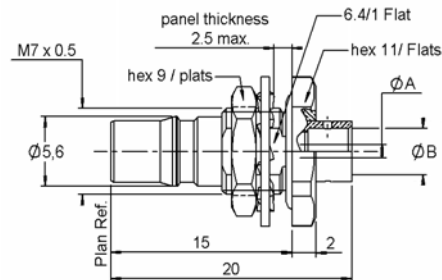
Cable	Part number	Captive center contact	Dimension A (mm)	Assembly instructions	Finish
.085"	R123 153 000	yes	2.25	M03	BBR
.085"	R123 153 003	yes	2.25	M03	Gold
.085"	R123 153 007	yes	2.25	M03	NPGR
.141"	R123 154 000	yes	3.7	M03	BBR
.141"	R123 154 003	yes	3.7	M03	Gold
.141"	R123 154 007	yes	3.7	M03	NPGR

STRAIGHT BULKHEAD JACKS FULL CRIMP TYPE FOR FLEXIBLE CABLES



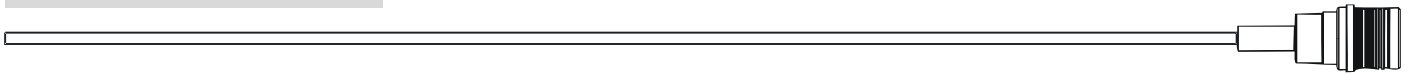
Cable	Part number	Dimensions (mm)			Captive center contact	Assembly instructions	Panel drilling	Finish
		A	B	C				
2.6 / 50 S	R123 312 000	11	0.6	1.61	yes	M01	P02	BBR
2.6 / 50 D	R123 313 000	11	0.6	1.61	yes	M01	P02	BBR
5 / 50 S	R123 314 000	14	1.05	3.11	yes	M01	P02	BBR
5 / 50 D	R123 315 000	14	1.05	3.11	yes	M01	P02	BBR

STRAIGHT BULKHEAD JACKS SOLDER TYPE FOR SEMI-RIGID CABLES (panel seal)

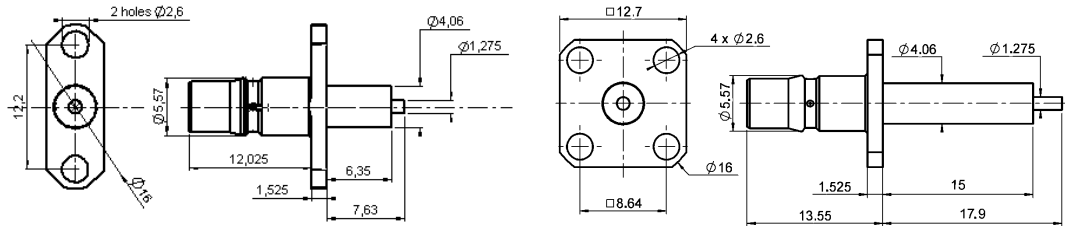


Cable	Part number	Dimensions (mm)		Assembly instructions	Panel drilling	Finish
		A	B			
.085"	R123 326 003	0.6	2.25	M05	P02	Gold
.141"	R123 305 023	1	3.7	M05	P02	Gold

Packaging: 100 pces. For unit packaging, add "W" after the P/N.

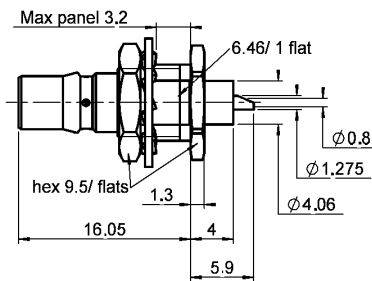


STRAIGHT FLANGE FEMALE RECEPTACLE



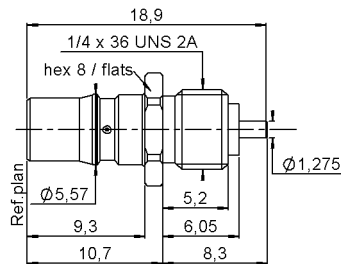
Part number	Fig.	Captive center contact	Panel drilling	Finish
R123 415 000	1	yes	P01	BBR
R123 464 030	2	yes	P04	BBR

STRAIGHT BULKHEAD RECEPTACLE



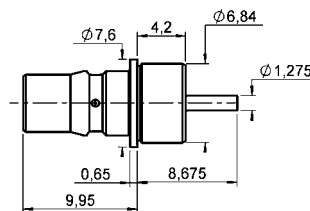
Part number	Captive center contact	Panel drilling	Finish
R123 553 000	yes	P02	BBR

SCREW ON RECEPTACLE (front mount)



Part number	Captive center contact	Panel drilling	Finish
R123 555 030	yes	P06	BBR

PRESS MOUNT RECEPTACLE



Part number	Captive center contact	Panel drilling	Finish
R123 590 027	yes	P05	NPGR

STRAIGHT PCB RECEPTACLES

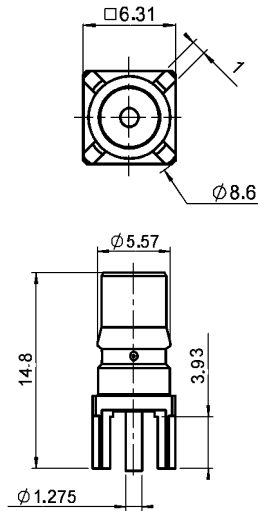


Fig.1

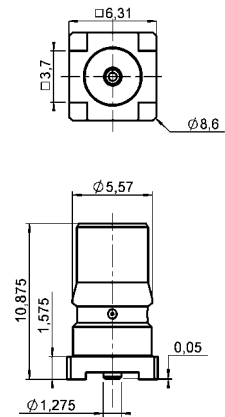


Fig.2

Part number	Fig.	Captive center contact	Finish	Assembly instructions	Panel drilling	Packaging	Note
R123 426 003	1	yes	NPGR		P03	100 / bulk	
R123 426 003W	1	yes	NPGR		P03	1	
R123 427 803	2	yes	NPGR	M04		100 / reel	SMT
R123 427 803W	2	yes	NPGR	M04		1	SMT
R123 427 823	2	yes	NPGR	M04		300 / reel	SMT

RIGHT ANGLE PCB RECEPTACLES

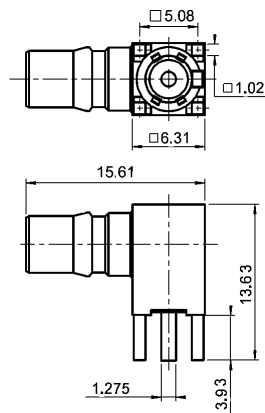
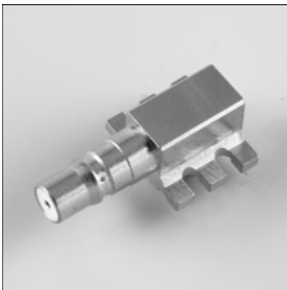


Fig. 1

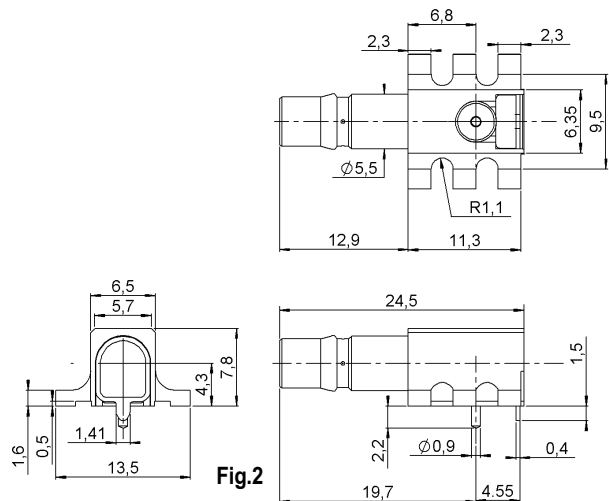
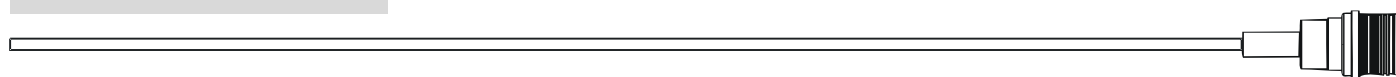


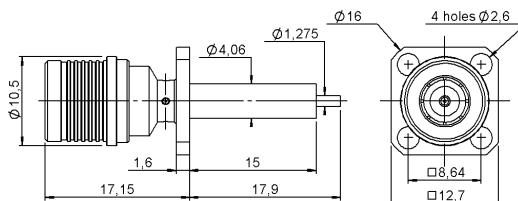
Fig.2

Part number	Fig.	Captive center contact	Finish	Assembly instructions	Panel drilling	Packaging	Note
R123 680 003	1	yes	NPGR		P03	100 / bulk	
R123 680 003W	1	yes	NPGR		P03	1	
R123 682 817	2	yes	NPGR	M04		250 / reel	SMT
R123 682 827	2	yes	NPGR	M04		100 / reel	SMT
R123 682 827W	2	yes	NPGR	M04		1	SMT

Packaging: 100 pcs. For unit packaging, add "W" after the P/N.

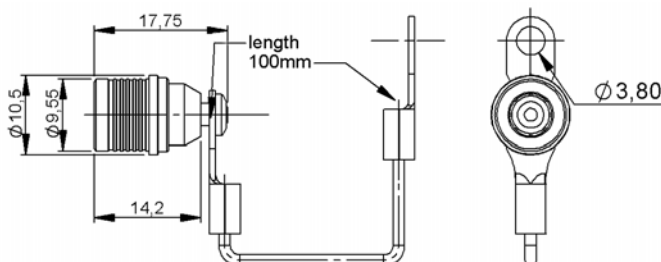


SQUARE FLANGE MALE RECEPTACLE



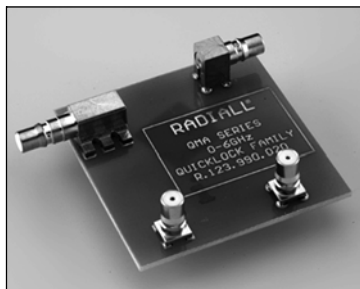
Part number	Captive center contact	Panel drilling	Finish
R123 441 000	yes	P01	BBR

MALE CAP WITH CORD



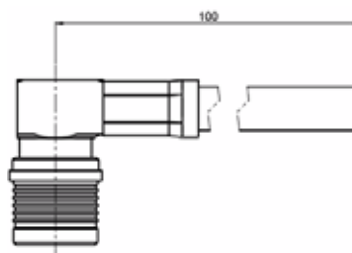
Part number	Finish	Packaging
R123 805 000	BBR	100

DEMONSTRATION BOARD



Part number
R123 990 020W

QMA PIGTAIL



Part number	Description	Length
R284 V01 01 003	R123 176 000 + C291 320 007	10 cm

Packaging: 100 pcs. For unit packaging, add "W" after the P/N.

IN SERIES ADAPTERS

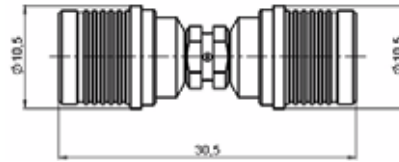


Fig. 1

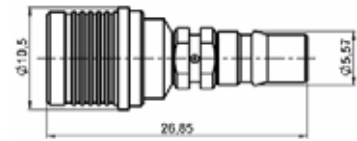


Fig. 2

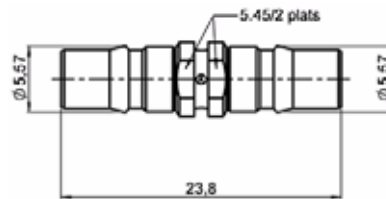


Fig. 3

Part number	Fig.	Captive center contact	Finish	Note
R123 703 000	1	yes	BBR	QMA MALE - QMA MALE
R123 704 000	2	yes	BBR	QMA FEMALE - QMA MALE
R123 705 000	3	yes	BBR	QMA FEMALE - QMA FEMALE

BETWEEN SERIES ADAPTERS QMA/SMA

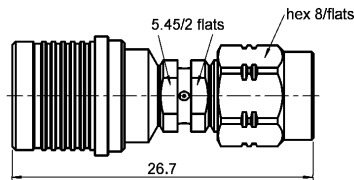


Fig. 1

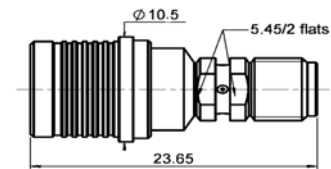


Fig. 2

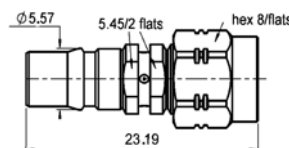


Fig. 3

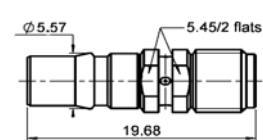


Fig. 4

Part number	Fig.	Captive center contact	Finish	Packaging	Note
R191 910 000	1	yes	BRR	1	QMA MALE - SMA MALE
R191 911 000	2	yes	BBR	1	QMA MALE - SMA FEMALE
R191 912 000	3	yes	BBR	1	QMA FEMALE - SMA MALE
R191 913 000	4	yes	BBR	1	QMA FEMALE - SMA FEMALE

Packaging: 100 pcs. For unit packaging, add "W" after the P/N.

QMA / SMA 3.5

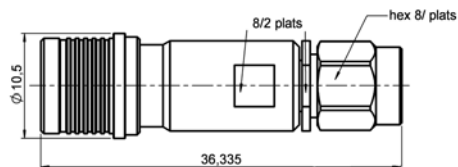


Fig. 1

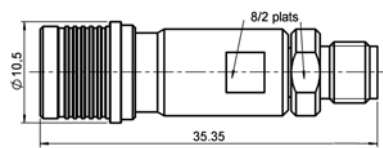


Fig. 2

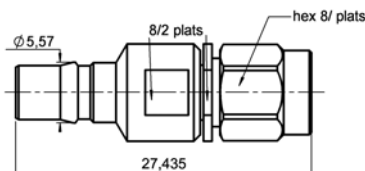


Fig. 3

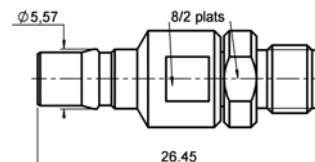


Fig. 4

Part number	Fig.	Finish	Packaging	Note
R191 914 700	1	passivated	1	QMA MALE - SMA 3.5 MALE
R191 915 700	2	passivated	1	QMA MALE - SMA 3.5 FEMALE
R191 916 700	3	passivated	1	QMA FEMALE - SMA 3.5 MALE
R191 917 700	4	passivated	1	QMA FEMALE - SMA 3.5 FEMALE

QMA / N

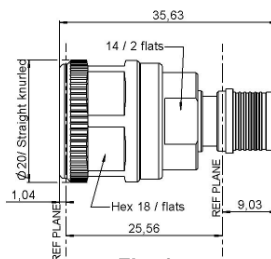


Fig. 1

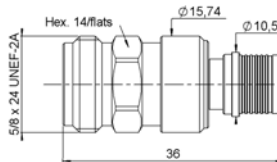


Fig. 2

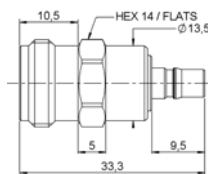


Fig. 3

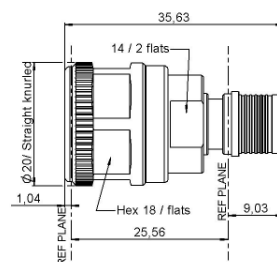
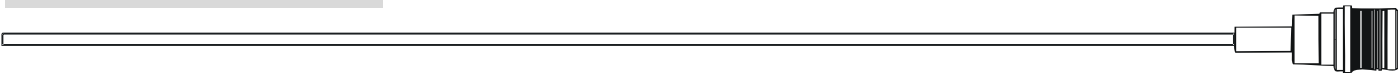


Fig. 4

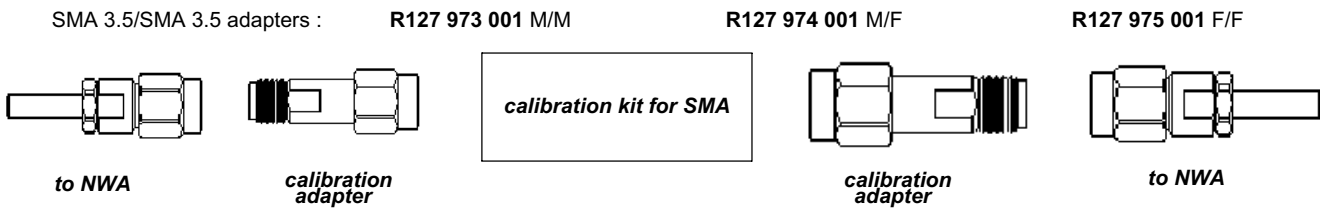
Part number	Fig.	Finish	Packaging	Note
R191 762 000	1	BBR	1	QMA FEMALE - N MALE
R191 763 000	2	BBR	1	QMA MALE - N FEMALE
R191 764 000	3	BBR	1	QMA FEMALE - N FEMALE
R191 765 000	4	BBR	1	QMA MALE - N MALE



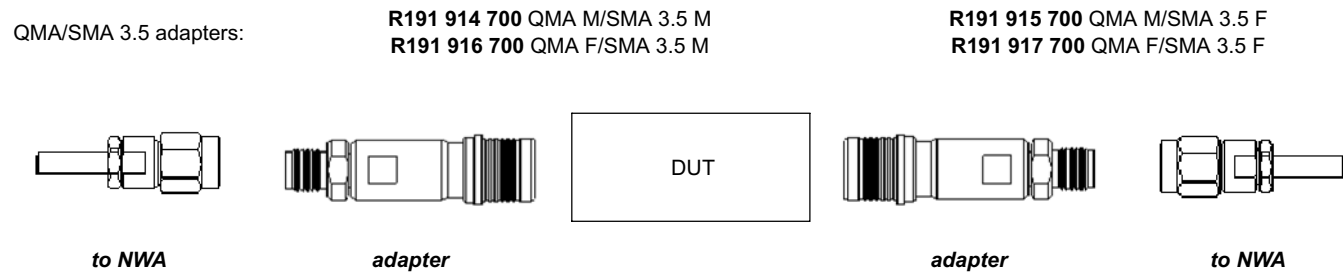
QMA calibration process

To calibrate your module equipped with QMA connectors and measure VSWR, Radiall recommends to use the following process:

1 - Calibration with SMA 3.5 to SMA 3.5 calibration adapters and a SMA calibration kit.

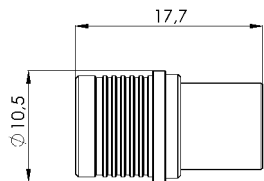
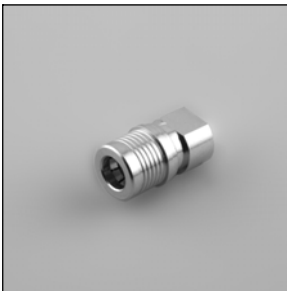


2 - Exchange of the calibration adapter with the required QMA adapters



SMA 3.5/SMA 3.5 adapters and QMA/SMA 3.5 adapters have the same electrical length and the same return loss and this allows an accurate measure.

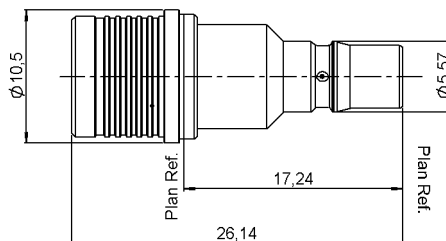
LOW POWER TERMINATION



Part number	Frequency range (GHz)	V.S.W.R (max)		Power (W)		Impedance (Ω)	Type	Weight (g)
		DC - 1	1 - 2.5	avg.	peak			
R404 114 000	DC - 2.5	≤ 1.08	≤ 1.20	1	100	50+/-5%	male	5

Packaging : unit.

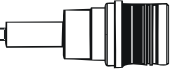
MINIATURE COAXIAL ATTENUATORS QMA 1 WATT



Part number	Frequency range (GHz)	Attenuation (dB)			V.S.W.R.		Power (W)
		Nom	Deviation				
			DC - 2	2 - 3	DC - 2	2 - 3	peak
R411 700 124	DC - 3	0	± 0.3	± 0.5	≤ 1.20	≤ 1.30	100
R411 701 124	DC - 3	1	± 0.3	± 0.5	≤ 1.20	≤ 1.30	100
R411 702 124	DC - 3	2	± 0.3	± 0.5	≤ 1.20	≤ 1.30	100
R411 703 124	DC - 3	3	± 0.3	± 0.5	≤ 1.20	≤ 1.30	100
R411 704 124	DC - 3	4	± 0.3	± 0.5	≤ 1.20	≤ 1.30	100
R411 705 124	DC - 3	5	± 0.3	± 0.5	≤ 1.20	≤ 1.30	100
R411 706 124	DC - 3	6	± 0.3	± 0.5	≤ 1.20	≤ 1.30	100
R411 707 124	DC - 3	7	± 0.5	± 0.5	≤ 1.20	≤ 1.30	100
R411 708 124	DC - 3	8	± 0.5	± 0.5	≤ 1.20	≤ 1.30	100
R411 709 124	DC - 3	9	± 0.5	± 0.5	≤ 1.20	≤ 1.30	100
R411 710 124	DC - 3	10	± 0.5	± 0.5	≤ 1.20	≤ 1.30	100
R411 711 124	DC - 3	11	± 0.5	± 0.5	≤ 1.20	≤ 1.30	100
R411 712 124	DC - 3	12	± 0.5	± 0.5	≤ 1.20	≤ 1.30	100
R411 713 124	DC - 3	13	± 0.5	± 0.5	≤ 1.20	≤ 1.30	100
R411 714 124	DC - 3	14	± 0.5	± 0.5	≤ 1.20	≤ 1.30	100
R411 715 124	DC - 3	15	± 0.5	± 0.5	≤ 1.20	≤ 1.30	100
R411 716 124	DC - 3	16	± 0.7	± 0.7	≤ 1.20	≤ 1.30	100
R411 717 124	DC - 3	17	± 0.7	± 0.7	≤ 1.20	≤ 1.30	100
R411 718 124	DC - 3	18	± 0.7	± 0.7	≤ 1.20	≤ 1.30	100
R411 719 124	DC - 3	19	± 0.7	± 0.7	≤ 1.20	≤ 1.30	100
R411 720 124	DC - 3	20	± 0.7	± 0.7	≤ 1.20	≤ 1.30	100

DC BLOCK QMA

Part number	Frequency range (GHz)	Impedance (Ω)	V.S.W.R	Average power at 25°C (W)	Peak power at 25°C (W)	DC voltage max (V)
R443 191 000	0.01 - 3	50	≤ 1.20	10	150	60



GENERAL SPECIFICATIONS - RF PERFORMANCES COAXIAL SWITCHES

Impedance	50 Ω	
Frequency range	DC - 6 GHz	
	DC - 3 GHz	3 - 6 GHz
V.S.W.R (maw)	1.20	1.30
Insertion loss (max)	0.20 dB	0.30 dB
Isolation (min)	80 dB	70 dB
Average power *	120 W	80 W
Actuator terminals	Solder pins (250°C max./30sec)	
Construction	splashproof	
Operating temperature range	-40, +85°C	
Storage temperature range	-55, +85°C	

*average power at 25°C for RF path

GENERAL SPECIFICATIONS - ADDITIONAL SPECIFICATIONS S.P.DT SWITCHES

Life	2.500.000 cycles
Switching time (nominal voltage ; 25°C)	10 ms
Weight (max)	45 g

QMA S.P.D.T. SWITCHES

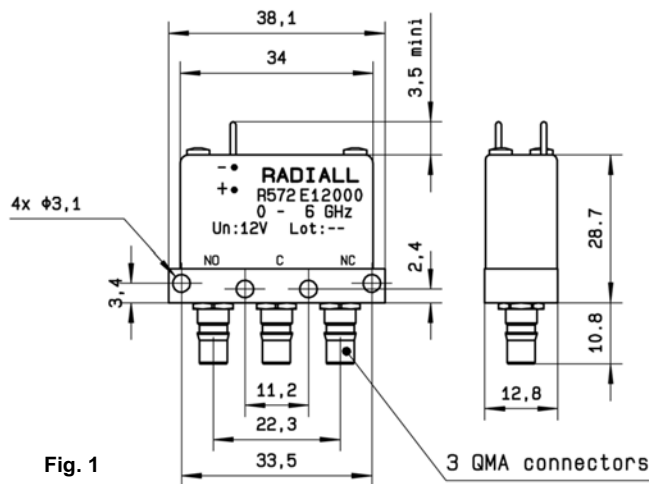


Fig. 1

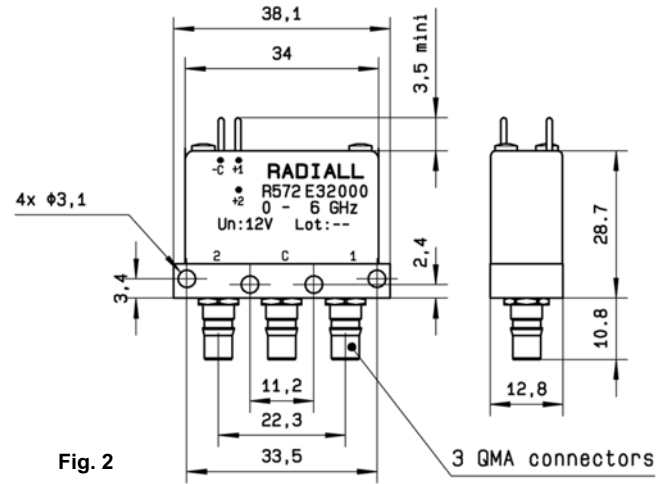
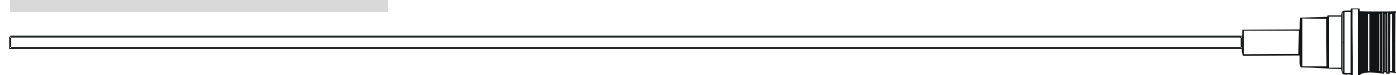


Fig. 2

Part number	Fig.	Actuator	Nominal current at 25°C ($\pm 10\%$) mA	Actuator voltage (nominal) Vcc
R572 E12 000	1	Failsafe	160	12 (10.2 to 13)
R572 E13 000			65	28 (24 to 30)
R572 E32 000	2	Latching	210	12 (10.2 to 13) negative common
R572 E33 000			80	28 (24 to 30) negative common



GENERAL SPECIFICATIONS - ADDITIONAL SPECIFICATIONS D.P.D.T SWITCHES

Life	2.500.000 cycles
Switching time (nominal voltage ; 25°C)	15 ms
Weight (max)	85 g

QMA D.P.D.T. SWITCHES

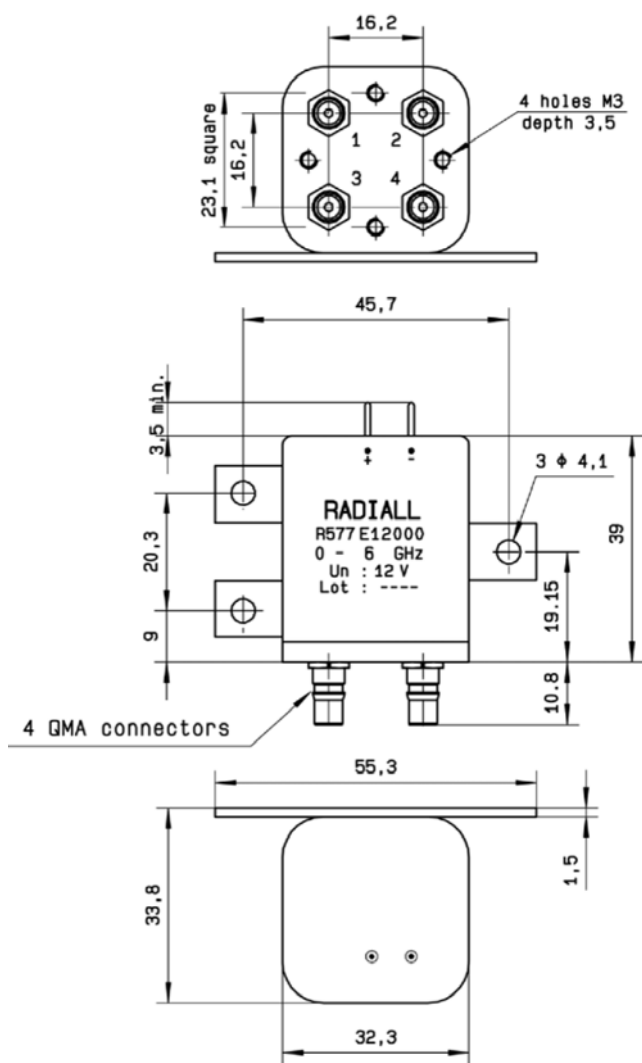


Fig. 1

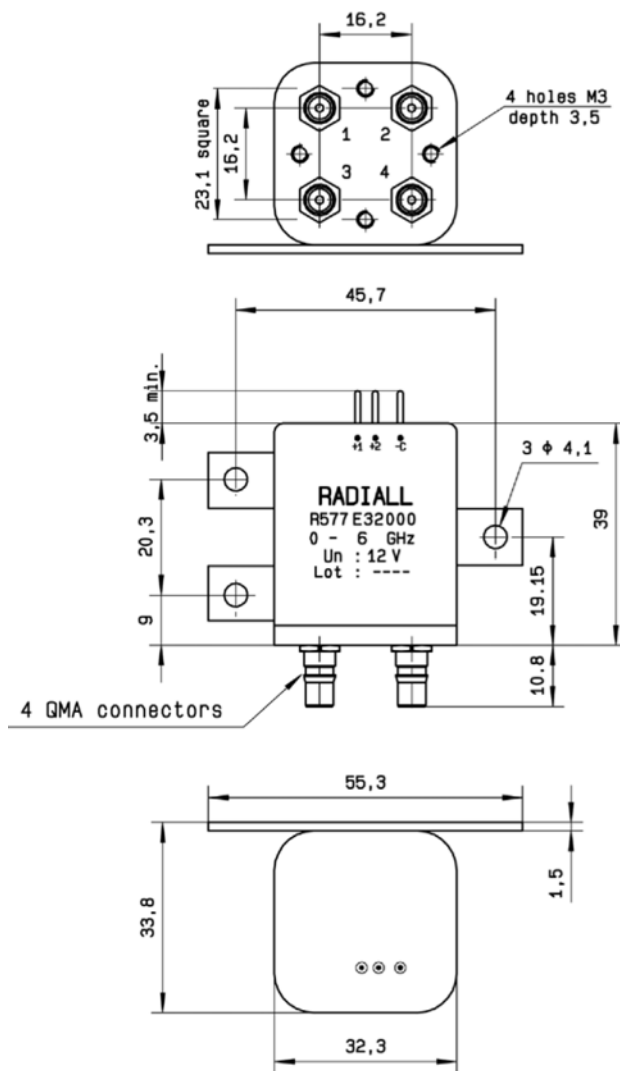
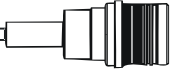


Fig. 2

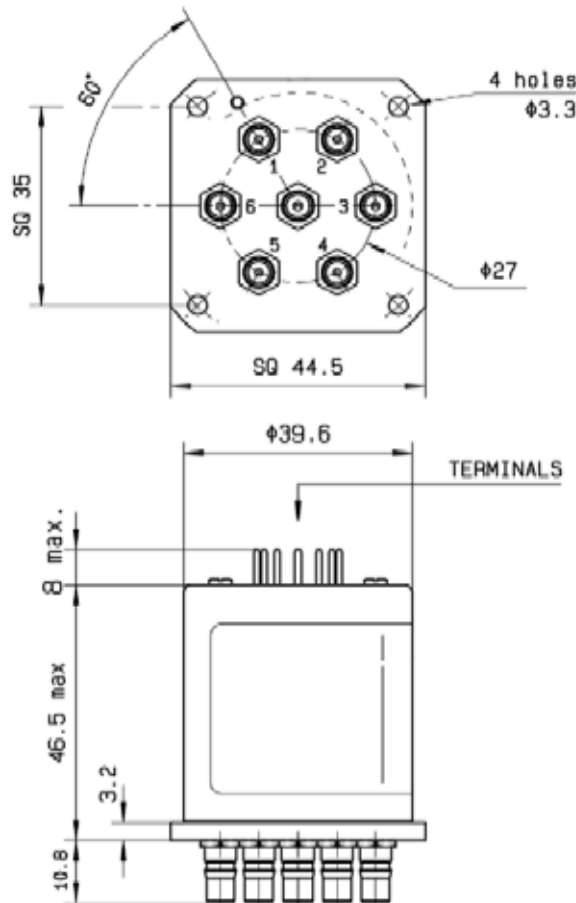
Part number	Fig.	Actuator	Nominal current at 25°C (±10%) mA	Actuator voltage (nominal) Vcc
R577 E12 000	1	Failsafe	340	12 (10.2 to 13)
R577 E13 000			140	28 (24 to 30)
R577 E32 000	2	Latching	320	12 (10.2 to 13) negative common
R577 E33 000			125	28 (24 to 30) negative common



GENERAL SPECIFICATIONS - ADDITIONAL SPECIFICATIONS S.P.n.T SWITCHES

Life	500.000 cycles per position
Switching time (nominal voltage ; 25°C)	15 ms
Weight (max)	180 g

QMA S.P.n.T. SWITCHES



Part number	Actuator	Nominal current at 25°C (±10%) mA	Actuator voltage (nominal) Vcc
R573 E02 600	Normally Open	250	12 (10.2 to 13) negative common
R573 E03 600		102	28 (24 to 30) negative common
R573 E22 600	Latching	320 / reset : 1920 *	12 (10.2 to 13) negative common
R573 E23 600		125 / reset : 750 *	28 (24 to 30) negative common

* reset : supply voltage time 1 sec max/duty cycle 20 %



Joule effect soldering device

Compliant with European standard n° 89/336/CEE and 73/23/CEE (electromagnetic compatibility and low voltage)

It allows to solder :

- center contacts and bodies to semi-rigid cables,
- center contacts to flexible cables,
- solder pot receptacles.

P/N of the soldering device: **R282 800 000**.

Please, ask for our leaflet about Joule effect soldering device **D1 035 DE**.

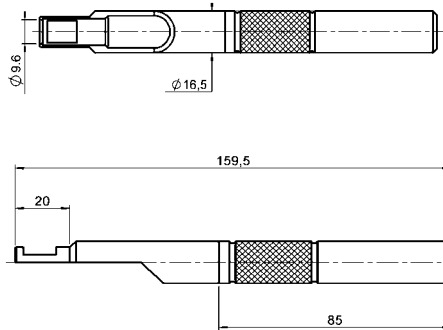
Radiall recommends to always carry out soldering operations in well ventilated areas and to make use of use of fume extraction equipment.

Our fume extraction device complies also with European standards n° 89/336/CEE, 89/392/CEE and 73/23/CEE. Its flow is adjustable up to 240 m³/h and it uses active coal filter.

P/N of the fume extraction device: **R282 803 000**.



Fume extraction device

EXTRACTION TOOL (optional for high density applications)

Part number
R282 868 230

This tool can be used with either straight or right angle connectors.

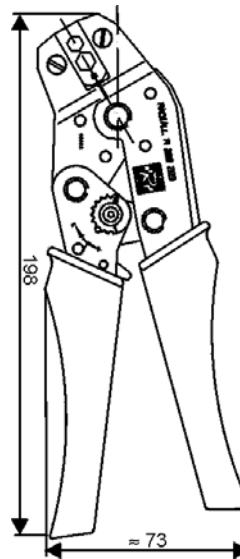
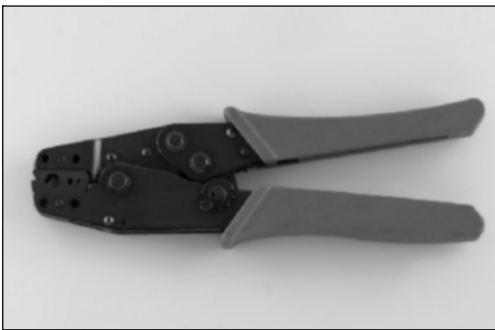
CRIMP TOOLS (DIES INCLUDED)

Fig. 1

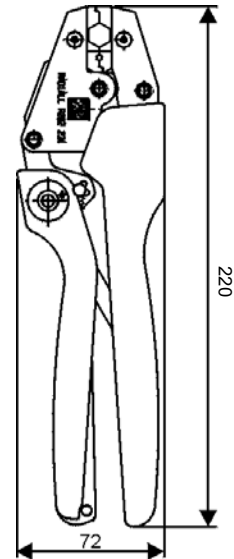


Fig. 2

Part number	Fig.	Cable group	Color of handles			
R282 211 000	1	2 / 50 S - 2.6 / 50 S	red	4.52 (1.78)	3.25 (1.28)	2.67 (.105)
R282 223 000	1	5 / 50 S - 5 / 50 D	orange	6.48 (.255)	5.41 (.213)	1.73 (.068)
R282 271 000	2	2.6 / 50 D	black	3.84 (.131)	3.25 (.128)	0.72* (.28)

* Square crimping print.

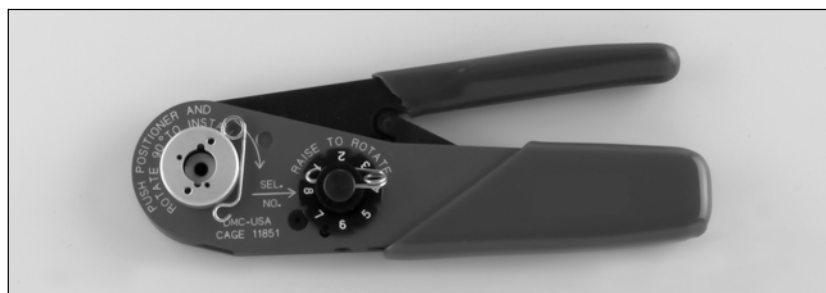
MIL CRIMP TOOL (M22520/5-01) R282 293 000 (DIES NOT INCLUDED)



DIES

Part number	Cable group		
R282 235 003	2.6 / 50 S	3.25 (.128)	2.67 (.105)
R282 235 011	5 / 50 S - 5 / 50 D	5.41 (.213)	1.73 (.068)
R282 235 037	2.6 / 50 D	3.84 (.131)	2.67 (.105)

CRIMP TOOL FOR CENTER CONTACT R282 281 000



POSITIONER FOR CENTER CRIMP TOOL

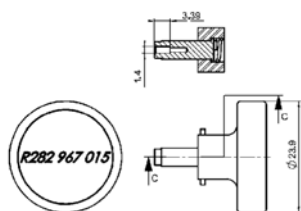
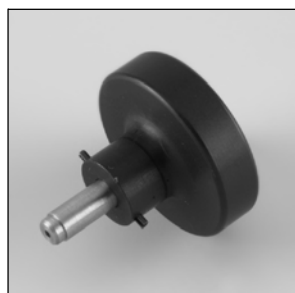


Fig. 1

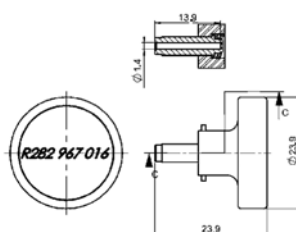
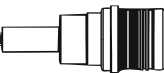
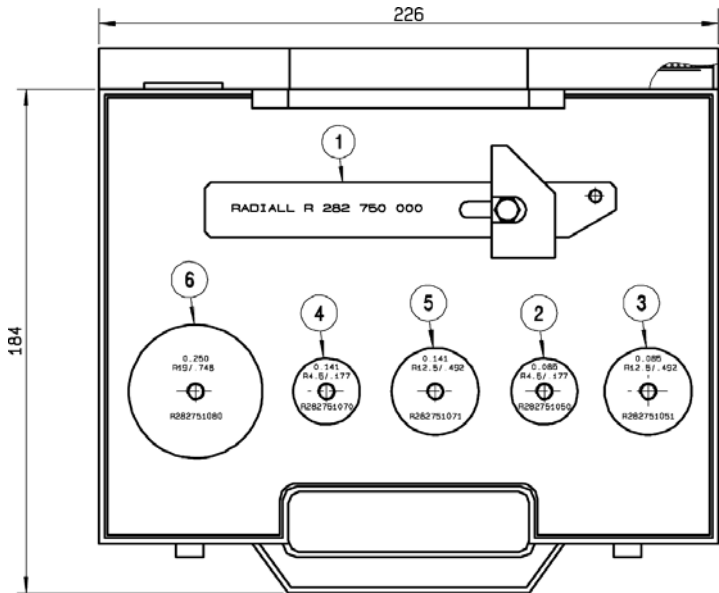


Fig. 2

Part number	Fig
R282 967 015	1
R282 967 016	2

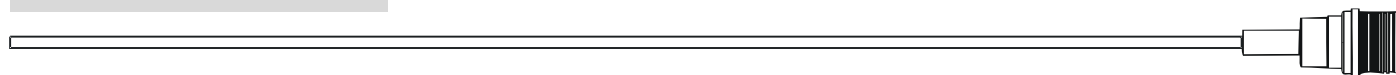


BENDING KIT FOR SEMI-RIGID CABLES .085" / .141" / .250"

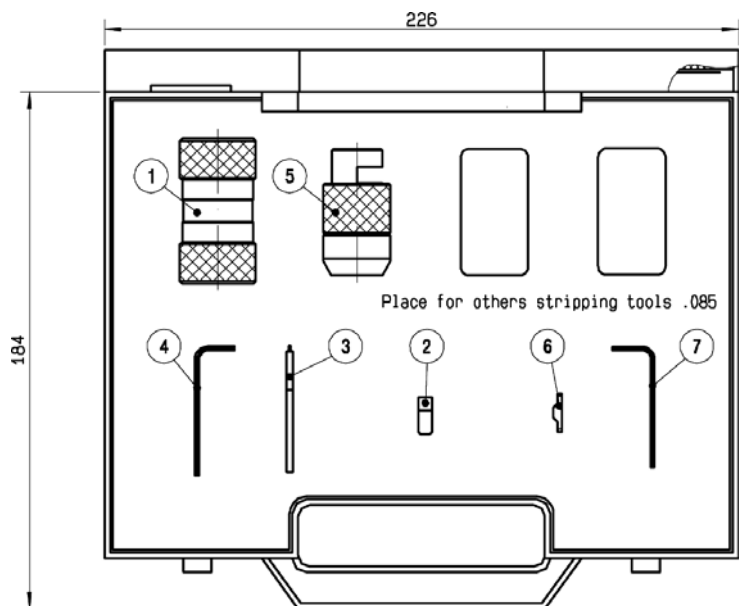


Part number		R282 102 000	
1	- R282 750 000	Bending tool	
2	- R282 751 050	Bending gauge	.085"
3	- R282 751 051	Bending gauge	.085"
4	- R282 751 070	Bending gauge	.141"
5	- R282 751 071	Bending gauge	.141"
6	- R282 751 080	Bending gauge	.250"

Inside the box, every part number can be ordered separately.

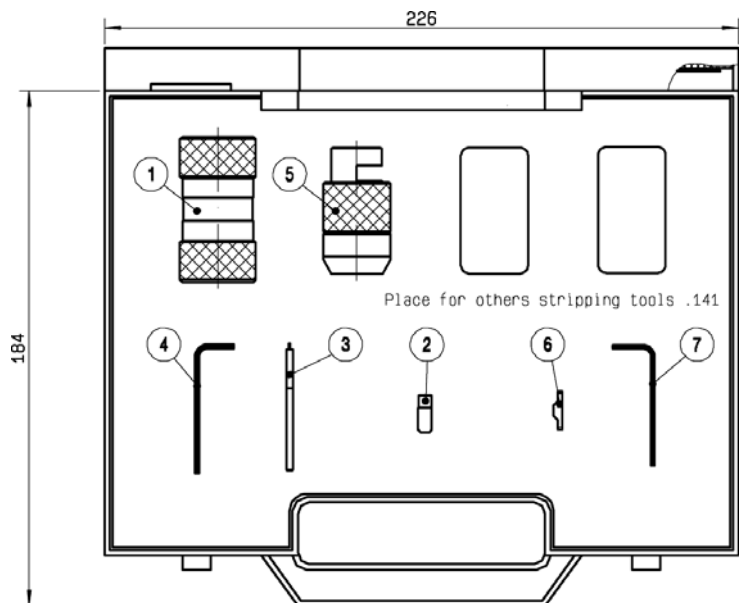


STRIPPING (3.17mm) + CONING KIT FOR SEMI-RIGID CABLE .085"



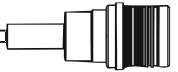
Part number		R282 114 125
1	-	R282 051 000 Stripping tool . 085"
2	-	R282 055 000 Replacement stripping blade
3	-	R282 864 110 Blade installation gauge .085"
4	-	R282 344 150 1.5 mm across flats male hex key
5	-	R282 063 000 Coning and length-setting tool 3.17 mm long on .085"
6	-	R282 056 085 Replacement coning blade
7	-	R282 344 127 1.27 mm across flats male hex key

STRIPPING (3.17mm) + CONING KIT FOR SEMI-RIGID CABLE .141"

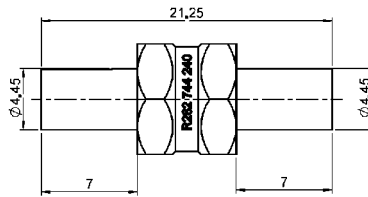
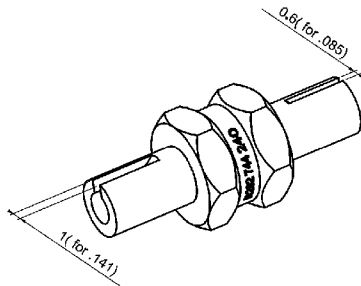


Part number		R282 114 165
1	-	R282 053 000 Stripping tool .141"
2	-	R282 055 000 Replacement stripping blade
3	-	R282 864 120 Blade installation gauge .141"
4	-	R282 344 150 1.5 mm across flats male hex key
5	-	R282 067 000 Coning and length-setting tool 3.17 mm long on .141"
6	-	R282 056 118 Replacement coning blade
7	-	R282 344 127 1.27 mm across flats male hex key

Inside the box, every part number can be ordered separately.



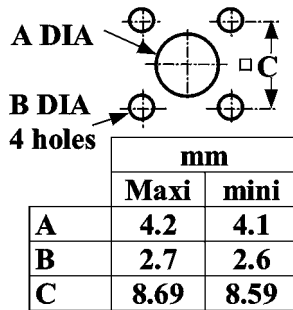
POSITIONER FOR RIGHT ANGLE PLUGS FOR SEMI-RIGID CABLES



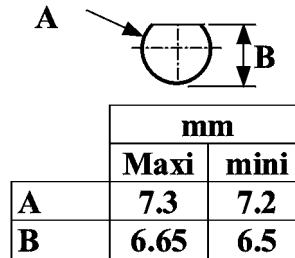
Part number
R282 744 240

PANEL DRILLING

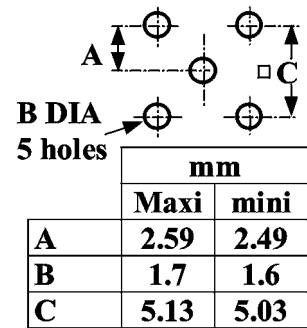
P01



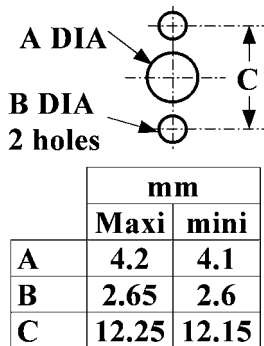
P02



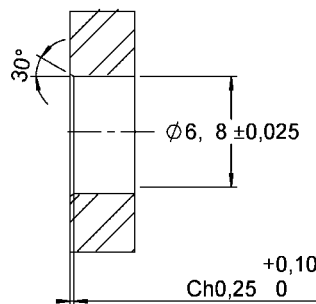
P03



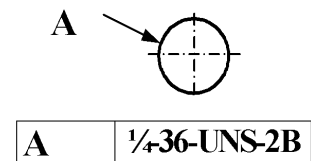
P04



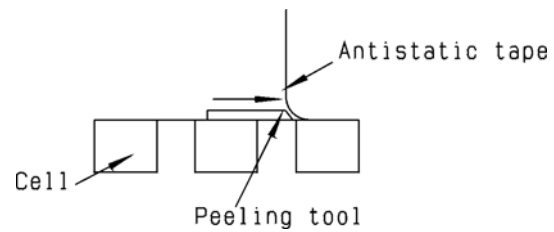
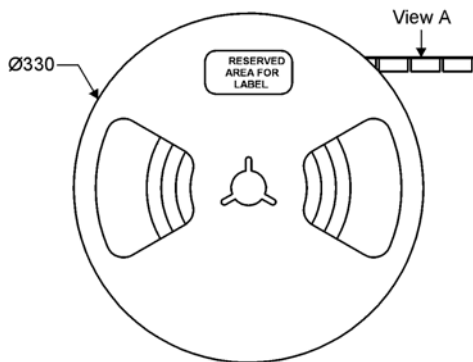
P05



P06



TAPE AND REEL



ACCORDING TO IEC 286-3 STANDARD

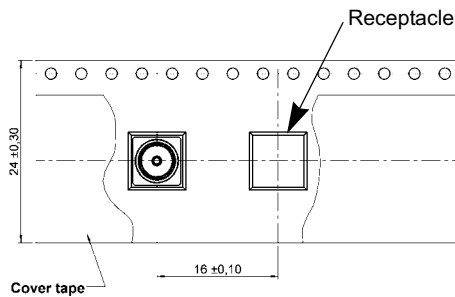
MATERIALS

Reel: polyester

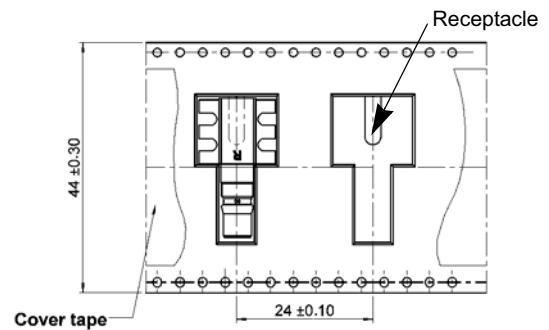
Carrier tape: antistatic PETG (polyester)

Cover tape: polyester.

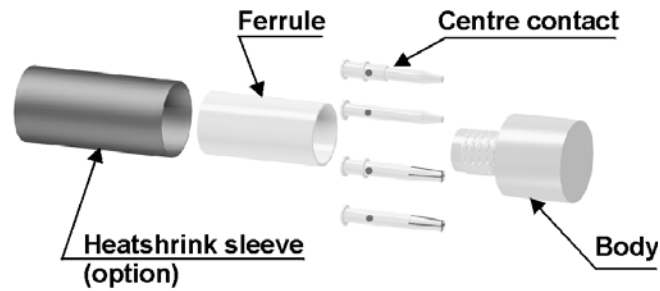
View A

R123 427 803
R123 427 823

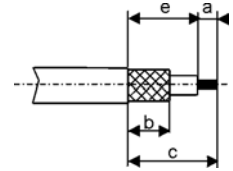
R123 682 827



M 01



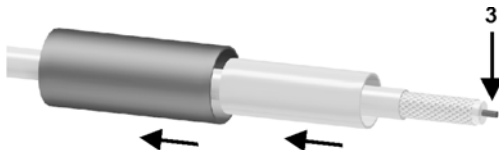
STRIPPING DIMENSIONS



Part number	Stripping length (mm)				Hex. dim.	Ferrule		Center contact
	a	b	c	e		Standard crimp tools dies included	MIL standard R282 293 000 (M22520/5-01+ dies	Crimp tool R282 281 000 + positioner
R123 071 000	3	6.3	10.8	7.8	3.25	R282 211 000	R282 235 003 (M22520/5-03)	R282 967 015 Selection N°5
R123 072 000					3.84	R282 271 000	R282 235 037 (M22520/5-37)	R282 967 015 Selection N°5
R123 075 000 R123 076 000					5.41	R282 223 000	R282 235 011 (M22520/5-11)	R282 967 015 Selection N°7
R123 312 000	2.8	6.5	11	8.2	3.25	R282 211 000	R282 235 003 (M22520/5-03)	R282 967 016 Selection N°5
R123 313 000					3.84	R282 271 000	R282 235 037 (M22520/5-37)	R282 967 016 Selection N°5
R123 314 000 R123 315 000					5.41	R282 223 000	R282 235 011 (M22520/5-11)	R282 967 016 Selection N°7

1

Slide the heatshrink sleeve onto the cable (Option).
Slide the ferrule onto the cable.
Strip the cable.



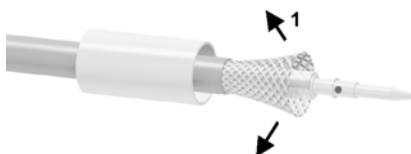
2

Slide the centre on until it bottoms against the cable dielectric.
Crimp the centre contact with crimping tool.



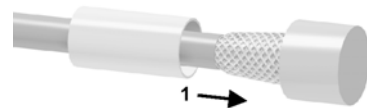
3

Fan the braid.



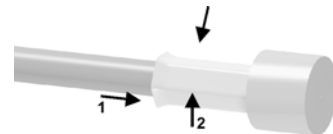
4

Slide the cable into the body until it bottoms against insulator.



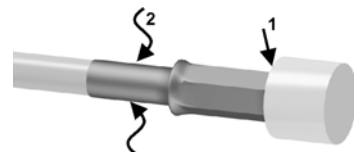
5

Slide the ferrule over the braid.
Crimp the ferrule with crimping tool.

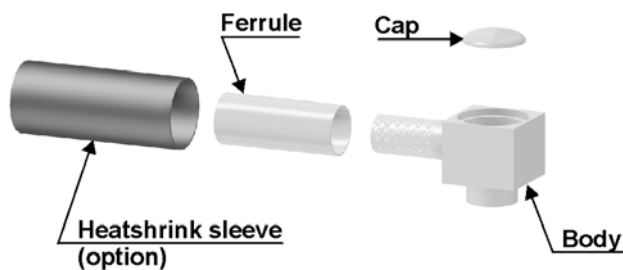


6

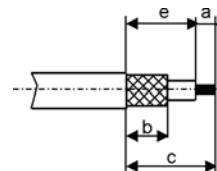
Cut the excess of braid if necessary.
Slide the sleeve over the ferrule and heatshrink it in place (Option)



M 02



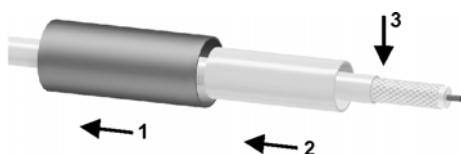
STRIPPING DIMENSIONS



Part number	Stripping length (mm)				Hex. dim.	Ferrule	
	a	b	c	e		Standard crimp tools dies included	MIL standard R282 293 000 (M22520/5-01) dies
R123 172 000	2	7	13	11	3.25	R282 211 000	R282 235 003 (M22520/5-03)
R123 174 000					3.84	R282 271 000	R282 235 037 (M22520/5-37)
R123 175 000					5.41	R282 223 000	R282 235 011 (M22520/5-11)
R123 176 000							

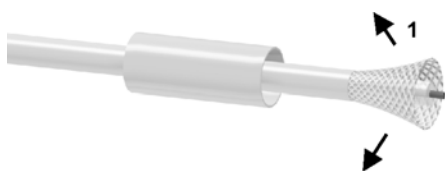
1

Slide the heatshrink sleeve onto the cable (Option).
Slide the ferrule onto the cable.
Strip the cable.



2

Fan the braid.



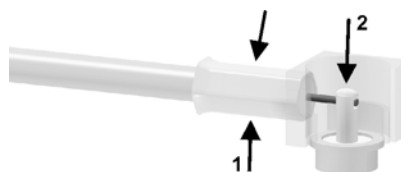
3

Push the connector body under the braid.
Slide the ferrule over the braid.



4

Crimp the ferrule with crimping tool.
Solder the inner conductor.



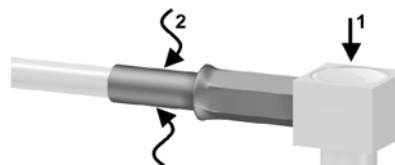
5

Place the cap into the body.

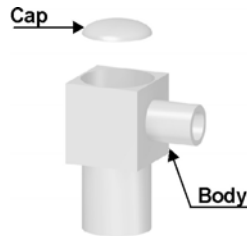


6

Press on the cap flush or slightly below the surface of the body assembly.
Slide the sleeve over the ferrule and heatshrink it in place (Option).



M 03



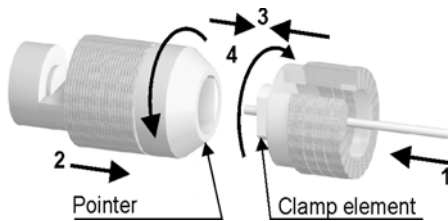
STRIPPING DIMENSIONS



Part number	Stripping length (mm) a	Stripping tool	Pointer	Assembly jig	Positioner
R123 153 000 R123 153 003 R123 153 007	3.17	R282 051 000	R282 063 000	R282 740 000	R282 744 240
R123 154 000 R123 154 003 R123 154 007		R282 053 000	R282 067 000		R282 744 220

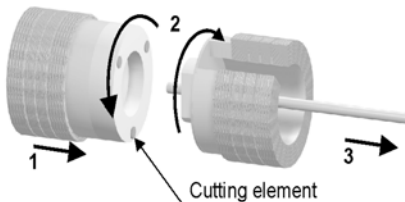
1

Insert the cable into the clamping element.
Present the pointer in front of the clamping element.
Push the cable until it stops, while holding the clamping element pushed on the hollow part of the pointer.
Turn the clamping part until the release of the pointer.



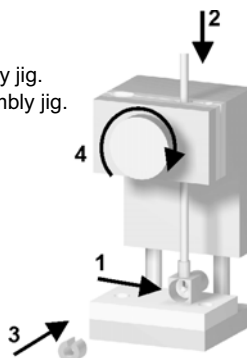
2

Present the cutting element in front of the cutting element.
Push and turn both elements, back part opposite to the front part.
Once they reach the stop, pull without revolving.



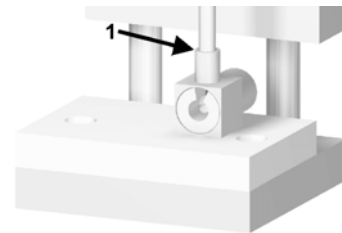
3

Insert the cable into the body.
Secure the positioner into the assembly jig.
Place the sub-assembly into the assembly jig.
Tighten.



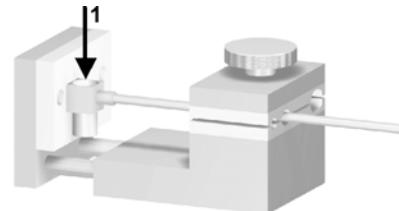
4

Put three rings of solder around the cable.
Solder the body onto the cable.



5

After cooling, remove the assembly from the jig.
Remove the positioner.
Solder the inner conductor



6

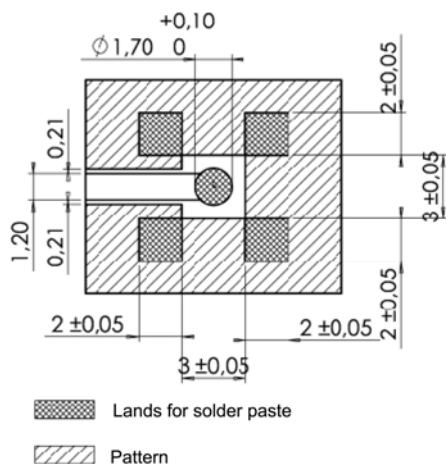
Place the cap into the body.
Press on the cap flush or slightly below the surface of the body assembly.



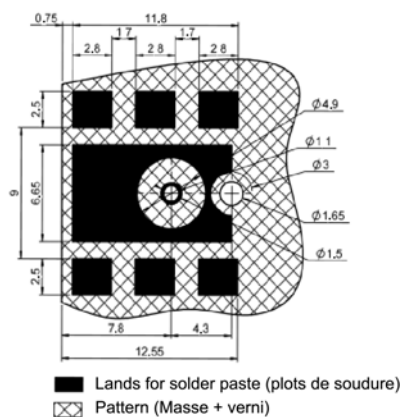
M 04

Receptacle soldering pattern :

Part number
R123 427 803
R123 427 803W
R123 427 823



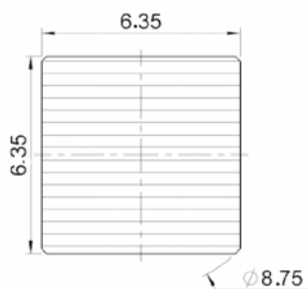
Part number
R123 682 817
R123 682 827
R123 682 827W



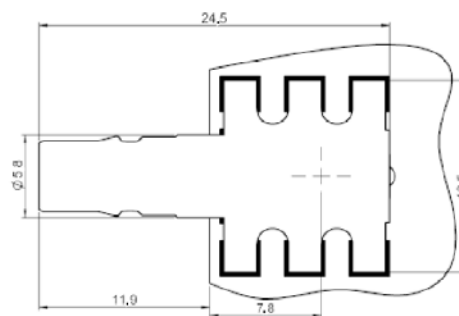
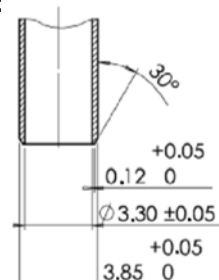
COPLANAR LINE : Pattern and signal are on the same side. Thickness of PCB = 1.6 mm.

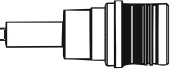
The material of PCB is the glass epoxy resin ($E_r = 4.8$). The solder paste should be printed except for the land pattern on the PCB.

Video shadow :



Vaccum nozzle dimensions:





M 04

1

Deposit solder paste 'Sn95 Ag4 Cu0.5' on mounting zone by screen printing application. We recommend a low residue flux. We advise a thickness of 150 microm (5.850 microinch). Verify that the edges of the zone are clean.

2

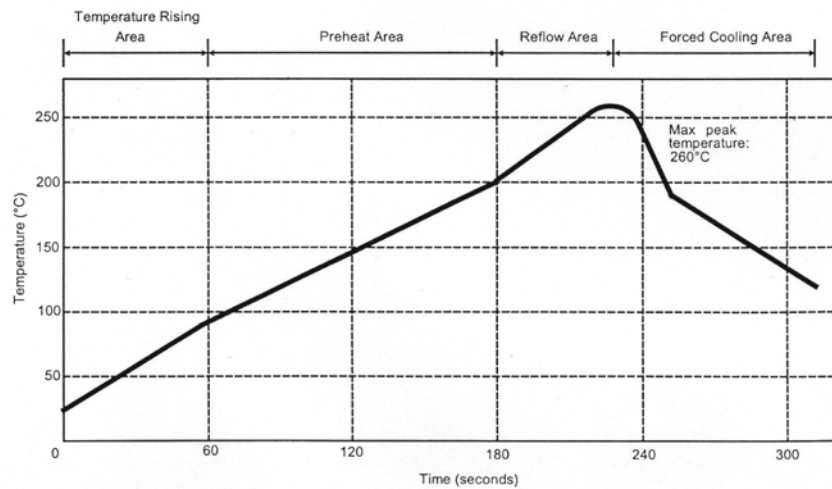
Placement of the receptacle on the mounting zone with an automatic machine of 'pick and place' machine. Video camera is preferred to check the positioning of the component. Adhesive agents are forbidden on the receptacle.

3

Soldering by infra-red reflow. We give hereafter, the typical profile to use.

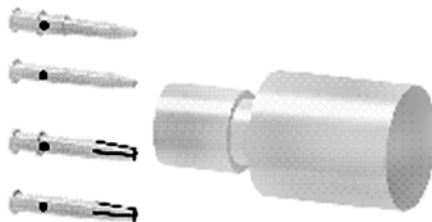
4

Cleaning of printed circuit boards.



Parameter	Value	Unit
Temperature rising Area	1 - 4	°C/sec
Max Peak Temperature	260	°C
Max dwell time @260°C	10	sec
Min dwell time @235°C	20	sec
Max dwell time @235°C	60	sec
Temperature drop in cooling Area	-1 to -4	°C/sec
Max dwell time above 100°C	420	sec

M05



STRIPPING DIMENSIONS

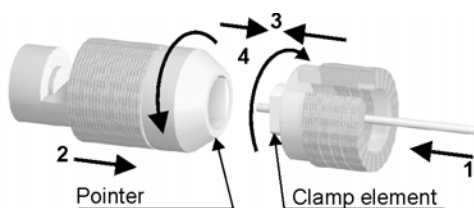


We recommend a thermal preconditioning cable

Part number	Stripping length (mm)a	Stripping tool	Pointer	Assembly jig	Positioner	Control gauge
R123 054 000	3.17	R282 051 000	R282 063 000	R282 740 000	R282 744 220	R282 862 090
R123 055 000		R282 053 000	R282 067 000			R282 862 070
R123 055 007			R282 066 010			R282 862 070
R123 305 023	4.5					R282 862 090
R123 326 003	3.17	R282 051 000	R282 063 000			R282 862 090

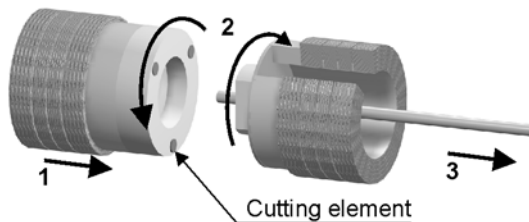
1

Insert the cable into the clamping element.
Present the pointer in front of the clamping element.
Push the cable until it stops, while holding the clamping element pushed on the hollow part of the pointer.
Turn the clamping part until the release of the pointer.



2

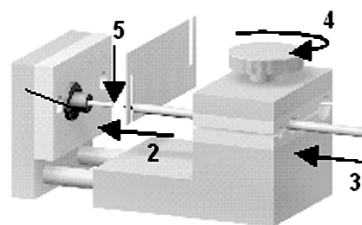
Present the cutting element in front of the cutting element.
Push and turn both elements, back part opposite to the front part.
Once they reach the stop, pull without revolving.



3

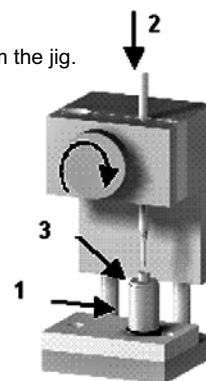
Mount the positioner A.
Slide the centre contact into the positioner A.
Insert the solder gauge between the centre contact and the cable.
Tighten
Solder the contact

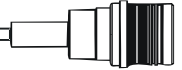
1 - Positioner A



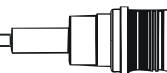
4

After cooling, remove the assembly from the jig.
Positioning the connector onto the assembly jig.
Slide the cable into the connector until it bottoms against the insulator
Tighten.
Put three rings of solder around the cable and solder.
After cooling, remove the assembly from the jig.

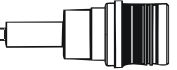




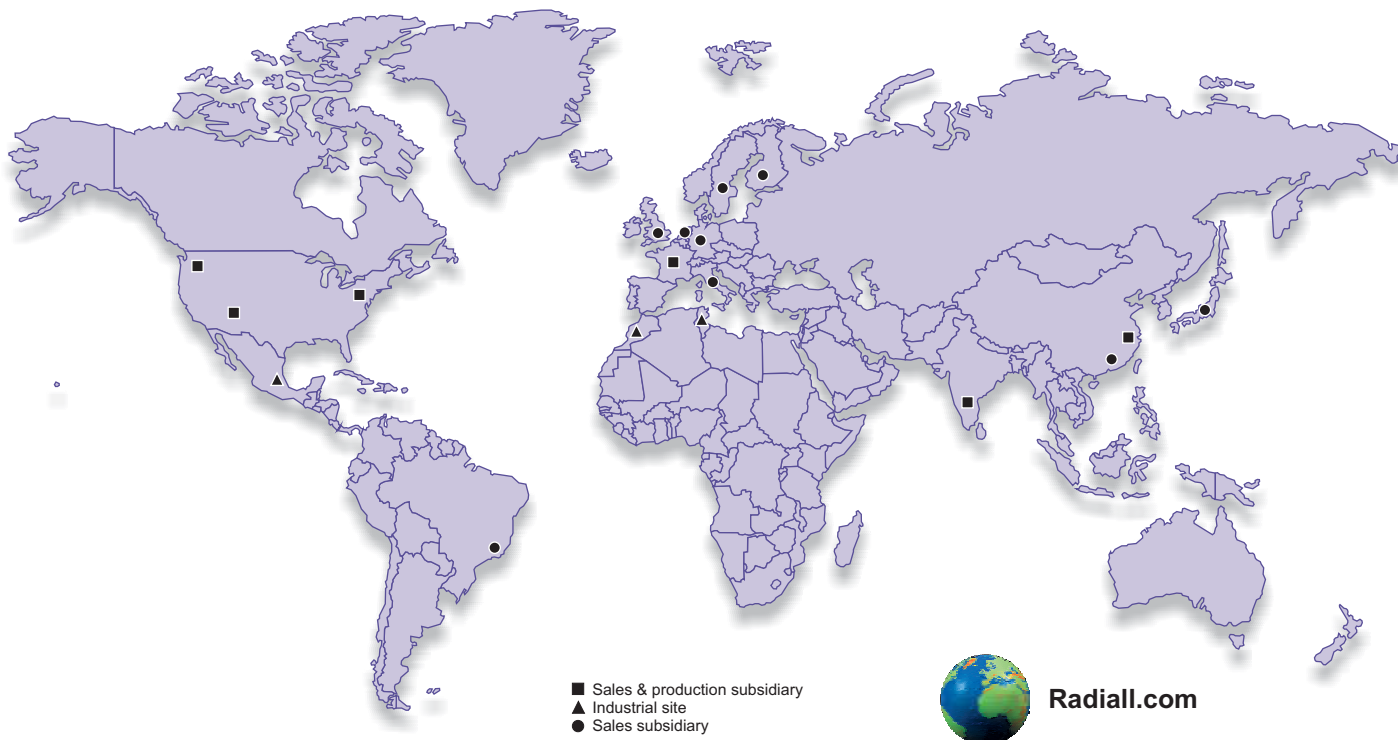
Part numbers	Description	Page
R123 054 000.....	Straight plug solder type for .085" cable	8
R123 055 000.....	Straight plug solder type for .141" cable	8
R123 055 007.....	Straight plug solder type for .141" cable	8
R123 071 000.....	Straight plug full crimp type for 2.6/50/S cable	8
R123 072 000.....	Straight plug full crimp type for 2.6/50/D cable	8
R123 075 000.....	Straight plug full crimp type for 5/50/S cable	8
R123 076 000.....	Straight plug full crimp type for 5/50/D cable	8
R123 153 000.....	Right angle plug solder type for .085" cable	9
R123 153 003.....	Right angle plug solder type for .085" cable	9
R123 153 007.....	Right angle plug solder type for .085" cable	9
R123 154 000.....	Right angle plug solder type for .141" cable	9
R123 154 003.....	Right angle plug solder type for .141" cable	9
R123 154 007.....	Right angle plug solder type for .141" cable	9
R123 172 000.....	Right angle plugs crimp type for 2.6/50/S cables	8
R123 174 000.....	Right angle plugs crimp type for 2.6/50/D cables	8
R123 175 000.....	Right angle plugs crimp type for 5/50/S cables	8
R123 176 000.....	Right angle plugs crimp type for 5/50/D cables	8
R123 305 023.....	Straight bulkhead jacks solder type for .141" cable	9
R123 312 000.....	Straight bulkhead jacks full crimp type for 2.6/50/S cable	9
R123 313 000.....	Straight bulkhead jacks full crimp type for 2.6/50/D cable	9
R123 314 000.....	Straight bulkhead jacks full crimp type for 5/50/S cable	9
R123 315 000.....	Straight bulkhead jacks full crimp type for 5/50/D cable	9
R123 326 003.....	Straight bulkhead jacks solder type for .085" cable	9
R123 415 000.....	Straight flange female receptacle	10
R123 426 003.....	Straight PCB receptacle 100/bulk	11
R123 426 003W .	Straight PCB receptacle 1	11
R123 427 803.....	Straight PCB receptacle 100/reel	11
R123 427 803W .	Straight PCB receptacle 1	11
R123 427 823.....	Straight PCB receptacle 300 / reel	11
R123 441 000.....	Square flange male receptacle	12
R123 464 030.....	Straight flange female receptacle	10
R123 553 000.....	Straight bulkhead receptacle	10
R123 555 030.....	Screw on receptacle front mount	10
R123 590 027.....	Press mount receptacle	10
R123 680 003.....	Right angle PCB receptacles 100/bulk	11
R123 680 003W .	Right angle PCB receptacles 1	11
R123 682 817.....	Right angle PCB receptacles 250 / reel	11
R123 682 827.....	Right angle PCB receptacles 100 / ree	11
R123 682 827W .	Right angle PCB receptacles 1	11
R123 703 000.....	In series adapters QMA male - QMA male	13
R123 704 000.....	In series adapters QMA female - QMA male	13
R123 705 000.....	In series adapters QMA female - QMA female	13
R123 805 000.....	Male cap with cord	12
R123 990 020W .	Demonstration board	12
R191 762 000.....	Between series adapters QMA female - N male	14
R191 763 000.....	Between series adapters QMA male - N female	14
R191 764 000.....	Between series adapters QMA female - N female	14



Part numbers	Description	Page
R191 765 000.....	Between series adapters QMA male - N male.....	14
R191 910 000.....	Between series adapters QMA male - SMA male.....	13
R191 911 000.....	Between series adapters QMA male - SMA female.....	13
R191 912 000.....	Between series adapters QMA female - SMA male.....	13
R191 913 000.....	Between series adapters QMA female - SMA female.....	13
R191 914 700.....	Between series adapters QMA male - SMA 3.5 male.....	14
R191 915 700.....	Between series adapters QMA male - SMA 3.5 female.....	14
R191 916 700.....	Between series adapters QMA female - SMA 3.5 male.....	14
R191 917 700.....	Between series adapters QMA female - SMA 3.5 female.....	14
R282 051 000.....	Stripping tool .085".....	24
R282 053 000.....	Stripping tool .141".....	24
R282 055 000.....	Replacement stripping blade.....	24
R282 056 085.....	Replacement coning blade.....	24
R282 056 118.....	Replacement coning blade.....	24
R282 063 000.....	Coning and length setting tool 3.17 long on .085".....	24
R282 067 000.....	Coning and length setting tool 3.17 long on .141".....	24
R282 102 000.....	Bending kit for semi-rigid cables.....	23
R282 114 125.....	Stripping (3.17) + coning kit for semi-rigid cables .085".....	24
R282 114 165.....	Stripping (3.17) + coning kit for semi-rigid cables .141".....	24
R282 211 000.....	Crimp tool (dies included).....	21
R282 223 000.....	Crimp tool (dies included).....	21
R282 235 003.....	Dies.....	22
R282 235 011.....	Dies.....	22
R282 235 037.....	Dies.....	22
R282 271 000.....	Crimp tool (dies included).....	21
R282 281 000.....	Crimp tool.....	22
R282 293 000.....	Mil crimp tool (dies not included).....	22
R282 344 127.....	1.27 across flats male hex key.....	24
R282 344 150.....	1.5 across flats male hex key.....	24
R282 744 240.....	Positioner for right angle plugs for semi rigid cables.....	25
R282 750 000.....	Bending tool.....	23
R282 751 050.....	Bending gauge .085".....	23
R282 751 051.....	Bending gauge .085".....	23
R282 751 070.....	Bending gauge .141".....	23
R282 751 071.....	Bending gauge .085".....	23
R282 751 080.....	Bending gauge .250".....	23
R282 800 000.....	joule effect soldering device.....	20
R282 803 000.....	Fume extraction device.....	20
R282 864 110.....	Blade installation gauge .085".....	24
R282 864 120.....	Blade installation gauge .141".....	24
R282 868 230.....	Extraction tool.....	21
R282 967 015.....	Positionner for center contact crimp tool.....	22
R282 967 016.....	Positionner for center contact crimp tool.....	22
R284 V01 01 003.....	QMA Pigtail.....	12
R404 114 000.....	Low power termination.....	15



Part numbers	Description	Page
R411 700 124.....	Miniature coaxial attenuators QMA 1 watt 0 dB.....	16
R411 701 124.....	Miniature coaxial attenuators QMA 1 watt 1 dB.....	16
R411 702 124.....	Miniature coaxial attenuators QMA 1 watt 2 dB.....	16
R411 703 124.....	Miniature coaxial attenuators QMA 1 watt 3 dB.....	16
R411 704 124.....	Miniature coaxial attenuators QMA 1 watt 4 dB.....	16
R411 705 124.....	Miniature coaxial attenuators QMA 1 watt 5 dB.....	16
R411 706 124.....	Miniature coaxial attenuators QMA 1 watt 6 dB.....	16
R411 707 124.....	Miniature coaxial attenuators QMA 1 watt 7 dB.....	16
R411 708 124.....	Miniature coaxial attenuators QMA 1 watt 8 dB.....	16
R411 709 124.....	Miniature coaxial attenuators QMA 1 watt 9 dB.....	16
R411 710 124.....	Miniature coaxial attenuators QMA 1 watt 10 dB.....	16
R411 711 124.....	Miniature coaxial attenuators QMA 1 watt 11 dB.....	16
R411 712 124.....	Miniature coaxial attenuators QMA 1 watt 12 dB.....	16
R411 713 124.....	Miniature coaxial attenuators QMA 1 watt 13 dB.....	16
R411 714 124.....	Miniature coaxial attenuators QMA 1 watt 14 dB.....	16
R411 715 124.....	Miniature coaxial attenuators QMA 1 watt 15 dB.....	16
R411 716 124.....	Miniature coaxial attenuators QMA 1 watt 16 dB.....	16
R411 717 124.....	Miniature coaxial attenuators QMA 1 watt 17 dB.....	16
R411 718 124.....	Miniature coaxial attenuators QMA 1 watt 18 dB.....	16
R411 719 124.....	Miniature coaxial attenuators QMA 1 watt 19 dB.....	16
R411 720 124.....	Miniature coaxial attenuators QMA 1 watt 20 dB.....	16
R443 191 000.....	DC Block QMA.....	16
R572 E12 000	QMA S.P.D.T. switches	17
R572 E13 000	QMA S.P.D.T. switches	17
R572 E32 000	QMA S.P.D.T. switches	17
R572 E33 000	QMA S.P.D.T. switches	17
R573 E02 600	QMA S.P.n.T. switches.....	19
R573 E03 600	QMA S.P.n.T. switches.....	19
R573 E22 600	QMA S.P.n.T. switches.....	19
R573 E23 600	QMA S.P.n.T. switches.....	19
R577 E12 000	QMA D.P.D.T. switches	18
R577 E13 000	QMA D.P.D.T. switches	18
R577 E32 000	QMA D.P.D.T. switches	18
R577 E33 000	QMA D.P.D.T. switches	18



Radiall.com

RADIALL WORLDWIDE LOCATIONS

EUROPE

France - RADIALL HEADQUARTERS

101, Rue Ph. Hoffmann - 93116 ROSNY sous BOIS (Paris)
Tel. : +33 1 49 35 35 35 Fax : +33 1 48 54 63 63
E-Mail : info@radiall.com

Finland - RADIALL SF

Pilot Business Park - Lentokatu 2 - FIN-00460 OULUNSALO
Tel. : +358 852 70 130 Fax : +358 852 70 105
E-Mail : info@radiall.fi

Germany - RADIALL GmbH

Carl-Zeiss Str. 10 Postfach 200143 - D63307 RÖDERMARK (Frankfurt)
Tel. : +49 60 74 91 07 0 Fax : +49 60 74 91 07 70
E-Mail : info@radiall.com
Regional office : Munich

Italy - RADIALL Elettronica S.R.L.

Via Concordia, 5 - 20090 ASSAGO MILANO
Tel. : +39 02 48 85 121 Fax : +39 02 48 84 30 18
E-Mail : radiall@tin.it
Regional office : Roma

Netherlands - RADIALL B.V.

Hogebrinkerweg 15b - 3871 KM HOEVELAKEN
Tel. : +31 33 253 40 09 Fax : +31 33 253 45 12
E-Mail : info@radiall.com

Sweden - RADIALL A.B.

Sjöängsvägen 2 - SE-192 72 SOLLENTUNA (Stockholm)
Tel. : +46 844 434 10 Fax : +46 875 449 16
E-Mail : info@radiall.com

U.K. - RADIALL Ltd

Ground Floor, 6 The Grand Union Office Park, Packet Boat Lane
UXBRIDGE Middlesex UB8 2GH (London)
Tel. : +44 1895 425 000 Fax : +44 1895 425 010
E-Mail : info@radiall.com

AMERICA

North America

RADIALL-RF and microwave components

RADIALL-Multipin connectors and fiber optic components

JERRIK-Filter connectors

102 West Julie Drive - TEMPE, Arizona 85283, USA
Tel. : +1 480 730 5700 Fax : +1 480 730 5800
E-Mail : sales@radiallusa.com

LARSEN-Antennas

3611 NE 112th Avenue - VANCOUVER, Washington 98682, USA
Tel. : +1 360 944 7551 Fax : +1 360 944 7556
E-Mail : info@radialllarsen.com

AEP-Coaxial connectors & cable assemblies

104 John W. Murphy Drive
NEW HAVEN, Connecticut 06513
Tel. : +1 203 776 2813 Fax : +1 203 776 8294
E-Mail : aepsales@aep.us

Brazil

RADIALL do Brasil

Largo do Machado, 54 sala 706 - Catete
22221-020 RIO DE JANEIRO
Tel. : +55 21 2558 05 76 Fax : +55 21 2245 97 63
E-Mail : hubertm@radiall.com.br

ASIA

China - SHANGHAI RADIALL Electronic Co., Ltd

N° 390 Yong He Road 200072 - SHANGHAI
Tel. : +86 21 66 52 37 88 Fax : +86 21 66 52 11 77
E-Mail : radialls@online.sh.cn

Japan - NIHON RADIALL

Shibuya-ku Ebisu 1-5-2, Kougetsu Bldg 405-TOKYO 150-0013
Tel. : +81 3 3440 6241 Fax : +81 3 3440 6242
E-Mail : kunii@radiall.co.jp

HongKong - RADIALL Electronics Ltd

Elite Industrial Centre, Room 212, 2/F
N° 883 Cheung Sha Wan Road - KOWLOON HONG KONG
Tel. : +852 29 59 38 33 Fax : +852 29 59 26 36
E-Mail : contact@radiall.com.hk

India - RADIALL PROTECTRON pvt Ltd

25 D, II Phase, Peenya Industrial Area - BANGALORE 560058
Tel. : +91 80 83 95 271 Fax : +91 80 83 97 228
E-Mail : radiall@vsnl.com

REPRESENTED IN

Africa	Greece	Portugal	Switzerland
Australia	Israël	Russia	Thailand
Belgium	Malaysia	Singapore	Taiwan
China	Middle East	Spain	Turkey
Denmark	Philippines	South Africa	USA
France	Poland	South Korea	

For the above countries, please contact the local agent or RADIALL at info@radiall.com

September 2006 Edition

D1 C123 CE



Printed in France ®

This information is intended as a guide only. To ensure a continuing policy of product improvement, Radiall reserves the right to modify its specifications without prior notification.

©Registered Trade Mark