

R124-R125 / R127





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The RADIALl stainless steel SMA connectors have been specially designed for applications where reliability, durability, robustness and high frequency are very important.

- **Wide range :**

The stainless steel SMA range offers cable connectors for both flexible or semi-rigid cables, panel and PCB mount receptacles including press mount, microstrip, universal, through hole pins and end launch connectors. In series adapters and between series adapters including PUSH-ON interface are also available.

All our stainless steel SMA connectors can be mated with our commercial (brass) SMA connectors.

- **Convenient 3-piece design on most connectors for flexible cables :**

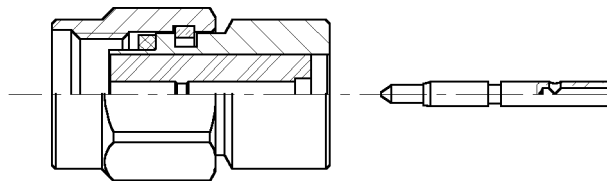
- ☞ for straight models : single piece body + center contact + outer ferrule,
- ☞ for right angle models : single piece body + cap + outer ferrule.

- **Fast and reliable cable attachment :**

The cable connectors can be either fully crimped or soldered/crimped, offering full flexibility for high volume production with standard manual or pneumatic tooling : fast and reliable.

- ☞ the center contact can be either crimped or soldered,
- ☞ the outer contact is attached to the cable by crimping a ferrule.

- **Simple snap-in center contact captivation (for full crimp models) :**



The relative position of the center contact into the interface is mechanically guaranteed by the snapping of the insulator inner shoulder into the groove of the center contact.

This design facilitates the captivation operation in contrast of other designs, requiring 2 insulators to provide contact retention.

- **Extended frequency SMA**

Radiall offers an extended frequency SMA range allowing coaxial system operation completely through 27 GHz. This series mates with the standard SMA series and maintains the same mechanical characteristics (see p. 29).

- **Solderless attachment to semi-rigid cable**

Radiall's SMA crimp connector series offers an exciting alternative for assembling SMA connectors to semi-rigid cable. The main advantages of these connectors are : time saving, repeatability and performance.





50 Ω

DC - 18 GHz

GENERAL

- Sub-miniature coaxial connectors
- Screw-on coupling
- High RF performance
- 2 plating options :
 - passivated stainless steel
 - gold plated
- Wide hermetically sealed range
(Please contact RADIALl)
- Space qualified range of products
(Please contact RADIALl)
- SMA extended frequency 27 GHz

APPLICABLE STANDARDS

- MIL-C-39012
- EC 169-1
- CECC 22110
- CECC 22111 - 801 to 808
- BS 9210 N006



SPACE QUALIFIED/APPROVALS

(For space range)

- SCC 3402 (ESA)
- CNES

APPLICATIONS

- Civil & Military Telecommunications
- Civil & Military Aeronautics
- Military equipments
- Space
- Measurement systems



CABLE CONNECTORS

Model cable	Straight plug			Right-angle plug		Straight jack	Square flange straight jack		2 hole flange straight jack	Bulkhead straight jack	
	crimp and full crimp	clamp	solder	crimp and full crimp	solder	solder	crimp and full crimp	solder	solder	crimp and full crimp	solder
2/50/S (RG 178)	R125 069 000 (page 11)			R125 170 402 (page 13)							
2.6/50/S (RG 316)	R125 072 000 R125 072 001 R125 073 000 R125 073 001 (page 11)	R125 091 000 R125 091 001 (page 11)		R125 172 000 R125 172 001 (page 13)			R125 272 000 R125 272 001 (page 14)			R125 312 120 R125 312 121 (page 15)	
2.6/50/D (RD 316)	R125 072 080 R125 072 081 (page 11)			R125 174 000 (page 13)						R125 313 120 R125 313 121 R125 322 030 (page 15)	
5/50/S (RG 58)	R125 075 000 R125 075 001 (page 11)			R125 175 000 R125 175 001 (page 13)			R125 277 000 R125 277 001 (page 14)			R125 314 120 R125 314 121 (page 15)	
5/50/D (RG 142)	R125 076 000 R125 076 001 (page 11)			R125 176 000 R125 176 001 (page 13)			R125 278 000 R125 278 001 (page 14)			R125 315 120 R125 315 121 (page 15)	
.085" (RG 405)	R125 052 900 R125 052 901 (page 12)		R125 052 000 R125 052 002 R125 052 500 (page 12)	R125 153 900 R125 153 901 (page 14)	R125 153 000 R125 153 002 (page 13)	R125 222 000 (page 14)		R125 256 000 (page 15)	R125 252 000 (page 15)	R125 326 900 R125 326 901 (page 16)	R125 326 000 (page 16)
.141" (RG 402)	R125 053 900 R125 053 901 R125 054 900 R125 054 901 R125 055 900 R125 055 901 (page 12)		R125 054 000 R125 054 002 R125 054 500 R125 054 502 R125 055 000 R125 055 002 R125 055 500 R125 057 000 R125 057 002 (page 12)	R125 154 900 R125 154 901 (page 12)	R125 154 000 R125 154 002 (page 13)	R125 225 000 (page 14)		R125 255 000 (page 15)	R125 251 000 (page 15)	R125 325 900 R125 325 901 (page 16)	R125 325 000 (page 16)



RECEPTACLES

Model	Straight female flange mount receptacle		Straight male flange mount receptacle		Right angle female-flange mount receptacle	Straight female bulkhead mount receptacle		Press mount receptacle	PCB female receptacle		
	square	2 hole	square	2 hole	square	front mount	rear mount	straight	straight	right-angle	end launch
Solder pot	R125 403 00X (page 17)	R125 454 00X (page 17)	R125 433 00X (page 18)		R125 653 00X R125 654 00X (page 17)		R125 553 00X (page 18)	R125 590 001 (page 24)			
Straight terminal	R125 413 00X R125 414 00X R125 415 27X (page 19) R125 512 00X R125 610 00X (page 22)	R125 462 00X (page 22) R125 464 00X R125 464 27X (page 19)	R125 444 00X (page 20) R125 492 00X (page 23)	R125 474 00X (page 20) R125 484 00X (page 23)	R125 654 45X (page 20)	R125 555 500 R125 560XXX (page 18)					
Flat tab	R125 501 XXX R125 510 00X R125 620 00X (page 20)	R125 504 00X R125 497 00X (page 21)	R125 488 00X (page 21)				R125 603 000 (page 18)				
Removable contact (universal receptacle)	R125 410 00X (page 23)	R125 460 00X (page 23)			R125 670 00X (page 23)						
Solder pins									R125 426 000 (page 24)	R125 680 000 (page 24)	R125 423 200 (page 24)

IN SERIES ADAPTERS

Model	Straight	Straight bulkhead	Straight bulkhead (hermetically sealed)	Right angle	Tee
M . M	R125 703 000 R125 703 001 (page 25)				
F . F	R125 705 000 R125 705 001 (page 25)	R125 720 000 R125 720 001 (page 25)	R125 753 000 R125 753 001 (page 25)		
M . F	R125 704 000 R125 704 001 R125 791 501 R125 792 501 (page 25)			R125 771 000 R125 771 001 (page 25)	
F + F / M					R125 780 000 R125 780 001 (page 25)
F - F / F					R125 781 000 R125 781 001 (page 25)

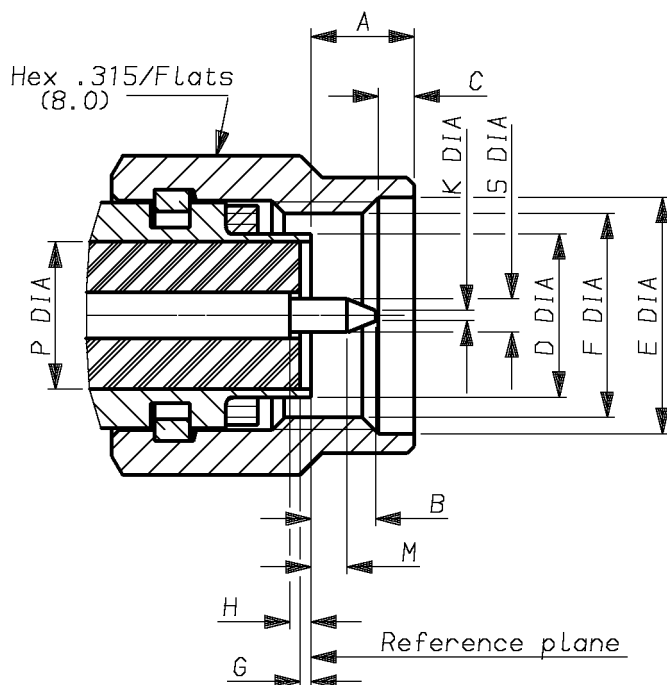
CAPS

Model	Free	Cord	Chain	Short circuit
M	R125 802 000 R125 802 001 (page 26)		R125 812 000 R125 812 001 (page 26)	R125 852 000 R125 852 001 (page 26)
F		R125 845 000 R125 845 001 (page 26)		

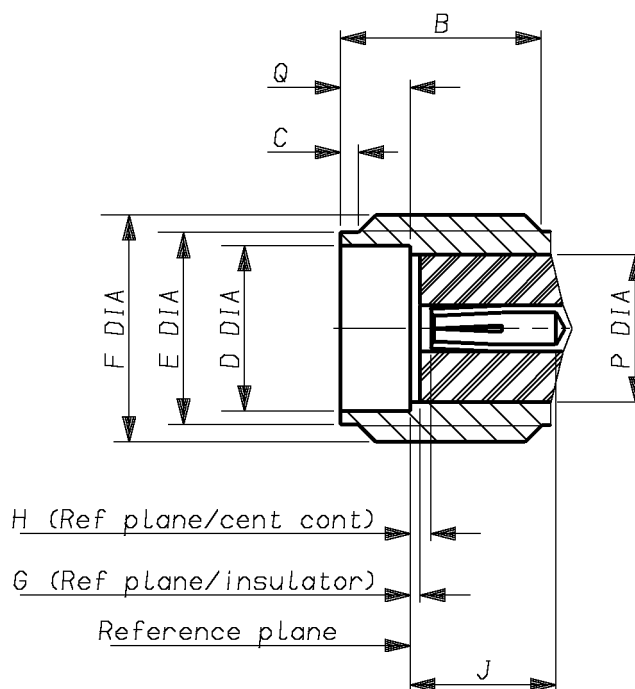
ATTENTION ! This guide is intended as an information and does not include all SMA SERIES P/N



PLUG



JACK



LETTER	mm		inch	
	min.	max.	min.	max.
A		3.43		.135
B		2.54		.100
C	0.38	1.14	.015	.045
D DIA		4.59		
E DIA	6.35		.250	
F DIA	1/4 36 UNS 2B			
G*	0.0	-0.20	0.0	-.008
H*	0.0	-0.25	0.0	-.010
J				
K DIA		0.38		.015
M	1.27		.050	
P DIA	4.10 nom.		.161 nom.	
Q DIA				
S DIA	0.90	0.94	.035	.037

LETTER	mm		inch	
	min.	max.	min.	max.
A				
B	4.31		.170	
C	0.38	1.14	.015	.045
D DIA	4.596		.181	
E DIA	5.28	5.49	.208	.216
F DIA	1/4 36 UNS 2A			
G*	0.0	-0.20	0.0	-.008
H*	0.0	-0.25	0.0	-.010
J	2.92		.115	
K				
M				
P DIA	4.10 nom.		.161 nom.	
Q	1.88	1.98	.074	.078
S DIA				

*Nota : means behind ref plane



TEST / CHARACTERISTICS	VALUES / REMARKS
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ELECTRICAL CHARACTERISTICS

Impedance	50 Ω					
Frequency range	DC - 18 GHz					
Typical V.S.W.R.	Frequency	1 GHz	2.4 GHz	6 GHz	12.4 GHz	18 GHz
• <i>straight connector</i>	.085"	1.01	1.01	1.04	1.06	1.06
	.141"	1.01	1.01	1.01	1.03	1.05
	2.6/50S	1.05	1.07	1.12	1.15	
	5/50S	1.04	1.05	1.10	1.12	
• <i>right angle connector</i>	.085"					
	.141"	1.01	1.02	1.06	1.14	
	2.6/50S	1.01	1.02	1.08	1.10	
	5/50S	1.06	1.15	1.18	1.24	
		1.06	1.15	1.15	1.25	
Typical insertion loss in dB						
• <i>straight connector</i>	.085"	0.03	0.03	0.05	0.08	0.10
	.141"	0.02	0.02	0.02	0.02	0.02
	2.6/50S	0.06 $\sqrt{F}$ (F in GHz) max				
	5/50S					
• <i>right angle connector</i>	.085"	0.04	0.04	0.04	0.08	
	.141"	0.04	0.05	0.06	0.09	
	2.6/50S	0.08	0.08	0.10	0.10	
	5/50S	0.04	0.12	0.12	0.25	
RF leakage (dB max)						
• <i>connectors for semi-rigid cables solder attachment</i>	- 90 + F (GHz)					
• <i>connectors for flexible cables crimp attachment</i>	- 60 + F (GHz)					
• <i>receptacles</i>	- 100 + F (GHz)					
Insulation resistance	5 000 M Ω mini					
Contact resistance	After tests			Initial		
• <i>Outer conductor</i>	4 m Ω			3 m Ω		
• <i>Inner conductor</i>	3 m Ω			2 m Ω		
Working voltage in VRMS	.085", RG 405, KS 1	.141", RG 402, KS 2	RG 174, 188, 316, KX 3, KX 22	RG 55, 142, 223, KX 23		
• <i>sea level</i>	350	500	250	335		
• <i>70 000 feet</i>	85	125	65	85		
Dielectric withstanding voltage in VRMS	1000	1500	750	1000		
RF testing voltage at in VRMS	670	1000	500	670		

MECHANICAL CHARACTERISTICS

Durability	500 matings			
Force to engage and disengage	23 Ncm - (2 inch pounds)			
Recommended coupling nut torque	80 to 115 Ncm - (7 to 10 inch pounds)			
Coupling nut retention force	270 N - (60 Lbs)			
Cable retention force	.085", RG 405, KS 1	.141", RG 402, KS 2	RG 174, 188, 316, KX 3, KX 22	RG 55, 142, 223, KX 23
	135 N (30 Lbs)	270 N (60 Lbs)	110 N (25 Lbs)	180 N (40 Lbs)
Center contact retention force				
• <i>axial</i>	27 N			
• <i>torque</i>	2.8 N			



TEST / CHARACTERISTICS	VALUES / REMARKS
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ENVIRONMENTAL CHARACTERISTICS

Temperature range - Standard models - Semi-rigid cable R125 753 000 & R125 603 000	- 65°C + 165°C - 65°C + 105°C - 40°C + 100°C
Thermal shock	MIL STD 202, method 107, condition B,
High temperature test	MIL STD 202, method 108
Corrosion (salt spray)	MIL STD 202, method 101, condition B,
Vibration	MIL STD 202, method 204, condition D, 20g
Shock	MIL STD 202, method 213
Moisture resistance	MIL STD 202, method 106
Hermetic test	Down to 10 ⁻⁶ mmHg (Torr) leakage rate < 10 ⁻⁶ atm/cm ³ /sec
Barometric pressure	MIL STD 202, method 105, condition C

MATERIALS

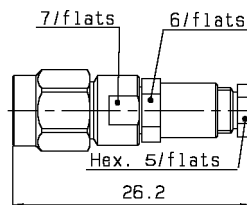
Body / nut	Stainless steel
Center contacts female male	Beryllium copper Brass
Gaskets	Silicone rubber
Insulator	PTFE

FINISH

Bodies	Passivated or gold plated
Center contacts	Gold plated



STRAIGHT PLUGS CLAMP TYPE FOR FLEXIBLE CABLES



Cable group	Part number (gold)	Part number (passivated)	Captive center contact	Assembly instructions
2.6 / 50 / S	R125 091 000	R125 091 001	yes	M01

STRAIGHT PLUGS CRIMP TYPE FOR FLEXIBLE CABLES

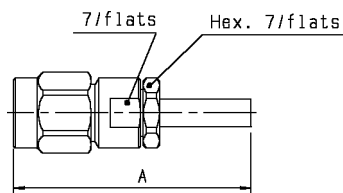


Fig. 1

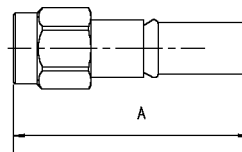


Fig. 2

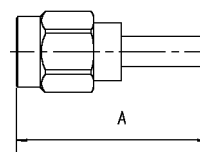


Fig. 3

Cable group	Part number (gold)	Part number (passivated)	Fig.	Dimensions A (mm)	Captive center contact	Assembly instructions	Note
2 / 50 / S	R125 069 000		1	26	yes	M04	
2.6 / 50 / S	R125 072 000	R125 072 001	2	21.1	no	M02	Single piece body
2.6 / 50 / S	R125 073 000	R125 073 001	1	26	yes	M04	
2.6 / 50 / D	R125 072 080	R125 072 081	2	20.1	no	M02	Single piece body
5 / 50 / S	R125 075 000	R125 075 001	3	24.9	no	M02	Single piece body
5 / 50 / D	R125 076 000	R125 076 001	3	25	no	M02	Single piece body



STRAIGHT PLUGS SOLDER TYPE FOR SEMI-RIGID CABLES

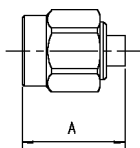
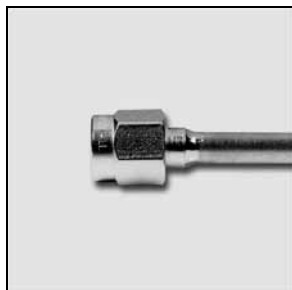


Fig. 1

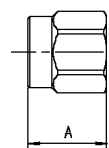


Fig. 2

Cable group	Part number (gold)	Part number (gold/passivated nut)	Fig.	Dimensions A (mm)	Captive center contact	Assembly instructions	Note
.085"	R125 052 000	R125 052 002	1	11.2	no	M10	Single piece body
.085"	R125 052 500		1	11.2	no	M10	Retractable coupling nut/ single piece body
.141"	R125 054 000	R125 054 002	2	8.5		M09	Without center contact
.141"	R125 054 500•	R125 054 502•*	2	7.5		M09	Without center contact/ retractable couplingt nut
.141"	R125 055 000	R125 055 002	1	11.2	no	M10	Single piece body
.141"	R125 055 500		1	11.2	no	M10	Retractable coupling nut/ single piece body
.141"	R125 057 000	R125 057 002	1	11.2		M09	Without center contact

STRAIGHT PLUGS CRIMP TYPE FOR SEMI-RIGID CABLES

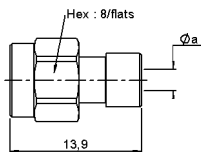


Fig. 1

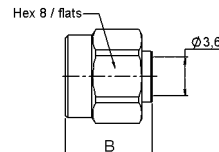


Fig. 2

Cable group	Part number (gold)	Part number (passivated)	Fig.	Dimensions A (mm)		Assembly instructions
				Ø a	B	
.085"	R125 052 900	R125 052 901	1	2.2		M08
.141"	R125 053 900	R125 053 901	2		8.25	M08
.141"	R125 054 900	R125 054 901	2		9.7	M07
.141"	R125 055 900	R125 055 901	1	3.64		M08

• upon request

* Unit packaging



RIGHT ANGLE PLUGS CRIMP TYPE FOR FLEXIBLE CABLES

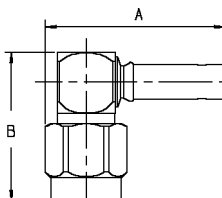


Fig. 1

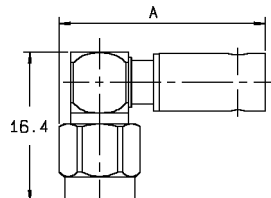
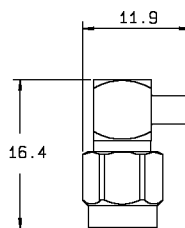


Fig. 2

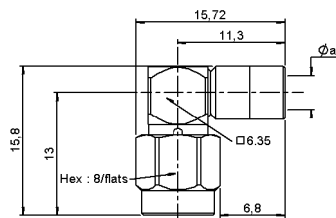
Cable group	Part number (gold)	Part number (passivated)	Fig.	Dimensions (mm)		Captive center contact	Assembly instructions	Note
				A	B			
2 / 50 / S	R125 170 402		1	19.6	16.85	yes	M11	
2.6 / 50 / S	R125 172 000	R125 172 001	1	19.6	16.4	yes	M11	Single piece body
2.6 / 50 / D	R125 174 000		1	18.6	16.4	yes	M11	
5 / 50 / S	R125 175 000	R125 175 001	2	21.8		yes	M11	Single piece body
5 / 50 / D	R125 176 000	R125 176 001	2	21.8		yes	M11	

RIGHT ANGLE PLUGS SOLDER TYPE FOR SEMI-RIGID CABLES



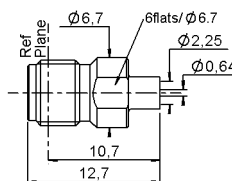
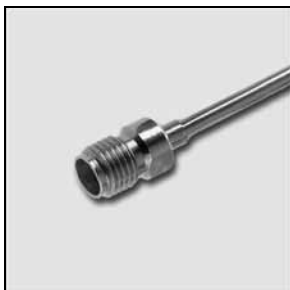
Cable group	Part number (gold)	Part number (gold/passivated nut)	Captive center contact	Assembly instructions
.085"	R125 153 000	R125 153 002	yes	M03
.141"	R125 154 000	R125 154 002	yes	M03

RIGHT ANGLE PLUGS CRIMP TYPE FOR SEMI-RIGID CABLES



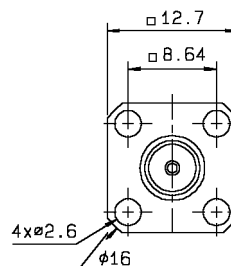
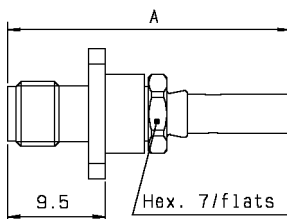
Cable group	Part number (gold)	Part number (gold/passivated nut)	Ø a (mm)	Captive center contact	Assembly instructions
.085"	R125 153 900	R125 153 901	2.2	yes	M03
.141"	R125 154 900	R125 154 901	3.62	yes	M03

STRAIGHT JACKS SOLDER TYPE FOR SEMI-RIGID CABLES



Cable group	Part number (gold)	Captive center contact	Assembly instructions
.085"	R125 222 000	no	M10
.141"	R125 225 000	no	M10

STRAIGHT FLANGE JACKS CRIMP TYPE FOR FLEXIBLE CABLES



Cable group	Part number (gold)	Part number (passivated)	Dimension A (mm)	Captive center contact	Assembly instructions	Panel drilling
2.6 / 50 / S	R125 272 000	R125 272 001	27.5	no	M06	P03
5 / 50 / S	R125 277 000•		29.6	no	M06	P03
5 / 50 / D	R125 278 000•		29.6	no	M06	P03

• upon request



STRAIGHT FLANGE JACKS SOLDER TYPE FOR SEMI-RIGID CABLES

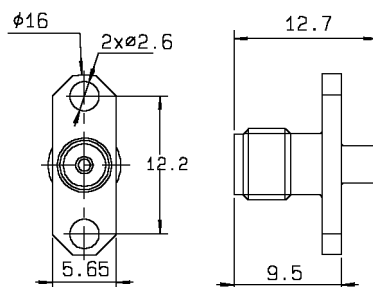


Fig. 1

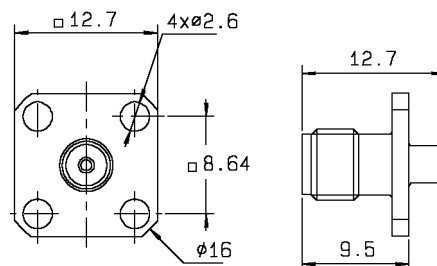


Fig. 2

Cable group	Part number (gold)	Fig.	Captive center contact	Assembly instructions	Panel drilling	Note
.085"	R125 252 000	1	no	M10	P02	2 hole flange
.085"	R125 256 000	2	no	M10	P03	square flange
.141"	R125 251 000	1	no	M10	P02	2 hole flange
.141"	R125 255 000	2	no	M10	P03	square flange

BULKHEAD JACKS CRIMP TYPE FOR FLEXIBLE CABLES (rear mount)

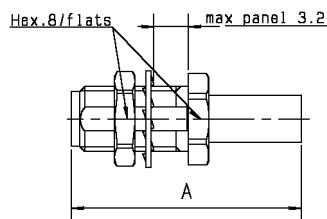


Fig. 1

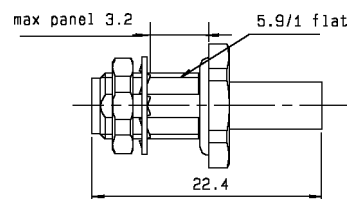


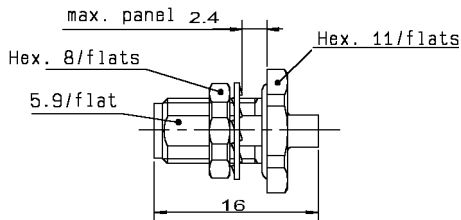
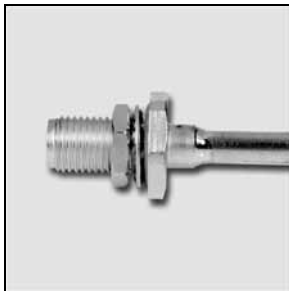
Fig. 2

Cable group	Part number (gold)	Part number (passivated)	Fig.	Dimension A (mm)	Captive center contact	Assembly instructions	Panel drilling	Note
2.6 / 50 / S	R125 312 120	R125 312 121	1	22.4	yes	M05	P06	Full crimp
2.6 / 50 / D	R125 313 120	R125 313 121	1	22.4	yes	M05	P06	
2.6 / 50 / D	R125 322 030•		2		yes	M02	P06	Panel sealed
5 / 50 / S	R125 314 120	R125 314 121	1	25.4	yes	M05	P06	Full crimp
5 / 50 / D	R125 315 120	R125 315 121	1	25.4	yes	M05	P06	

• upon request

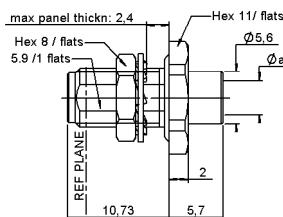


BULKHEAD JACKS SOLDER TYPE FOR SEMI-RIGID CABLES (rear mount)



Cable group	Part number (gold)	Captive center contact	Assembly instructions	Panel drilling	Note
.085"	R125 326 000	no	M10	P06	Panel sealed
.141"	R125 325 000	no	M10	P06	Panel sealed

BULKHEAD JACKS CRIMP TYPE FOR SEMI-RIGID CABLES (rear mount)



Cable group	Part number (gold)	Part number (passivated)	Ø a (mm)	Assembly instructions	Panel drilling	Note
.085"	R125 326 900	R125 326 901	2.2	M08	P06	Panel sealed
.141"	R125 325 900	R125 325 901	3.64	M08	P06	Panel sealed



STRAIGHT FEMALE FLANGE RECEPTACLES

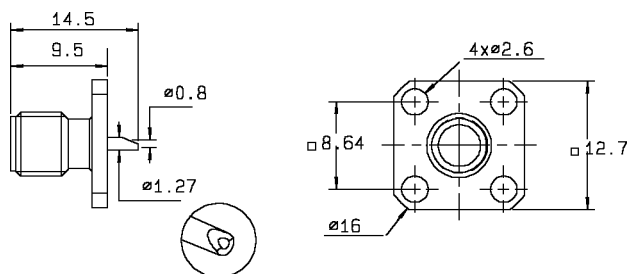
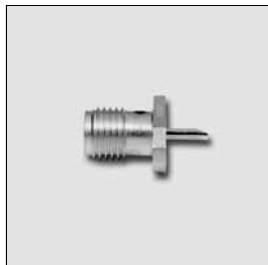


Fig. 1

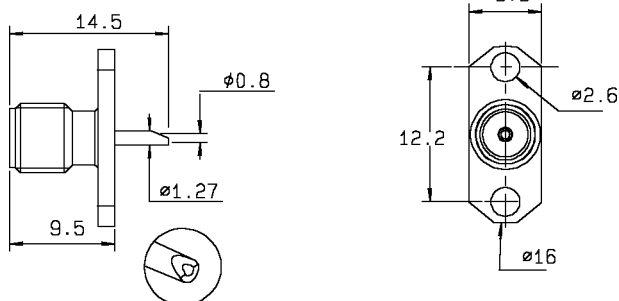
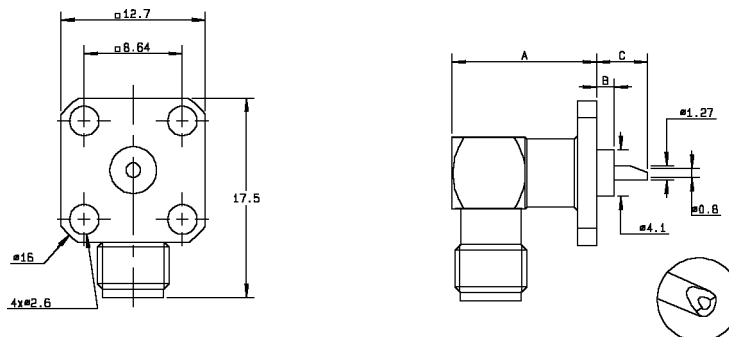


Fig. 2

Part number (gold)	Part number (passivated)	Fig.	Captive center contact	Panel drilling	Note
R125 403 000	R125 403 001	1	yes	P04	square flange
R125 454 000	R125 454 001	2	yes	P01	2 hole flange

RIGHT ANGLE FEMALE SQUARE FLANGE RECEPTACLES



Part number (gold)	Part number (passivated)	Dimensions (mm)			Captive center contact	Panel drilling
		A	B	C		
R125 653 000	R125 653 001	12.4	1.57	4.6	yes	P04
R125 654 000	R125 654 001	11.1	0	6.1	yes	P04



BULKHEAD FEMALE RECEPTACLE (rear mount)

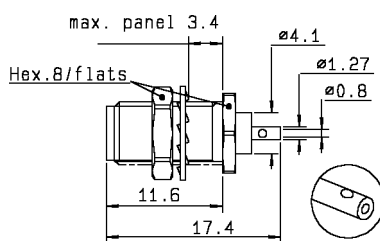


Fig. 1

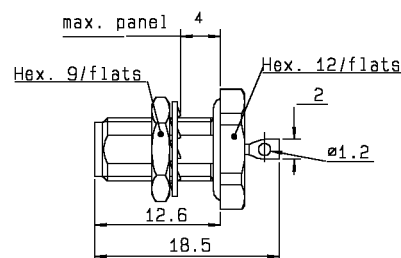


Fig. 2

Part number (gold)	Part number (passivated)	Fig.	Captive center contact	Panel drilling	Note
R125 553 000	R125 553 001	1	yes	P06	
R125 603 000*		2	yes	P06	hermetically sealed

BULKHEAD FEMALE RECEPTACLES (front mount)

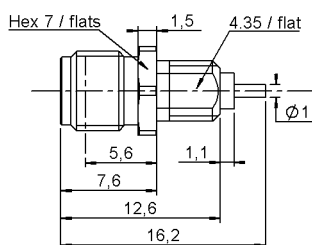


Fig. 1

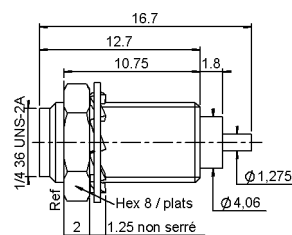
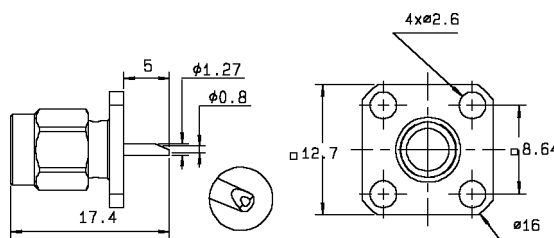


Fig. 2

Part number (gold)	Part number (passivated)	Fig.	Captive center contact	Panel drilling	Note
R125 555 500		1	yes	P06	screw-on
R125 560 000	R125 560 001	2	yes		screw-on

STRAIGHT MALE FLANGE RECEPTACLES

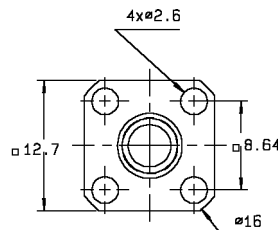
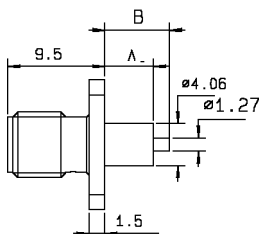


Part number (gold)	Part number (passivated)	Captive center contact	Panel drilling	Note
R125 433 000	R125 433 001	yes	P04	square flange

* Unit packaging

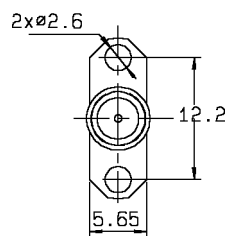
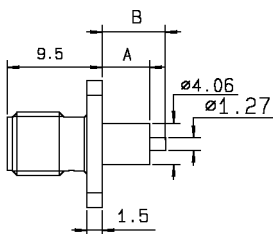


SQUARE FLANGE EXTENDED DIELECTRIC RECEPTACLES



Part number (gold)	Part number (passivated)	Dimensions (mm)		Captive center contact	Panel drilling	Center contact retention
		A	B			
R125 413 000	R125 413 001	12.7	15.9	no	P04	No captivation
R125 414 000	R125 414 001	12.7	15.9	yes	P04	epoxy
R125 414 004	R125 414 005	12.7	15.9	yes	P04	4 indents
R125 415 270	R125 415 271	15	17.9	yes	P04	epoxy
R125 415 274	R125 415 275	15	17.9	yes	P04	4 indents

2 HOLE FLANGE EXTENDED DIELECTRIC RECEPTACLES

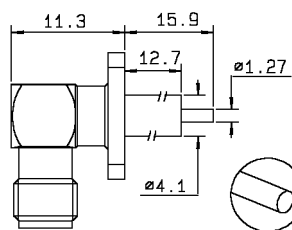
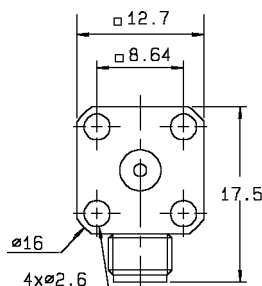


Part number (gold)	Part number (passivated)	Dimensions (mm)		Captive center contact	Panel drilling	Center contact retention
		A	B			
R125 464 000	R125 464 001	12.7	15.9	yes	P01	Epoxy
R125 464 004	R125 464 005	12.7	15.9	yes	P01	4 indents
R125 464 270	R125 464 271	15	17.9	yes	P01	Epoxy
R125 464 274*	R125 464 275	15	17.9	yes	P01	4 indents

- upon request



RIGHT ANGLE FEMALE SQUARE FLANGE RECEPTACLES



Part number (gold)	Part number (passivated)	Captive center contact	Panel drilling	Note
R125 654 450	R125 654 451	yes	P04	Extended dielectric

STRAIGHT MALE FLANGE RECEPTACLES

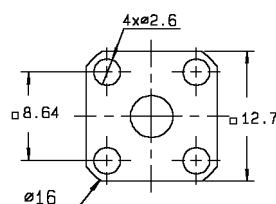


Fig. 1

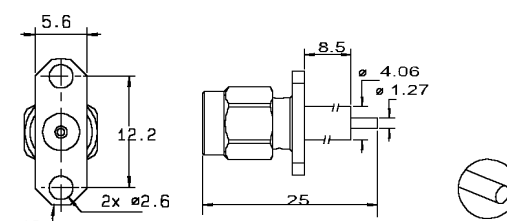


Fig. 2

Part number (gold)	Part number (passivated)	Fig.	Captive center contact	Panel drilling	Note
R125 444 000	R125 444 001	1	yes	P04	Square flange
R125 474 000	R125 474 001	2	yes	P01	2 hole flange

STRAIGHT FEMALE SQUARE FLANGE RECEPTACLES - FLAT TAB

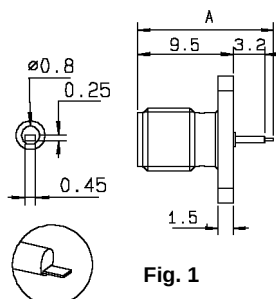


Fig. 1

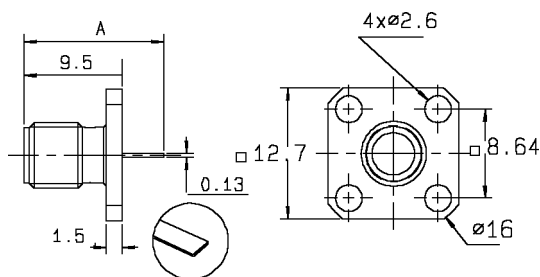
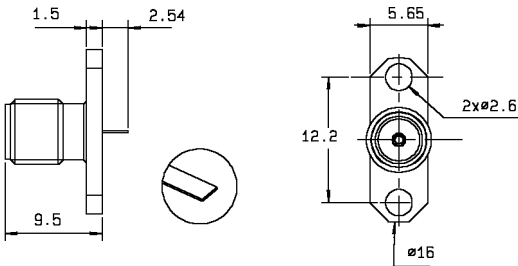
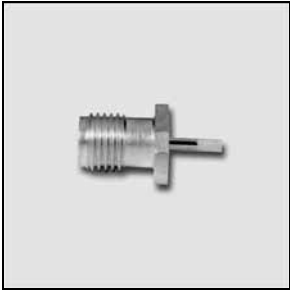


Fig. 2

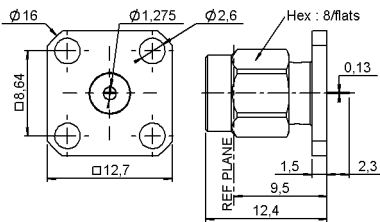
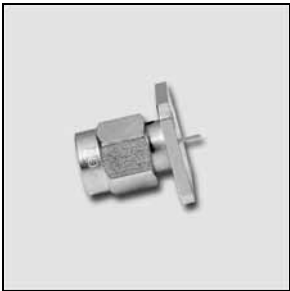
Part number (gold)	Part number (passivated)	Fig.	Dimensions A (mm)	Captive center contact	Panel drilling
R125 501 000	R125 501 001	1	13.5	yes	P04
R125 510 000	R125 510 001	2	12	yes	P04
R125 620 000	R125 620 001	2	10.38	yes	P04

STRAIGHT FEMALE 2 HOLE FLANGE RECEPTACLES - FLAT TAB



Part number (gold)	Part number (passivated)	Captive center contact	Panel drilling
R125 497 000	R125 497 001	yes	P01
R125 504 000*	R125 504 001**	no	P01

STRAIGHT MALE SQUARE FLANGE RECEPTACLES - FLAT TAB



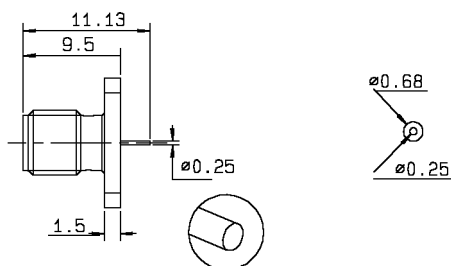
Part number (gold)	Part number (passivated)	Captive center contact	Panel drilling
R125 488 000*	R125 488 001**	yes	P04

* upon request

* Unit packaging



STRAIGHT FEMALE SQUARE FLANGE RECEPTACLES - STRAIGHT TERMINAL



Part number (gold)	Captive center contact	Panel drilling
R125 610 000**	yes	P04

STRAIGHT FEMALE FLANGE RECEPTACLES - STRAIGHT TERMINAL

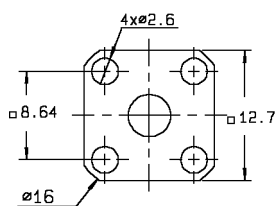


Fig. 1

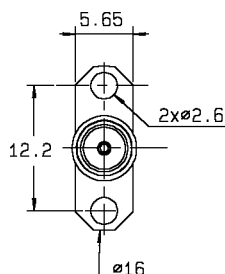
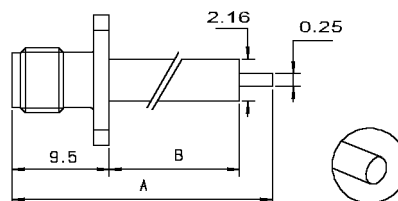
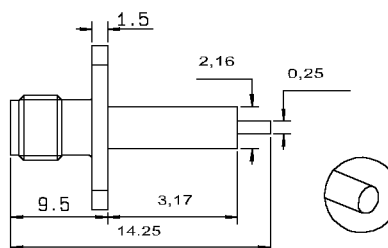


Fig. 2



Part number (gold)	Part number (passivated)	Fig.	Dimensions (mm)		Captive center contact	Panel drilling	Note
			A	B			
R125 512 000	R125 512 001	1	14.3	3.2	yes	P04	Square flange - extended dielectric
R125 462 000	R125 462 001	2			yes	P01	2 hole flange - extended dielectric

• upon request

* Unit packaging



STRAIGHT MALE FLANGE RECEPTACLES - STRAIGHT TERMINAL

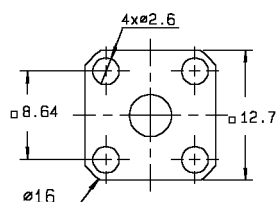


Fig. 1

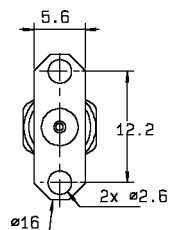
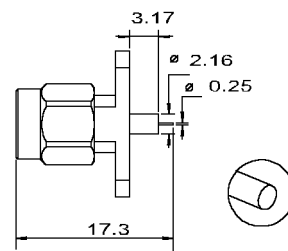


Fig. 2



Part number (gold)	Part number (passivated)	Fig.	Captive center contact	Panel drilling	Note
R125 492 000	R125 492 001*	1	yes	P04	Square flange
R125 484 000	R125 484 001	2	yes	P01	2 hole flange

UNIVERSAL FLANGE RECEPTACLES (to be used with removable contact, see page 27-28.)

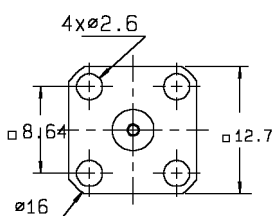


Fig. 1

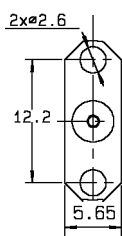
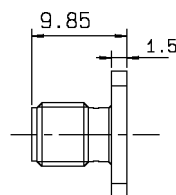


Fig. 2

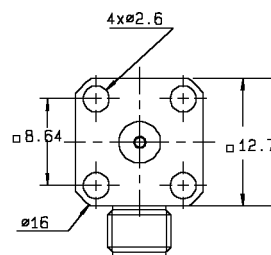
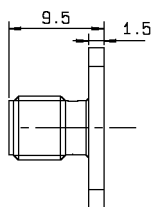
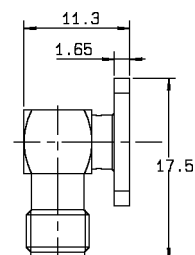


Fig. 3



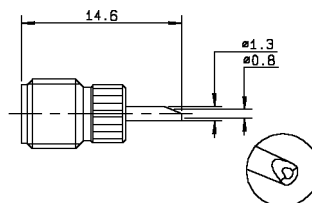
Part number (gold)	Part number (passivated)	Fig.	Captive center contact	Panel drilling	Note
R125 410 000	R125 410 001	1	yes	P04	Female-square flange
R125 460 000**	R125 460 001	2	yes	P01	Female-2 hole flange
R125 670 000*	R125 670 001	3	yes	P04	Female-right angle square flange

* upon request

* Unit packaging



PRESS MOUNT RECEPTACLES



Part number	Captive center contact	Panel drilling	Finish	Note
R125 590 001**	yes	P09	Passivated	Solder pot

PCB FEMALE RECEPTACLES

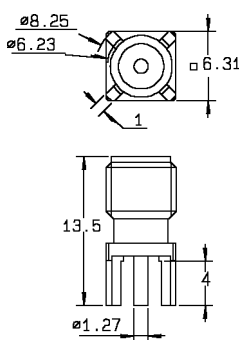


Fig. 1

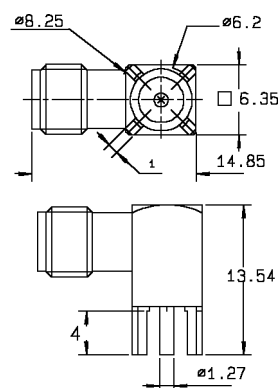
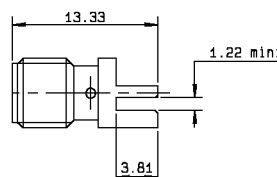
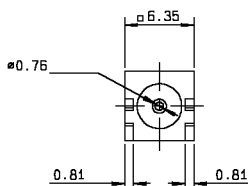


Fig. 2

Part number (gold)	Fig.	Captive center contact	PCB pattern
R125 426 000	1	yes	P05
R125 680 000	2	yes	P05

EDGE CARD RECEPTACLE



Part number (gold)	Captive center contact	Assembly instructions	Note
R125 423 200	yes	M13	Solder pins

• upon request

* Unit packaging

IN SERIES ADAPTERS

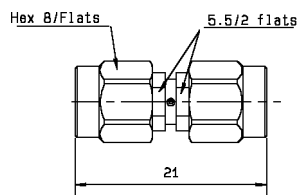


Fig.1

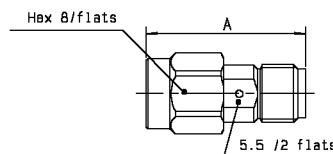


Fig. 2

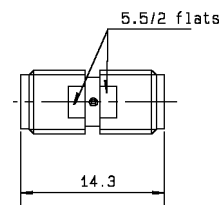


Fig. 3

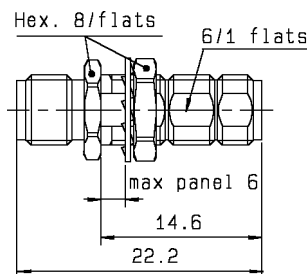


Fig. 4

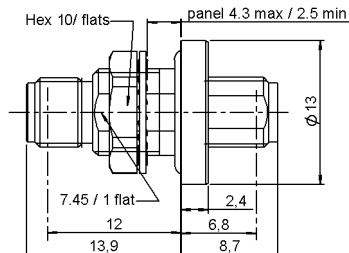


Fig. 5

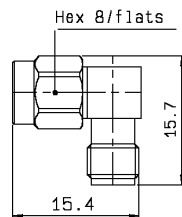


Fig. 6

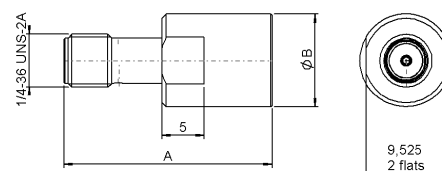


Fig. 7

Part number (gold)	Part number (passivated)	Fig.	Captive center contact	Dimensions (mm)		Panel drilling	Note
				A	B		
R125 703 000	R125 703 001	1	yes				Male-male
R125 704 000	R125 704 001	2	yes	17.5			Male-female
R125 705 000	R125 705 001	3	yes				Female-female
R125 720 000	R125 720 001	4	yes			P06	Bulkhead female-female
R125 753 000	R125 753 001	5	yes			P08	Bulkhead hermatically sealed female-female
R125 771 000	R125 771 001	6	yes				Right angle male-female
	R125 791 501	7	yes	23.3	8.9		PUSH-ON male
	R125 792 501	7	yes	24.8	11		PUSH-ON female

TEE IN SERIES ADAPTERS

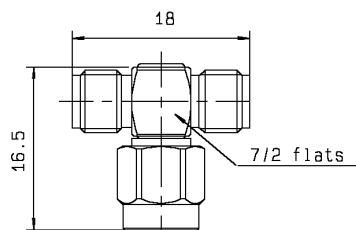


Fig.1

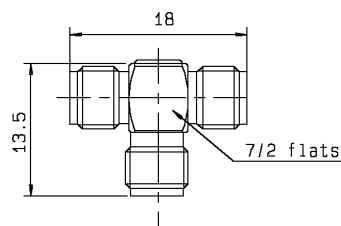
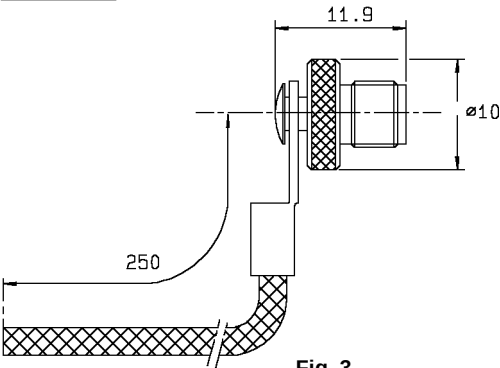
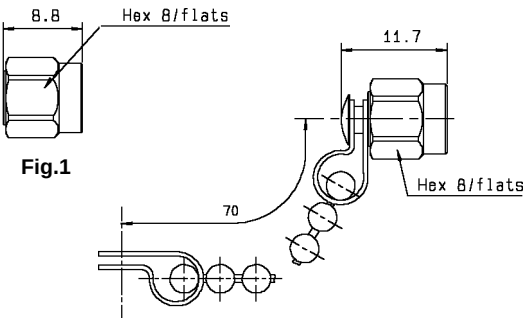


Fig. 2

Part number (gold)	Part number (passivated)	Fig.	Captive center contact
R125 780 000	R125 780 001	1	yes
R125 781 000	R125 781 001	2	yes

MALE AND FEMALE CAPS



Part number (gold)	Part number (passivated)	Fig.	Note
R125 802 000	R125 802 001*	1	Male
R125 812 000	R125 812 001	2	Male
R125 845 000	R125 845 001•*	3	Female
R125 852 000	R125 852 001	1	Male short circuit

• upon request

* Unit packaging



FIELD-REPLACEABLE CONTACTS (To be used with universal receptacle)

These accessories have been specifically designed for the adjustment at the rear of universal receptacles shown on page 23.

The choice of their dimensions depends on the circuit or on the thickness of the box. Moreover these contacts and insulators are also compatible with N and COMMERCIAL SMA UNIVERSAL RECEPTACLES.

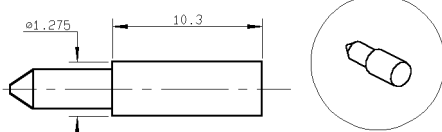
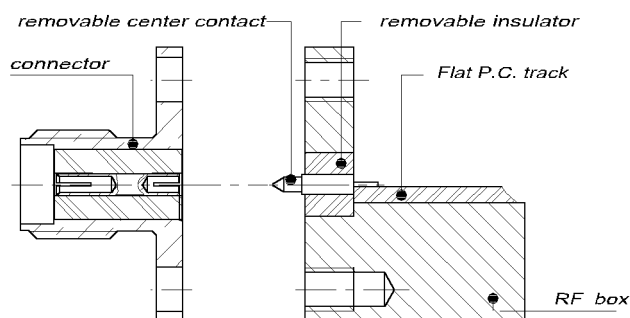


Fig. 1

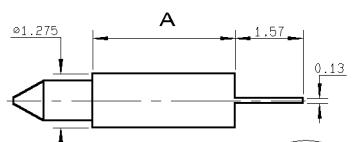


Fig. 2

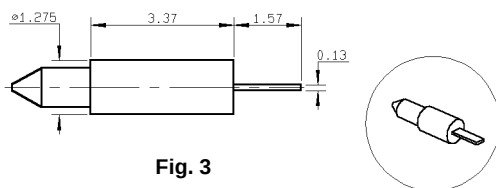


Fig. 3

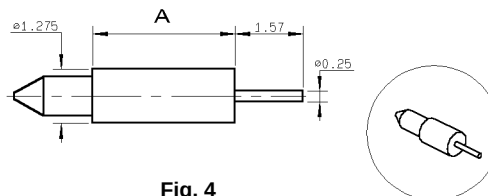
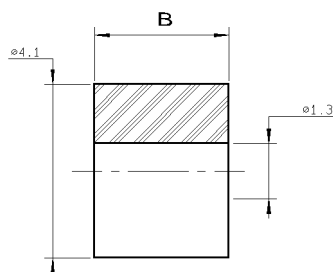
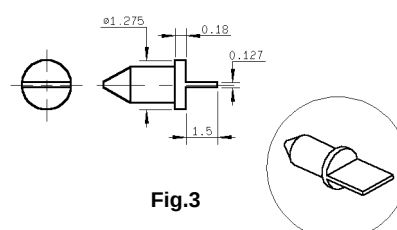
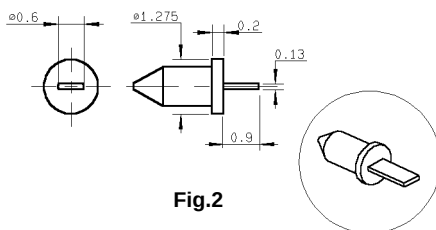
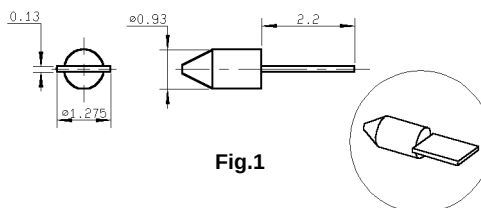


Fig. 4

Part number	Fig.	A	Packaging	Associated insulator part number
R280 151 000	1		10	R280 468 120
R280 460 000	2	1.77	10	R280 467 000
R280 461 000	2	3.37	10	R280 468 000
R280 461 200	3		10	R280 468 000
R280 461 210	2	10.3	10	R280 468 120
R280 462 000	4	1.77	10	R280 467 000
R280 463 000	4	3.37	10	R280 468 000


FIELD REPLACEABLE INSULATORS (to be used with field replaceable contacts, page 27)


Part number	B	Packaging
R280 467 000	1.57	10
R280 468 000	3.17	
R280 468 120	10.1	

FIELD REPLACEABLE CONTACTS (to be used with universal receptacles, page 23)


Part number	Fig.	Packaging
R280 458 030	1	10
R280 465 000	2	
R280 465 020	3	



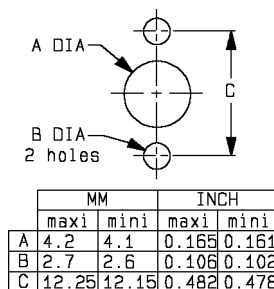
For more information regarding these connectors, please consult us.

27 GHz CONNECTORS

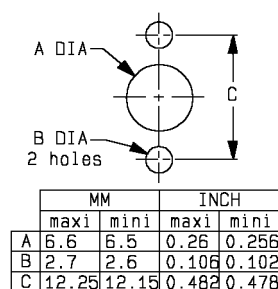
Part number	Description	Finish
R125 052 700*	Straight plug solder type for .085" cable	Gold
R125 052 702*	Straight plug solder type for .085" cable	Gold / passivated - coupling nut
R125 055 700*	Straight plug solder type for .141" cable	Gold
R125 055 702	Straight plug solder type for .141" cable	Gold / passivated - coupling nut
R125 222 700*	Straight jack solder type for .085" cable	Gold
R125 225 700*	Straight jack solder type for .141" cable	Gold
R125 325 700*	Bulkhead jack solder type for .141" cable	Gold
R125 326 700*	Bulkhead jack solder type for .085" cable	Gold
R125 441 001*	Straight male square flange receptacle (extended dielectric)	Passivated
R125 703 700*	Male male in-series adapter	Gold
R125 703 701	Male male in-series adapter	Passivated
R125 704 700*	Male female in-series adapter	Gold
R125 704 701	Male female in-series adapter	Passivated
R125 705 700*	Female female in-series adapter	Gold
R125 705 701	Female female in-series adapter	Passivated

PANEL DRILLING

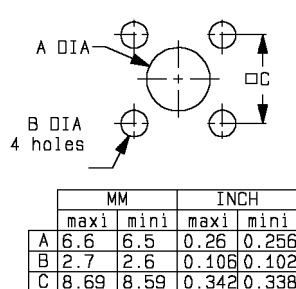
P01



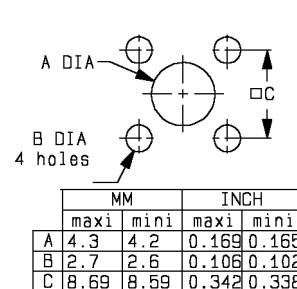
P02



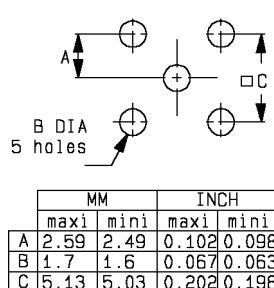
P03



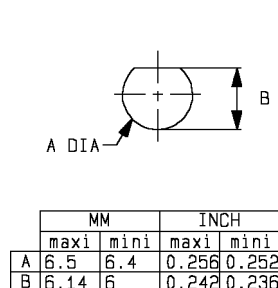
P04



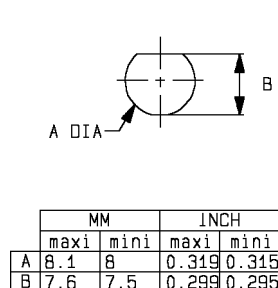
P05



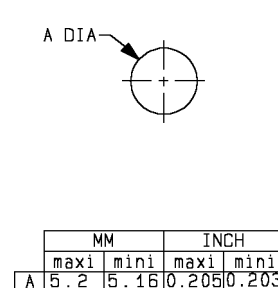
P06



P08



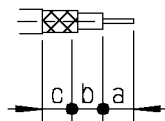
P09



• upon request



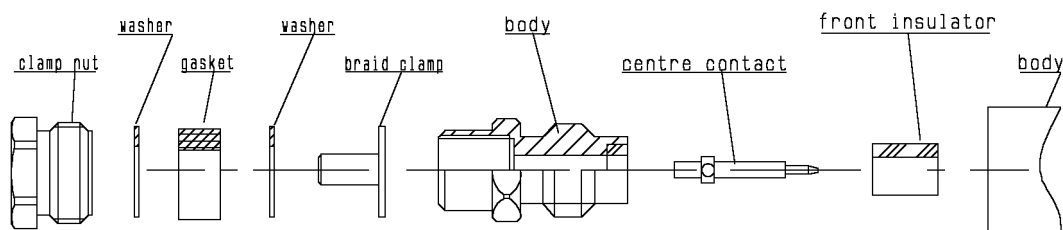
MATCHING PART NUMBER WITH CRIMP TOOLS



Part number	Assembly instructions	Stripping length (mm)			Center contact	Ferrule *	
		a	b	c	Crimp tool R282 281 000 + Positioner R282 967 012	Standard crimp tools part number	MIL Crimp tool R282 293 000 + Dies part number
R125 069 000	M04	3,5	3	7	-		
R125 072 000 R125 072 001	M02	2	1,5	6		R282 211 000	R282 235 003
R125 072 080 R125 072 081			0	7		R282 271 000	R282 235 037
R125 073 000 R125 073 001	M04	3,5	3	7		R282 211 000	R282 235 003
R125 075 000 R125 075 001	M02					R282 223 000	R282 235 011
R125 076 000 R125 076 001	M02	3,5	3	7			
R125 170 402 R125 172 000 R125 172 001	M11	2,8	3	7		R282 211 000	R282 235 003
R125 174 000		3	4	6		R282 271 000	R282 235 037
R125 175 000 R125 175 001 R125 176 000 R125 176 001		2,8	3	7		R282 223 000	R282 235 011
R125 272 000 R125 272 001	M06	2,85	11	7		R282 211 000	R282 235 003
R125 277 000 R125 277 001 R125 278 000 R125 278 001						R282 223 000	R282 235 011
R125 312 120 R125 312 121	M05	3	1,5	6,3	Selection N° 5	R282 271 000	R282 235 003
R125 313 120 R125 313 121							R282 235 037
R125 314 120 R125 314 121 R125 315 120 R125 315 121							
R125 322 030	M02	3,3	1,6	6	-	R282 271 000	R282 235 037

* To crimp the ferrule you can choose : • either one standard Crimp tool with included dies,
• or the MIL crimp tool and its separated dies.

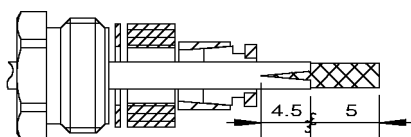
M 01



Part number	Recommended coupling torque
R125 091 000 R125 091 001	100 N.cm

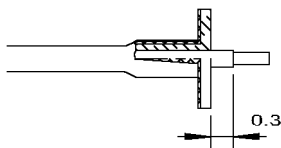
1

- Slide the clamp nut the 1st washer, the gasket, and the 2nd washer onto the cable.
- Strip the cable.
- Cut the jacket (2 slots).



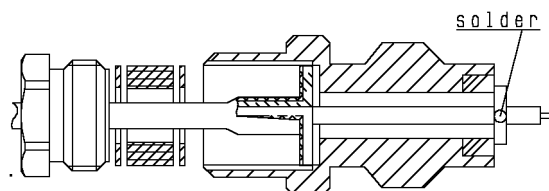
2

- Slide the braid clamp sleeve under the braid.
- Cut the braid flush with the clamp braid sleeve.
- Strip the dielectric as shown.



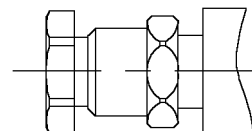
3

- Screw the sub-assembly into the connector rear body (coupling torque 30N.cm).
- Slide the centre contact over centre conductor until it bottoms against insulator.
- Solder the centre contact.
- Mount the front insulator.

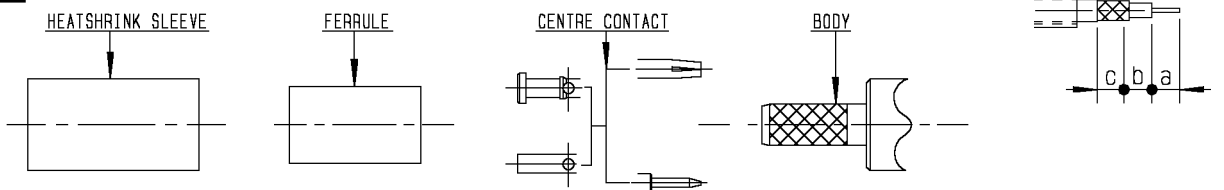


4

- Screw the sub-assembly into the connector body.



M 02



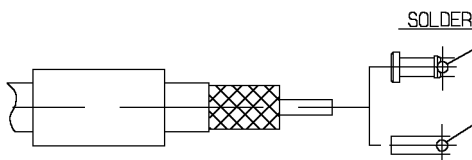
Part number	Stripping length (mm)			Hex. dim. H	Ferrule	
	a	b	c		Standard crimp tools dies included	MIL standard R282 293 000 (M22520/5-01) + dies
R125 072 000 R125 072 001	2	1.5	6	3.25	R282 211 000	R282 235 003 (M22520/5-03)
R125 072 080 R125 072 081		0	7	3.84	R282 271 000	R282 235 037 (M22520/5-37)
R125 075 000 R125 075 001 R125 076 000 R125 076 001	3.5	3		5.4	R282 223 000	R282 235 011 (M22520/5-11)
R125 322 030	3.3	1.6	6	3.84	R282 271 000	R282 235 037 (M22520/5-37)

1

- Slide onto the cable the ferrule and the heatshrink sleeve.
- Strip the cable.

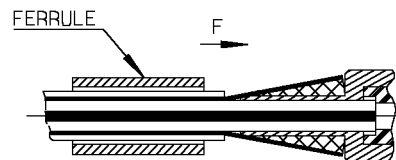
2

- Slide on centre contact until it bottoms against cable dielectrique.
- Solder center contact.
- Clean soldering area.



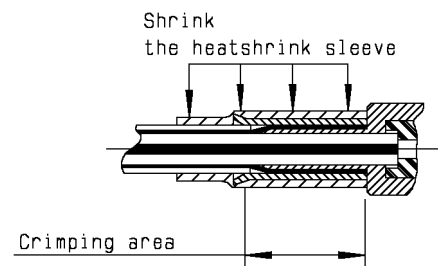
3

- Fan the braid.
- Slide the cable into the body until it bottoms against insulator.
- Slide the ferrule over the braid (In direction F).

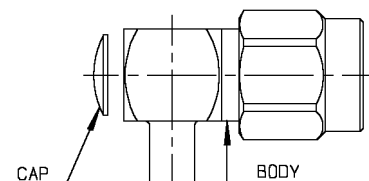


4

- Crimp the ferrule.
- Cut the excess of braid.
- Slide sleeve over ferrule and heatshrink in place.



M 03



STRIPPING DIMENSIONS



We recommend a cable thermal preconditioning before assembly.

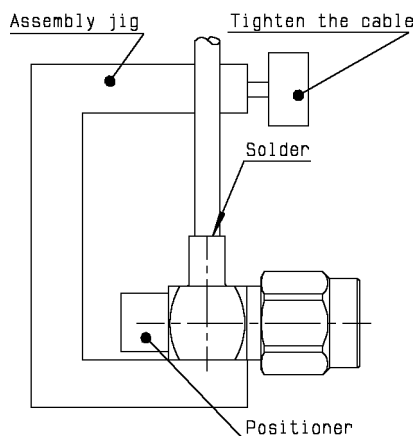
Part number	Stripping tool	Positioner	Assembly jig
R125 153 000 R125 153 002	R282 051 000	R282 744 200	R282 740 000
R125 154 000 R125 154 002	R282 053 000		

1

- Strip the cable.

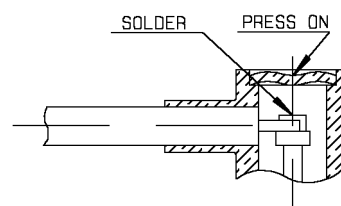
2

- Introduce the cable into the connector body until it stops.
- Place the sub assembly into the assembly jig with positioner and tighten it.
- Solder the body onto the cable.
Let the assembly cool down before removing it from the jig.

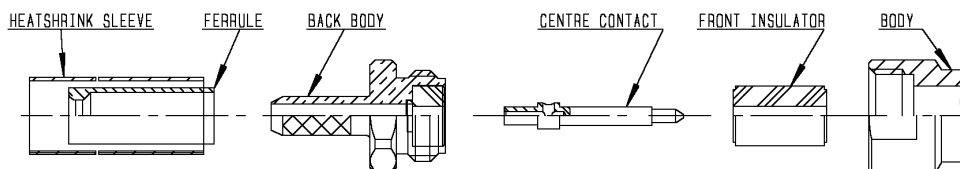


3

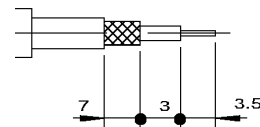
- Solder the inner conductor.
- Put the cap in its place.
- Press cap flush or slightly below surface of body assembly.



M 04



STRIPPING DIMENSIONS



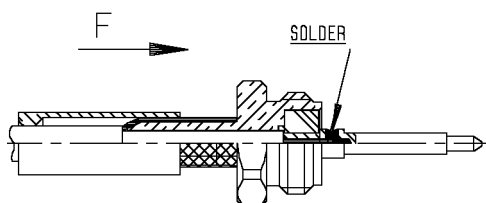
Part number	Hex. dim. H	Ferrule		Recommended coupling torque
		Standard crimp tools dies included	MIL standard R282 293 000 (M22520/5-01) + dies	
R125 069 000	2.7	R282 211 000	R282 235 003 (M22520/5-03)	80 - 120 N.cm
R125 073 000	3.25			80 - 130 N.cm
R125 073 001				

1

- Slide the heatshrink sleeve and the ferrule onto the cable.
- Strip the cable.

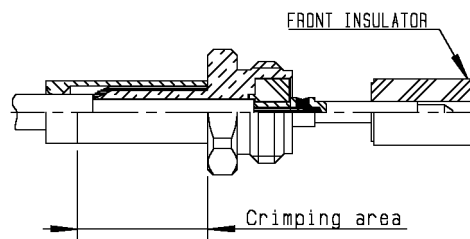
2

- Fan the braid.
- Slide the back body between dielectric and braid.
- Slide on the centre contact until it bottoms against insulator.
- Solder the centre contact.
- Slide the ferrule over the braid (in direction F).



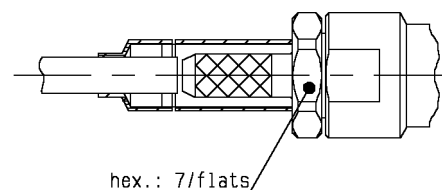
3

- Crimp the ferrule.
- Mount the front insulator.



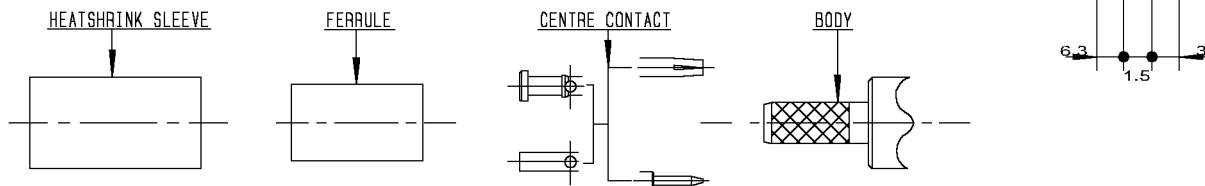
4

- Screw the sub-assembly into the connector body.
- Cut the excess of braid.
- Slide sleeve over the ferrule and heatshrink in place.



M 05

STRIPPING DIMENSIONS



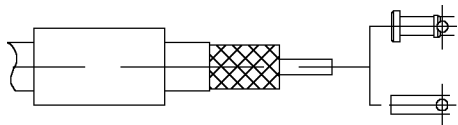
Part number	Hex. dim. H	Ferrule		Center contact Crimp tool R 282 281 000 + positioner R 282 967 012
		Standard crimp tools dies included	MIL standard R282 293 000 (M22520/5-01) + dies	
R125 312 120 R125 312 121	3.25	R282 271 000	R282 235 003 (M22520/5-03)	Selection n° 5
R125 313 120 R125 313 121	3.84		R282 235 037 (M22520/5-37)	
R125 314 120 R125 314 121 R125 315 120 R125 315 121	5.4	R282 223 000	R282 235 011 (M22520/5-11)	Selection n° 7

1

- Slide onto the cable the ferrule and the heatshrink sleeve.
- Strip the cable.

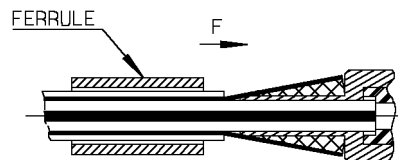
2

- Slide on centre contact until it bottoms against cable dielectric.
- Crimp center contact.
- Clean soldering area.



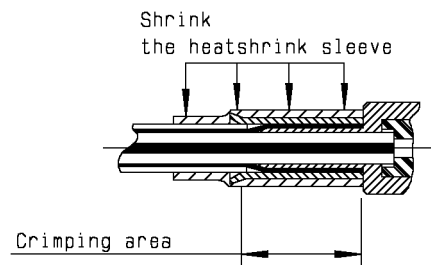
3

- Fan the braid.
- Slide the cable into the body until it bottoms against insulator.
- Slide the ferrule over the braid.
(in direction F)

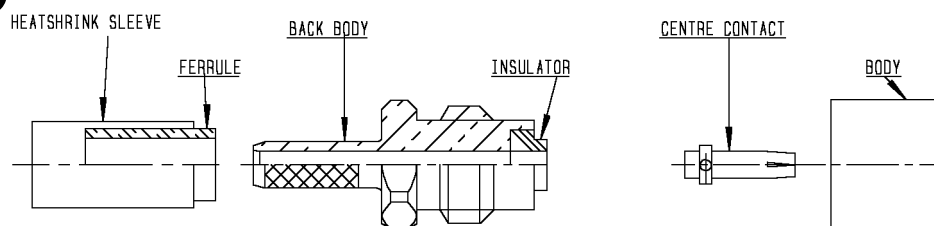


4

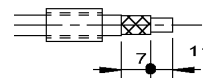
- Crimp the ferrule.
- Cut the excess of braid.
- Slide sleeve over ferrule and heatshrink in place.



M 06



STRIPPING DIMENSIONS



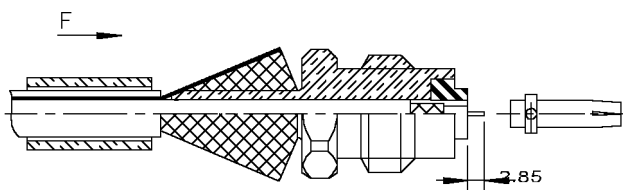
Part number	Hex. dim. H	Crimp tools		Recommended coupling torque
		Dies included	MIL standard R282 293 000 (M22520/5-01) + dies	
R125 272 000 R125 272 001	3.25	R282 211 000	R282 235 003 (M22520/5-03)	80 - 120 N.cm
R125 277 000 R125 277 001 R125 278 000 R125 278 001	5.4	R282 223 000	R282 235 011 (M22520/5-11)	

1

- Slide onto the cable the ferrule and the heatshrink sleeve.
- Strip the cable.

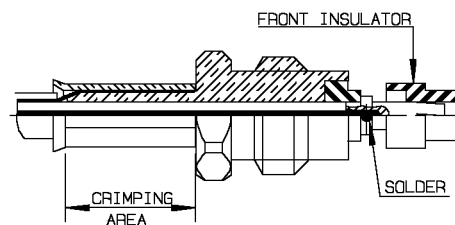
2

- Fan the braid.
- Slide the back body between dielectric and braid.
- Slide ferrule over the braid. (in direction F)



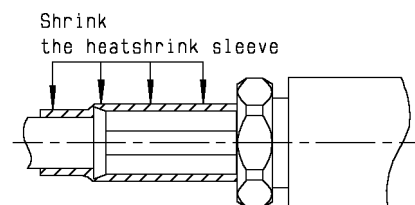
3

- Crimp the ferrule.
- Strip the cable, mount the insulator.
- Mount and Solder the centre contact.



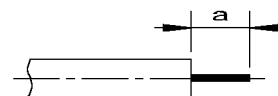
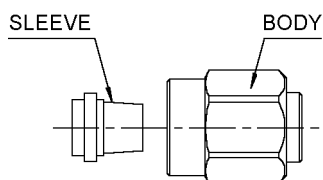
4

- Screw sub-assembly into the connector body.
- Slide sleeve over ferrule and heatshrink in place.



M 07

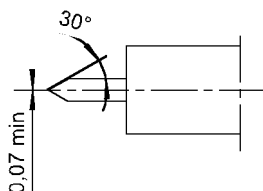
STRIPPING DIMENSIONS



Part number	Stripping length (mm) a	Stripping tool	Pointeur gauge	Guide	Crimping tool	Positioner
R125 054 900 R125 054 901	2.16	R282 053 000	R282 066 000	R282 711 000	R282 286 000	R282 701 000

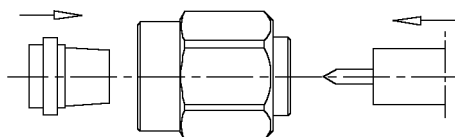
1

- Strip the cable with the cable stripping tool.
- Trim the cable inner conductor with the trimmer.
- Clean the cable.



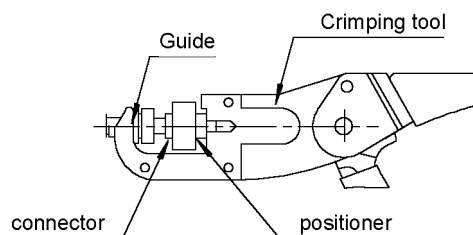
2

- Slide connector onto the cable.



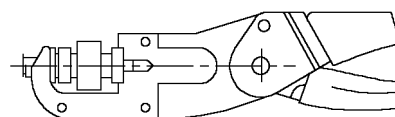
3

- Insert the connector and the cable on the crimping tool with guide and positioner.
- A pneumatic crimping tool exist too that can be used.

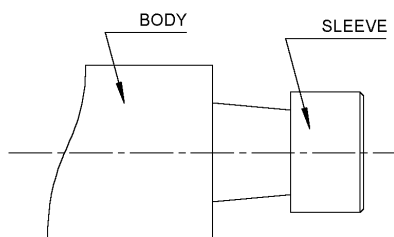


4

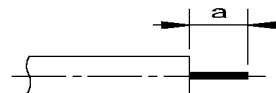
- Press the connector on the cable.



M 08



STRIPPING DIMENSIONS



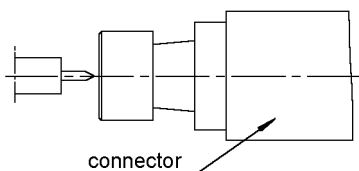
Part number	Stripping length (mm) a	Stripping tool	Pointeur gauge	Guide	Crimping tool	Positioner	Pneumatic crimping tool
R125 052 900 R125 052 901	1.78	R282 051 000	R282 062 000	R282 710 000	R282 286 000	R282 702 000	R282 255 000
R125 053 900 R125 053 901	2.16	R282 053 000	R282 066 000	R282 711 000		R282 700 000	
R125 055 900 R125 055 901						R282 702 000	
R125 153 900 R125 153 901	1.78	R282 051 000	R282 062 000	R282 710 000		R282 704 000	-----
R125 154 900 R125 154 901	2.16	R282 053 000	R282 066 000	R282 711 000			
R125 325 900 R125 325 901	2.16			R282 711 000		R282 705 000	R282 255 000
R125 326 900 R125 326 901	1.78	R282 051 000	R282 062 000	R282 710 000 R282 711 000			

1

- Strip the cable with the cable stripping tool.
- Trim the cable inner conductor with the trimmer.
- Clean the cable.

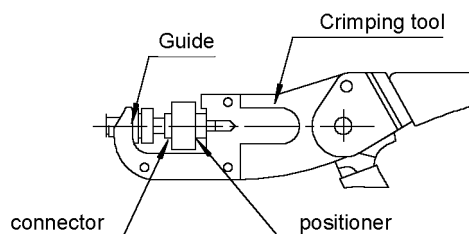
2

- Slide connector onto the cable.



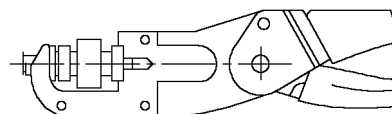
3

- Insert the connector and the cable on the crimping tool with guide and positioner.
- A pneumatic crimping tool exist too that can be used.

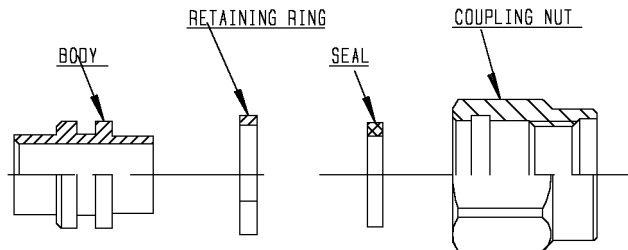


4

- Press the connector on the cable.



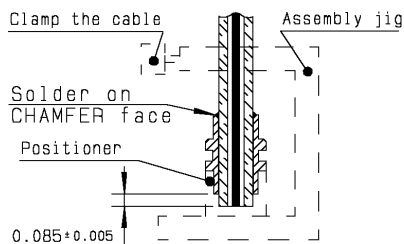
M 09



Part number	Stripping length (mm) a	Assembly jig	Positioner	Cable holder	Stripping tool	Trimmer	Retaining ring insert tool	Pliers
R125 054 000 R125 054 002 R125 054 500 R125 054 502 R125 057 000 R125 057 002	2.16	R282 740 000	R282 744 100	R282 059 100	R282 066 100	R282 053 100	R282 760 000	R282 200 000

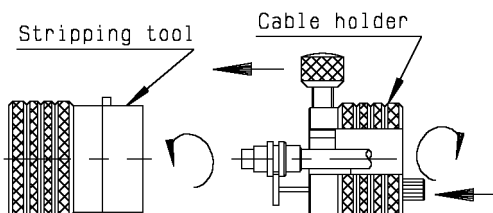
1

- Place the cable into the assembly jig.
- Place the connector body and positioner onto the cable and clamp cable.
- Put 3 rings of solder around the cable.
- Solder the body onto the cable.



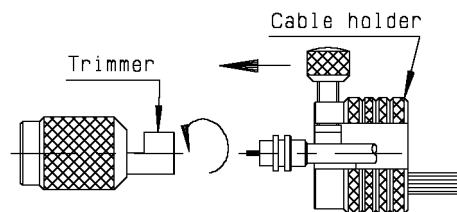
2

- Immobilize the cable using the thumb crew on the cable holder.
- Get the positioner into the connector groove, using knurled push-button.
- Push button until it stops.
- Tighten cable.
- Present the stripping tool in opposition to the cable holder.
- Push and turn both elements with respect to each other.
- When the tool stop cutting : pull off without turning it.



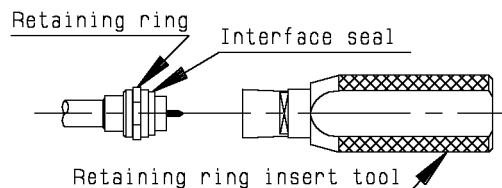
3

- Present the trimmer in opposition to the cable holder, push and turn both elements with respect to each other until fully home.



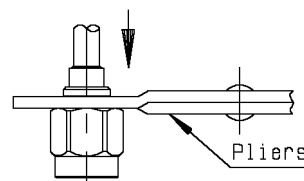
4

- Place retaining ring onto its insert tool.
- Push sub-assembly into the tool until the retaining ring snaps into place.
- Place the interface seal O ring onto body.



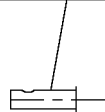
5

- Compress retaining ring using retaining ring pliers.
- Push coupling nut onto sub-assembly and over retaining ring.

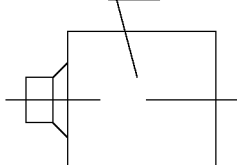


M 10

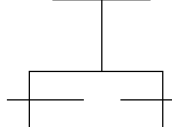
CENTRE CONTACT



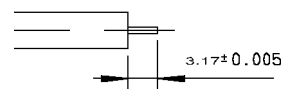
BODY



INSULATOR



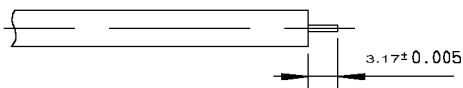
STRIPPING DIMENSIONS



Part number	Soldering tool	Trimmer	Soldering jig	Positioner 1	Positioner 2	Solder gauge	Dielectric recess gauge	Dielectric recess tool	Dielectric insert tool + plunger
R125 052 000 R125 052 002 R125 052 500	R282 051 000	R282 063 000	R282 740 000	R282 744 220	R282 744 060	R282 862 060	R282 914 000		R282 730 040
R125 055 000 R125 055 002 R125 055 500	R282 053 000	R282 067 000			R282 744 061				
R125 222 000	R282 051 000	R282 063 000			R282 744 010		R282 914 010	R282 915 010	R282 730 043
R125 225 000 R125 251 000	R282 053 000	R282 067 000			R282 744 011				
R125 252 000	R282 051 000	R282 063 000			R282 744 010				
R125 255 000	R282 053 000	R282 067 000			R282 744 011				
R125 256 000	R282 051 000	R282 063 000			R282 744 010				
R125 325 000	R282 053 000	R282 067 000			R282 744 011				
R125 326 000	R282 051 000	R282 063 000			R282 744 010				

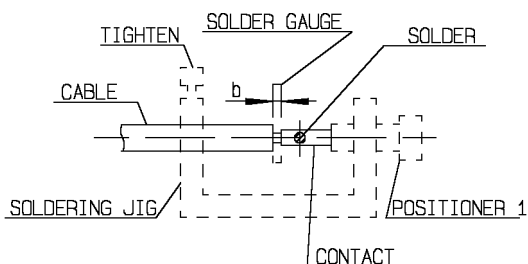
1

- Take the tool kit : R282 120 010.
- Strip the dielectric of the cable.
- Clean the cable.



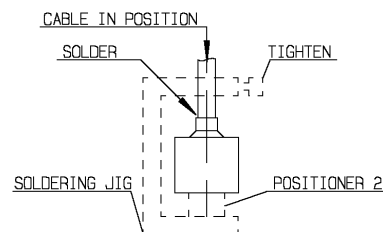
2

- Screw the positioner (1) onto the soldering jig.
- Slide contact into positioner.
- Insert solder gauge between contact and cable.
- Tighten and solder the contact.



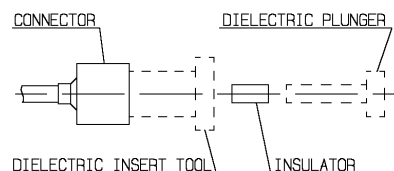
3

- After cooling remove cable assembly from the jig.
- Screw positioner (2) into the connector.
- Slide cable into the connector until it bottoms against positioner.
- Tighten.
- Put 3 rings of solder around the cable and solder.

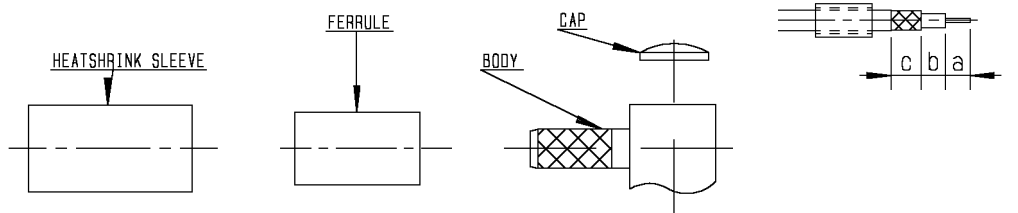


4

- After cooling remove cable assembly from the jig .
- Screw positioner cut.
- Cut the dielectric flush to clamp braid sleeve.
- Screw female dielectric insert tool onto connector and insert insulator with the dielectric plunger.



M 11



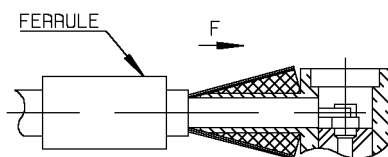
Part number	Stripping length (mm)			Hex. dim H	Crimp tools	
	a	b	c		Dies included	MIL standard R282 293 000 (M22520/5-01) + DIES
R125 170 402 R125 172 000 R125 172 001	2.8	3	7	3.25	R282 211 000	R282 235 003 (M22520/5-03)
R125 174 000	3	4	6	3.84	R282 271 000	R282 235 037 (M22520/5-37)
R125 175 000 R125 175 001 R125 176 000 R125 176 001	2	3	7	5.4	R282 223 000	R282 235 011 (M22520/5-11)

1

- Slide onto the cable the ferrule and the heatshrink sleeve.
- Strip the cable.

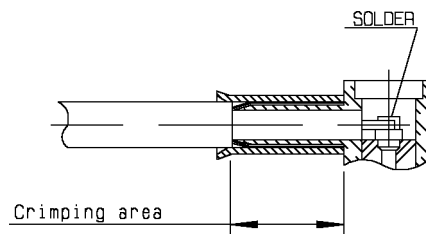
2

- Fan the braid.
- Push connector body under the braid.
- Slide the ferrule on the braid. (in direction F)



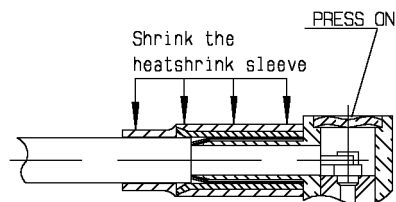
3

- Crimp the ferrule.
- Solder inner conductor.



4

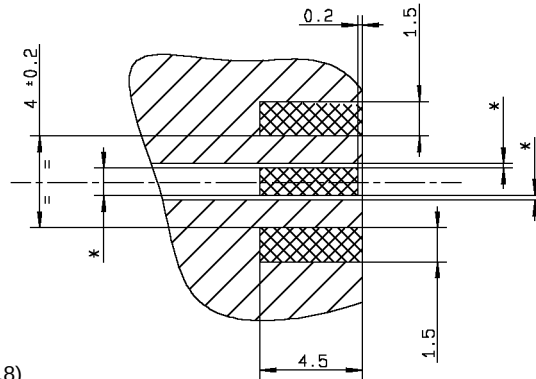
- Place the cap.
- Press cap flush or slightly below surface of body assembly.
- Slide sleeve over ferrule and heatshrink in place.



M 13

Part number

R 125 423 200



COPLANAR LINE

Pattern and signal are on the same side.

The material of PCB is the epoxy resin of glass fabrics bacs. ($\epsilon_r = 4.8$)

The solder resist should be printed except for the land pattern on the PCB.

*Parameters flaged by a star must be defined dimensionally regarding the thickness of the PCB and the transmission way these parameters could be measured by RADIALL if request.

Pattern

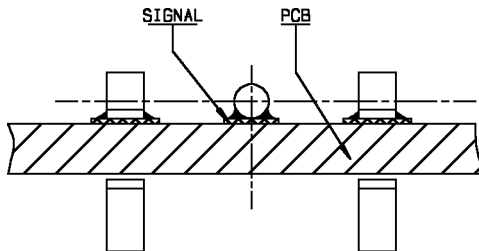
Land for solder paste

1

This type of connector is adapted to one specific PCB thickness. It can be used with differents ways of transmission.

COPLANAR LINE

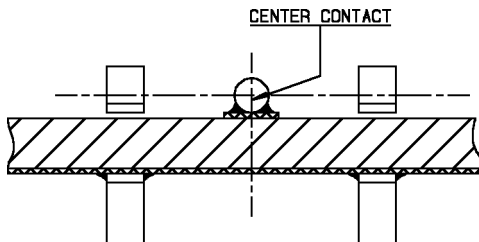
Signal and ground are coplanar.



2

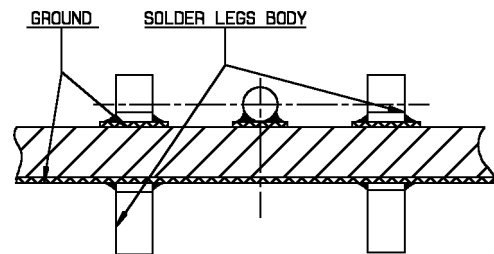
MICROSTRIP LINE

Signal and ground are opposite.

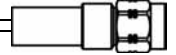


3

Coplanar and opposite grounds.



Solution (3) features a stronger mechanical retention on the PCB because the 4 leads are soldered.



The RADIALL commercial SMA connectors have been specially designed for applications where low installed costs are of the utmost importance. They are easy, fast to assemble and reliable and offer the perfect solution for high volume applications requiring high level performance like civil telecommunications, datacommunications or test and measurement.

- **Full compatibility:**

These commercial SMA connectors are fully compatible (interchangeable and intermateable) with all existing MIL standardized SMA connectors. They feature the same performance level except mechanical (life: 100 matings and coupling nut torque: 60 Ncm).

The coupling nut of the commercial SMA series features a special design which is different from the standard SMA coupling nut as the tightening torque is reduced.

- **Wide range:**

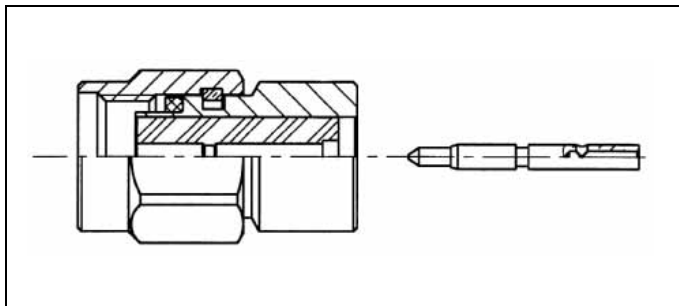
The commercial SMA range features models which are adapted to offer a solution for every standard coaxial flexible or semi-rigid cable as well as PCB models with traditional through-hole pins or solder pads for SMT applications.

- **Simple snap-in axial captivation
(for full crimp models):**

The relative position of the centre contact into the interface is mechanically guaranteed by the snapping of the insulator inner shoulder into the groove of the centre contact.

This design facilitates the captivation operation in contrast to other designs, requiring 2 insulators to provide contact retention.

It assures constant perfect axial positioning of the center contact into the interface.



- **Space-saving size:**

Due to the captivation technique, these commercial SMA connectors are shorter than multi-piece body connectors.

- **Convenient 3-piece design:**

- for straight models: body + center contact + outer ferrule,
- for right-angle models : single piece body + back cap + outer ferrule.

- **Fast and reliable cable attachment:**

The cable connectors can be either fully crimped or soldered/crimped, offering full flexibility for high volume industrial production with standard manual or pneumatic tooling: fast and reliable.

- the centre contact can be either crimped or soldered,
- the outer contact is attached to the cable by crimping a ferrule.

- **Competitive pricing:**

The design and materials used in the manufacture of the commercial SMA range allow us to offer connectors at competitive prices to suit a wide range of applications. The connector body is manufactured in brass and the surface plating is available in either gold or in BBR finish (RADIALL non-magnetic bright bronze surface finish).

- **Center contact captivation:**

Our connectors have a captive center contact.



50 Ω

DC - 18 GHz

GENERAL

- Subminiature coaxial connectors
- Screw-on coupling
- High RF performance
- 2 plating options :
 - BBR
 - Gold

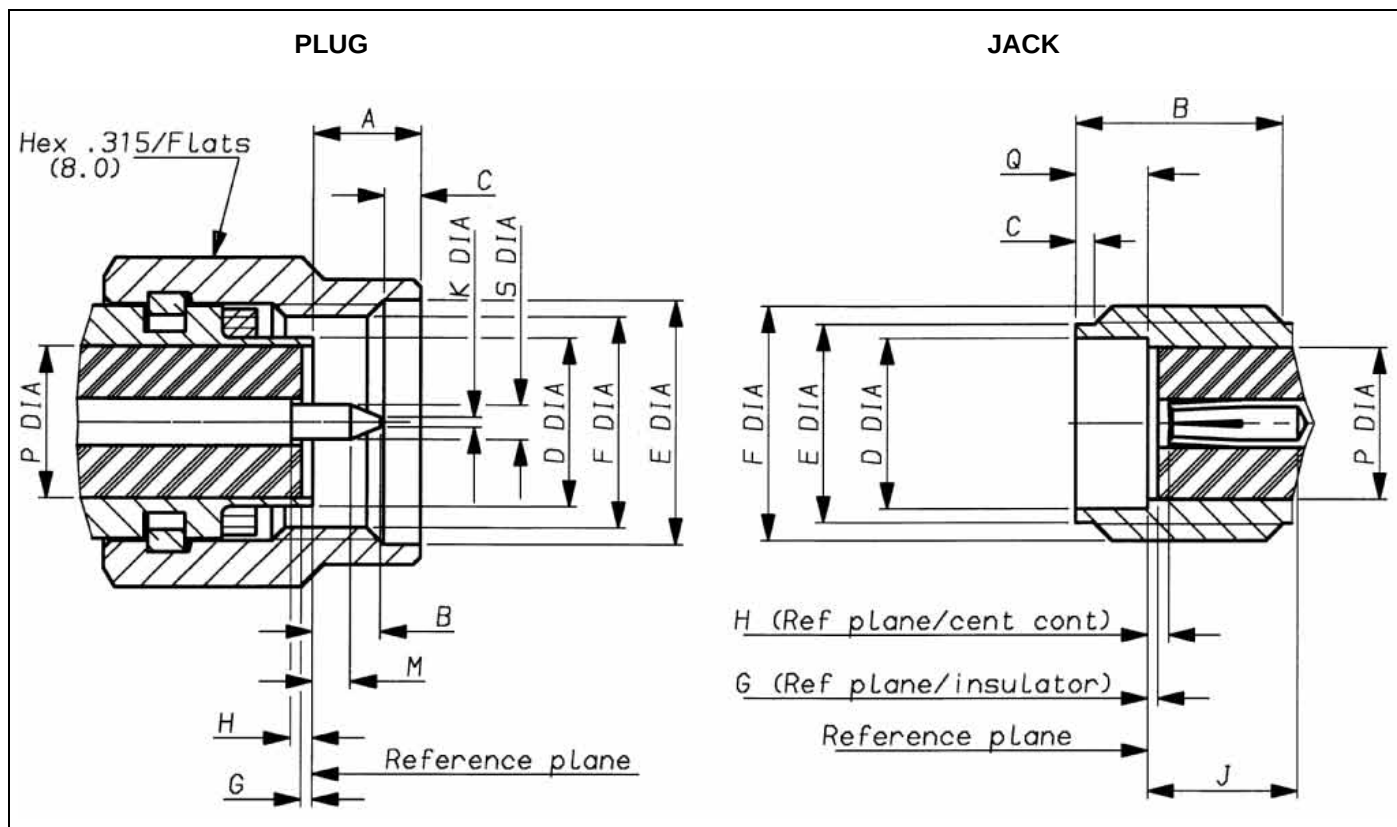
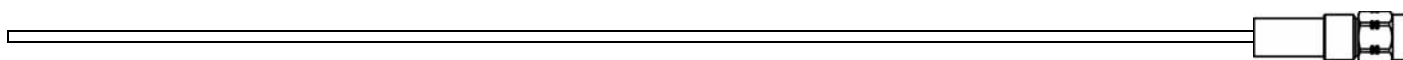
APPLICABLE STANDARDS

- MIL-C - 39012
- IEC 169-1
- CECC 22110
- CECC 22111 - 801 to 808
- BS 9210 N006



APPLICATIONS

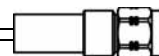
- Telecommunication
- Aeronautics
- Measurement and test systems
- General electronics



LETTER	mm		inch	
	min.	max.	min.	max.
A		3.43		.135
B		2.54		.100
C	0.38	1.14	.015	.045
D DIA		4.59		
E DIA	6.35		.250	
F DIA	1/4 36 UNS 2B			
G*	0.0	-0.20	0.0	-.008
H*	0.0	-0.25	0.0	-.010
J				
K DIA		0.38		.015
M	1.27		.050	
P DIA	4.10 nom.		.161 nom.	
Q DIA				
S DIA	0.90	0.94	.035	.037

LETTER	mm		inch	
	min.	max.	min.	max.
A				
B	4.31		.170	
C	0.38	1.14	.015	.045
D DIA	4.596		.181	
E DIA	5.28	5.49	.208	.216
F DIA	1/4 36 UNS 2A			
G*	0.0	-0.20	0.0	-.008
H*	0.0	-0.25	0.0	-.010
J	2.92		.115	
K				
M				
P DIA	4.10 nom.		.161 nom.	
Q	1.88	1.98	.074	.078
S DIA				

All dimensions are given in mm



TEST/CHARACTERISTICS	MIL-C-39012 paragraph	VALUES / REMARKS
----------------------	--------------------------	------------------

GENERAL

Impedance		50 Ω
Frequency range		Semi-rigid cables DC - 18 GHz
Temperature range		- 65°C + 105°C

ELECTRICAL

Insulation resistance	3-11	5 000 MΩ mini.
Contact resistance • Outer conductor • Inner conductor	3-16	Initial 3 mΩ 2 mΩ
V.S.W.R. max up to : 18 GHz for semi-rigid cable 12.4 GHz for right angle connector (SR) 12.4 GHz for flexible cable	3-14	.085" .141" 2.6 / 50 / S 5 / 50 / D
• Straight Connector • Right angle connector		1.07 + .01F 1.10 + .01F 1.05 + .01F 1.10 + .01F 1.15 + .02F 1.15 + .03F 1.15 + .01F 1.15 + .02F
Dielectric withstanding voltage in VRMS	3-17	750 1000 750 1000
Working voltage in VRMS (sea level)		335 500 250 335
Working voltage in VRMS (70 000 ft)		85 125 65 85
RF testing voltage at 5MHz in VRMS	3-23	500 670 500 670

MECHANICAL

Cable retention force	3-24	.085" .141" 2.6 / 50 / S 5 / 50 / D
		130 N 270 N 90 N 204 N
Life	3-15	100 matings
Force to engage and disengage	3-5-1	23 Ncm - 2 inch pounds
Coupling nut torque recommended		60 Ncm - 5.2 inch pounds
Coupling nut retention force	3-25	272 N min

ENVIRONMENTAL

Vibration	3-18	MIL STD 202, method 204, condition D,20g
Shock	3-19	MIL STD 202, method 213, condition I,100g
Thermal shock	3-20	MIL STD 202, method 107, condition B,
Corrosion (salt spray)	3-13	MIL STD 202, method 101, condition B,
Moisture resistance	3-21	MIL STD 202, method 106
Barometric pressure	3-22	MIL STD 202, method 105, condition C
Hermetic test		down to 10 ⁻⁶ mmHg (Torr) leakage rate < 10 ⁻⁸ atm/cm ³ /sec
Life (at high temperature)		MIL STD 202, method 108

MATERIALS

Body		Brass
Center contacts female male		Beryllium copper Brass
Insulators		PTFE teflon
Gaskets		Silicone rubber

FINISH

Bodies		BBR* or Gold plated
Center contact		Gold plated

Standard packaging : 100 pieces for unit packaging, add «W» after the P/N

* BBR Bright Bronze Radial

STRAIGHT PLUGS, FULL CRIMP TYPE, FOR FLEXIBLE CABLE

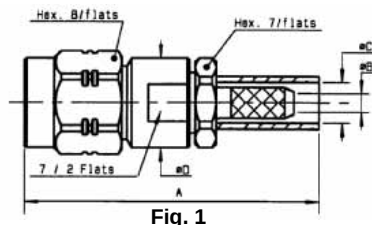


Fig. 1

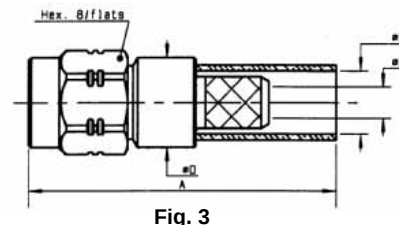


Fig. 3

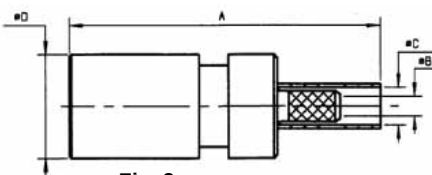


Fig. 2

Cable group	Part number	Fig.	Dimensions (mm)				Assembly instructions	Finish	Note
			A	B	C	D			
2 / 50 / S	R124 069 120	1	25	1	2,55	7,7	M07	BBR	Back nut / solder contact
	R124 069 123							Gold	
2.6 / 50 / S	R124 071 120	2	23,4	1,61	3,25		M01	BBR	
	R124 071 123							Gold	
2.6 / 50 / D	R124 072 220				3,5	BBR			
	R124 072 223					Gold			
2.6 / 50 / S	R124 072 520*	3	27,14	1,7	3,25	8,9		BBR	Push-on interface – Non captivated center contact
5 / 50 / S	R124 075 320	2	26,4	3,11	5,41	7,7		Gold	
	R124 075 323							BBR	
5 / 50 / D	R124 076 320				5,8			Gold	
	R124 076 323							BBR	
10.3 / 50 / S	R124 080 030*		29,65	7,44	11,05	12,7		BBR	Cable LMR400 Non captivated center contact

STRAIGHT PLUGS, SOLDER TYPE, FOR SEMI-RIGID CABLE

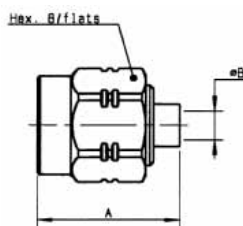


Fig. 1

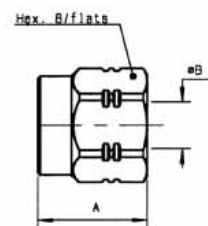
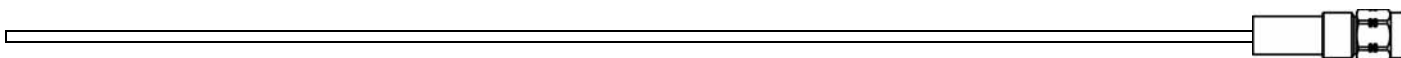


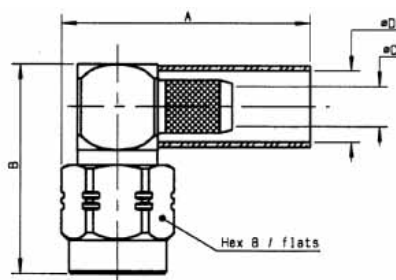
Fig. 2

Cable group	Part number	Fig.	Dimensions (mm)		Assembly instructions	Finish	Note
			A	B			
.085"	R124 052 003	1	11,1	2,25	M04	Gold	Non captivated center contact
.141"	R124 054 003	2	8,5	3,65	M06		Without center contact

* Upon request

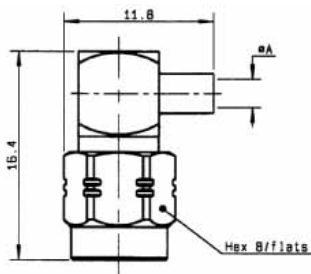


RIGHT ANGLE PLUGS, CRIMP TYPE, FOR FLEXIBLE CABLE



Cable group	Part number	Dimensions (mm)				Assembly instructions	Finish	Note
		A	B	C	D			
2.6 / 50 / S	R124 172 120	18	16,35	1,61	3,25	M02	BBR	
	R124 172 123						Gold	
2.6 / 50 / D	R124 174 120			3,1	3,5		BBR	
	R124 174 123						Gold	
5 / 50 / S	R124 175 120	21	16,35	3,1	5,41		BBR	
	R124 175 123						Gold	
5 / 50 / D	R124 176 120			3,1	5,8		BBR	
	R124 176 123						Gold	
5.7 / 50 / D	R124 176 220*		16,8	3,87	6,6		BBR	Cable TZC 50019

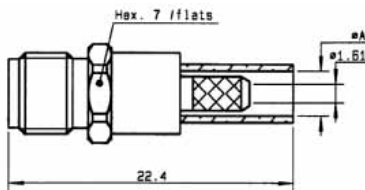
RIGHT ANGLE PLUGS, SOLDER TYPE, FOR SEMI-RIGID CABLE



Cable group	Part number	Dimensions (mm) A	Assembly instructions	Finish
.085"	R124 153 003	2,25	M05	Gold
.141"	R124 154 003	3,65		

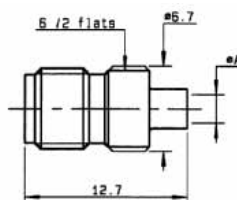
• Upon request

STRAIGHT JACKS, FULL CRIMP TYPE, FOR FLEXIBLE CABLE

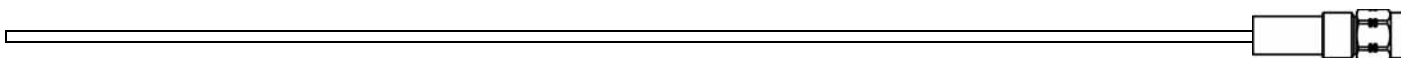


Cable group	Part number	Dimensions (mm) A	Assembly instructions	Finish
2.6 / 50 / S	R124 236 120	3,25	M01	BBR
	R124 236 123			Gold
2.6 / 50 / D	R124 233 120	3,5		BBR
	R124 233 123			Gold

STRAIGHT JACKS, SOLDER TYPE, FOR SEMI-RIGID CABLE



Cable group	Part number	Dimensions (mm) A	Assembly instructions	Finish	Note
.085"	R124 222 003	2,25	M04	Gold	Non captivated center contact
.141"	R124 225 003	3,65			



BULKHEAD FEEDTHROUGH STRAIGHT JACKS, FULL CRIMP TYPE, FOR FLEXIBLE CABLE

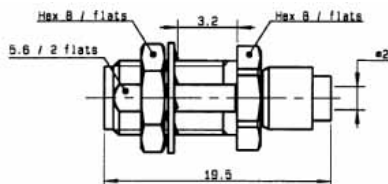


Fig. 1

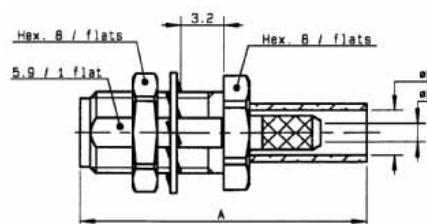
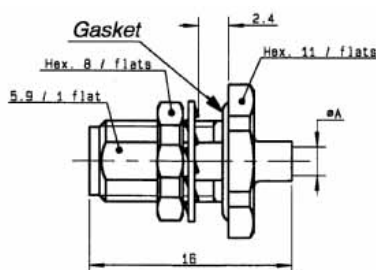


Fig. 2

Cable group	Part number	Fig.	Dimensions (mm)			Assembly instructions	Panel drilling	Finish	Note	
			A	B	C					
2 / 50 / S	R124 310 020	1				M03	P07	BBR	Reverse crimping / Solder contact	
	R124 310 023							Gold		
2.6 / 50 / S	R124 312 120	2	22,4	1,61	3,25	M01	P05	BBR		
	R124 312 123							Gold		
2.6 / 50 / D	R124 313 120							3,5		BBR
	R124 313 123									Gold
5 / 50 / S	R124 314 120		25,4	3,11	5,41			BBR		
	R124 314 123							Gold		
5 / 50 / D	R124 315 120							5,8		BBR
	R124 315 123									Gold

BULKHEAD FEEDTHROUGH STRAIGHT JACKS, SOLDER TYPE, FOR SEMI-RIGID CABLE (panel seal)



Cable group	Part number	Dimensions (mm) A	Assembly instructions	Panel drilling	Finish	Note
.085"	R124 326 003	2,25	M04	P05	Gold	Non captivated center contact
.141"	R124 325 003	3,65				

FLANGE JACKS, SOLDER TYPE, FOR SEMI-RIGID CABLE

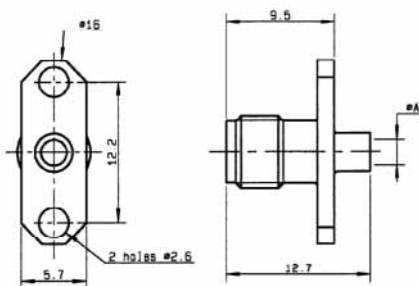


Fig. 1

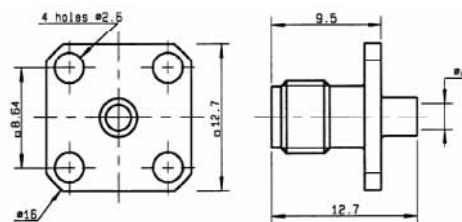


Fig. 2

Cable group	Part number	Fig.	Dimensions (mm) A	Assembly instructions	Panel drilling	Finish	Note
.141"	R124 251 003	1	3,65	M04	P04	Gold	Non captivated center contact
	R124 255 003	2			P02		
.085"	R124 252 003	1	2,25		P04		
	R124 256 003	2			P02		

SQUARE FLANGE FEMALE RECEPTACLES

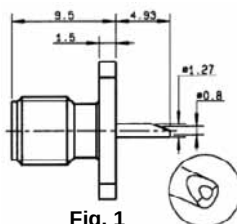


Fig. 1

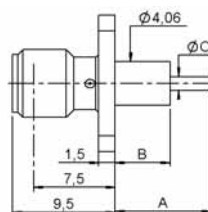


Fig. 2

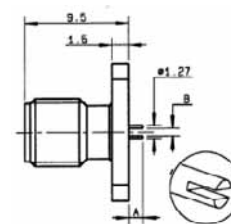


Fig. 3

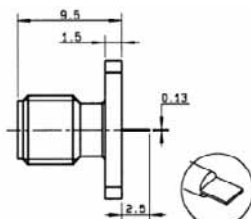


Fig. 4

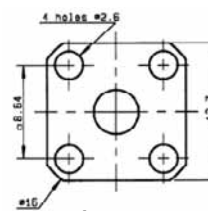


Fig. 1 to 4

Part number	Fig.	Dimensions (mm)			Panel drilling	Finish	Note
R124 403 120	1				P01	BBR	
R124 403 123						Gold	
R124 413 025	2	8.9	5.1	1.28		BBR	4 Indents
R124 414 000		15,9	12,7	1.27		Gold	
R124 414 003						BBR	
R124 415 270		17,9	15			Gold	
R124 415 273							
R124 498 047*	3	2	0,51			BBR	
R124 510 000	4					Gold	
R124 510 003							

* Upon request

NARROW FLANGE FEMALE RECEPTACLES

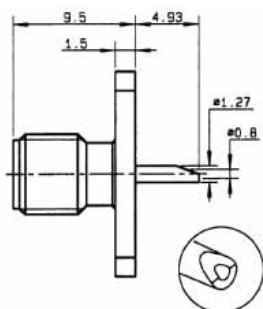
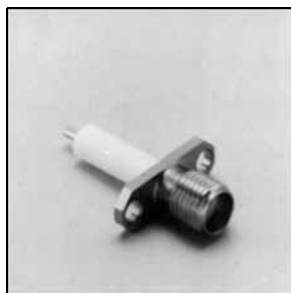


Fig. 1

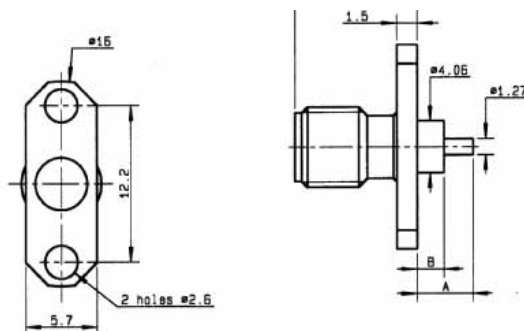
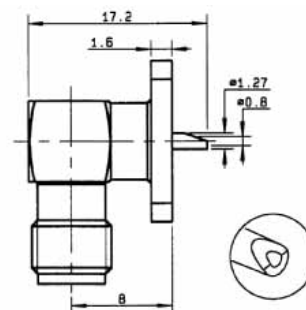
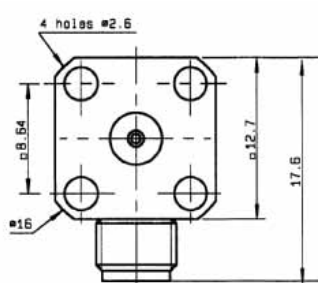


Fig. 2

Part number	Fig.	Dimensions (mm)		Panel drilling	Finish	Note
		A	B			
R124 454 120	1			P04	BBR	4 Indents
R124 454 123					Gold	
R124 464 000	2	15,9	12,7		BBR	
R124 464 003					Gold	
R124 464 270		17,9	15		BBR	
R124 464 273					Gold	

RIGHT ANGLE SQUARE FLANGE FEMALE RECEPTACLES



Part number	Panel drilling	Finish
R124 654 000	P02	BBR
R124 654 003		Gold

BULKHEAD FEEDTHROUGH STRAIGHT FEMALE RECEPTACLES

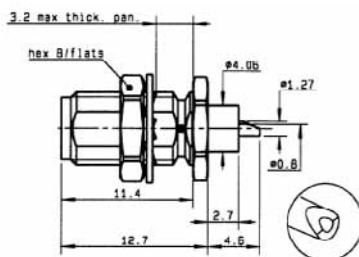


Fig. 1

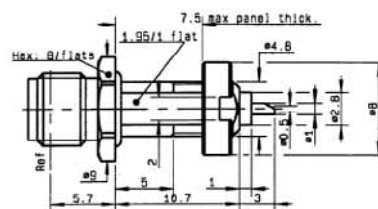
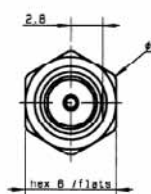


Fig. 2

Part number	Fig.	Panel drilling	Finish	Note
R124 553 120	1	P05	BBR	Rear mount
R124 553 123			Gold	
R124 581 020*	2	P06	BBR	Panel seal / Front mount

STRAIGHT FEMALE PCB RECEPTACLES

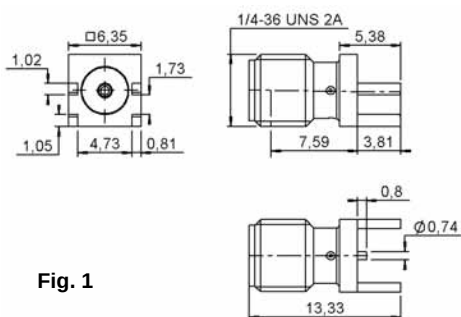


Fig. 1

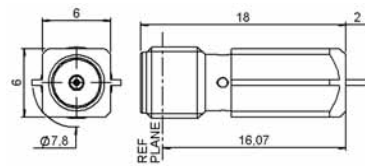


Fig. 2

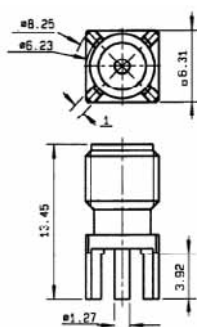


Fig. 3

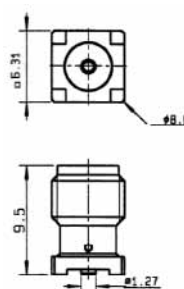


Fig. 4

Part number	Fig.	Panel drilling	Assembly instructions	Finish	Note
R124 423 223	1		M09	Gold	
R124 423 833	2		M10		
R124 426 120	3	P03		BBR	
R124 426 123					
R124 427 000	4		M08	Gold	Surface mount / bulkhead 100 pieces
R124 427 800					Surface mount / Tape and reel of 100 pieces

* Upon request

RIGHT ANGLE FEMALE PCB RECEPTACLES

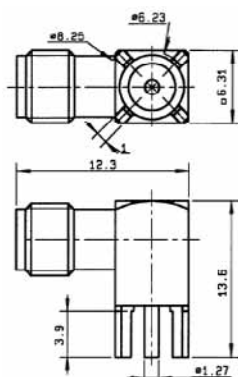
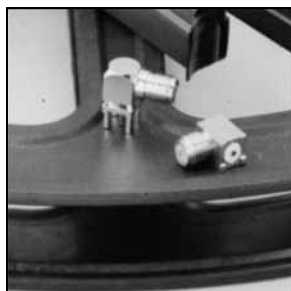


Fig. 1

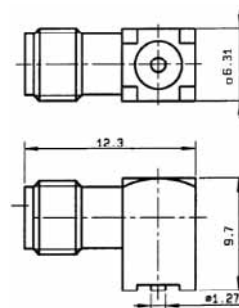


Fig. 2

Part number	Fig.	Panel drilling	Assembly instructions	Finish	Note
R124 680 120	1	P03		BBR	
R124 680 123					
R124 681 000	2		M08	Gold	Surface mount / Bulkhead 100 pieces
R124 681 800					Surface mount / Tape and reel of 100 pieces

IN SERIES ADAPTERS

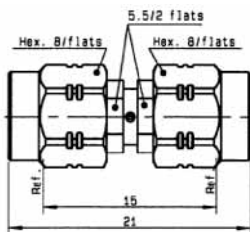


Fig. 1

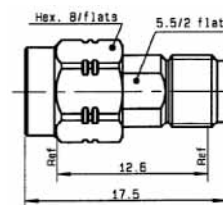


Fig. 2

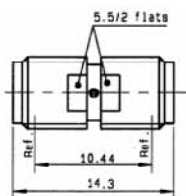


Fig. 3

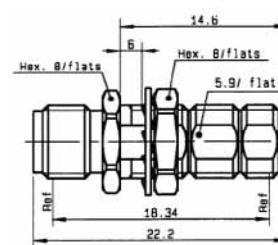
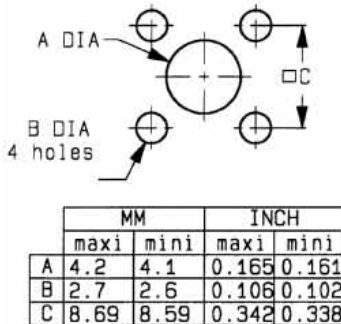


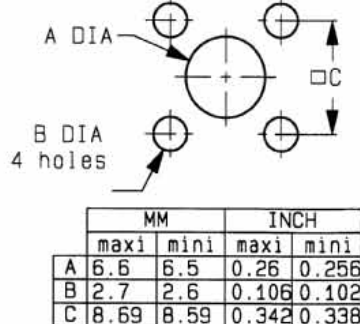
Fig. 4

Part number	Fig.	Panel drilling	Finish	Note
R124 703 000	1		BBR	Plug to plug
R124 703 003			Gold	
R124 704 000	2		BBR	Plug to jack
R124 704 003			Gold	
R124 705 000	3		BBR	Jack to jack
R124 705 003			Gold	
R124 720 000	4	P05	BBR	
R124 720 003		P05	Gold	

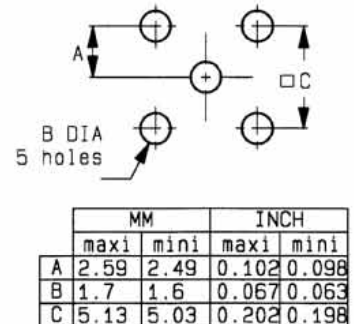
P01



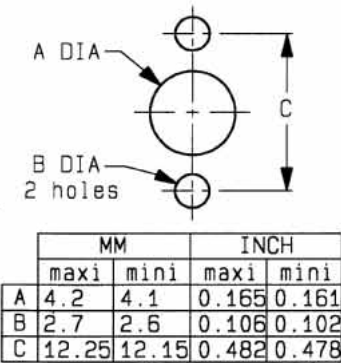
P02



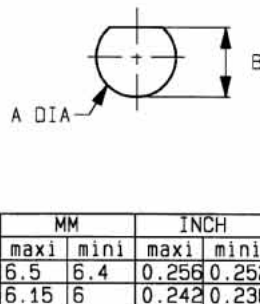
P03



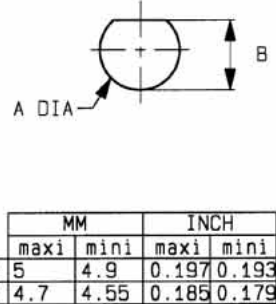
P04



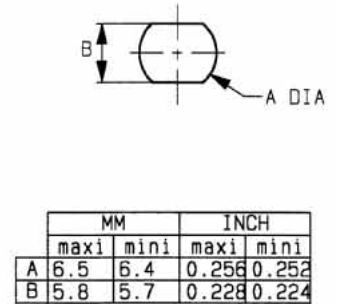
P05



P06

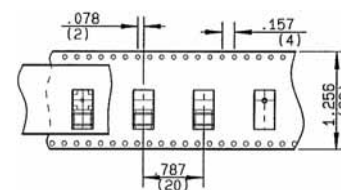
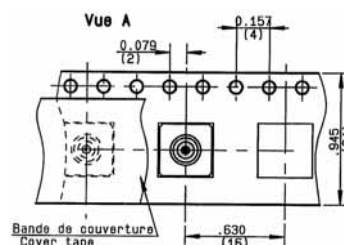
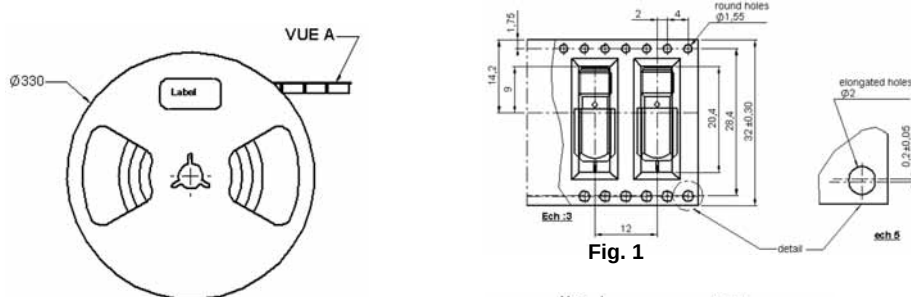


P07

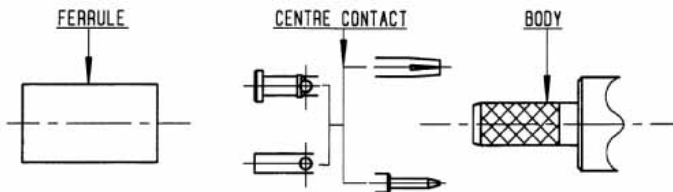


PACKAGING

Part number	Fig.
R124 423 833	1
R124 427 800	2
R124 681 800	3

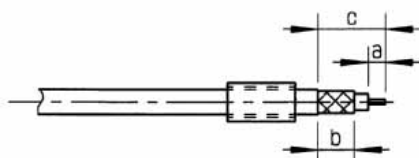


M 01

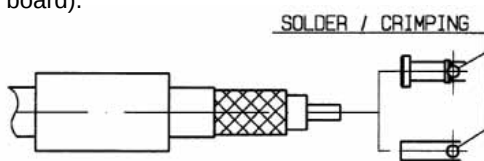


Part number	Stripping length (mm)			Center contact crimping tool	Positioner	Crimping tool	
	a	b	c			Dies included	MIL standard R282 293 000 (M22520/5-01) + dies
R124 071 120 R124 071 123 R124 072 520	3	6.3	10.8	R282 281 000 (2x4 pts pos 5)	R282 967 012	R282 271 000 Hex 3.25	R282 235 003 (M22520/5-03)
R124 072 220 R124 072 223				R282 271 000 Hex 3.84		R282 235 037 (M22520/5-37)	
R124 075 320 R124 075 323 R124 076 320 R124 076 323				8282 223 000 Hex 5.41		R282 235 011 (M22520/5-11)	
R124 233 120 R124 233 123				R282 271 000 Hex 3.84		R282 235 037 (M22520/5-37)	
R124 236 120 R124 236 123 R124 312 120 R124 312 123				R282 271 000 Hex 3.25		R282 235 003 (M22520/5-03)	
R124 313 120 R124 313 123				R282 271 000 Hex 3.84		R282 235 037 (M22520/5-37)	
R124 314 120 R124 314 123 R124 315 120 R124 315 123				R282 223 000 Hex 5.41		P282 235 011 (M2252015-11)	
R124 080 030	4.5	8	11.3			R282 231 000 Hex 10.54	R282 235 116 (Y116 DANIELS)

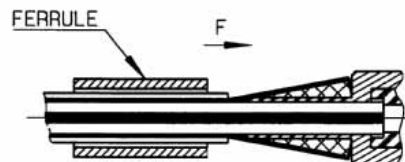
- Slide onto the cable the ferrule eventually if screw slide it on the cable.
 - Strip the cable. Use if it's possible stripping tool + tool. Only for cable with outer diameter between 2.5 and 7.6 mm.



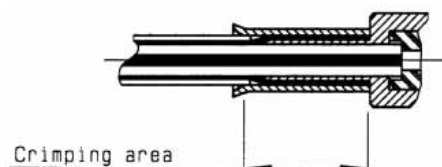
- Slide on centre contact until it bottoms against cable dielectrique.
 - Solder or crimp centre contact (crimping tool board).



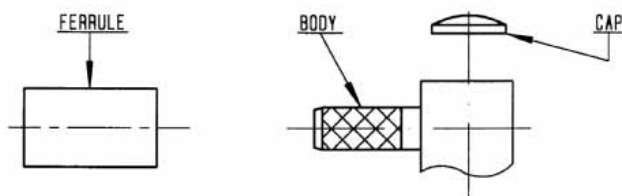
- Fan the braid.
 - Slide cable into the body until bottoms against insulator.
 - Slide ferrule over the braid (in direction F).



- Crimp the ferrule with crimping tool (crimping tool board).
 - Cut the excess of braid.



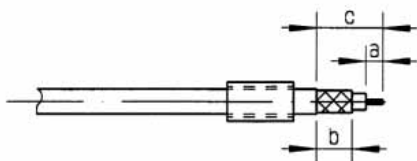
M 02



Part number	Stripping length (mm)			Crimping tool	
	a	b	c	Dies included	MIL standard R282 293 000 (M22520/5-01) + dies
R124 172 120 R124 172 123	2	6.5	12	R282 211 000 Hex 3.25	R282 235 003 (M22520/5-03)
R124 174 120 R124 174 123				R282 271 000 Hex 3.84	R282 235 037 (M22520/5-37)
R124 175 120 R124 175 123 R124 176 120 R124 176 123				R282 223 000 Hex 5.41	R282 235 011 (M22520/5-11)
R124 176 220				R282 223 000 Hex 6.48	R282 235 013 (M22520/5-13)

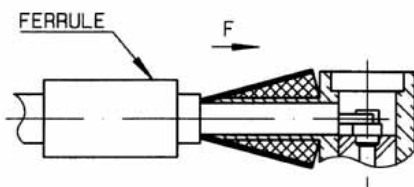
1

- Slide onto the cable the ferrule.
- Strip the cable. Use if it's possible stripping tool + tool. Only for cable with outer diameter between 2.5 and 7.6 mm.



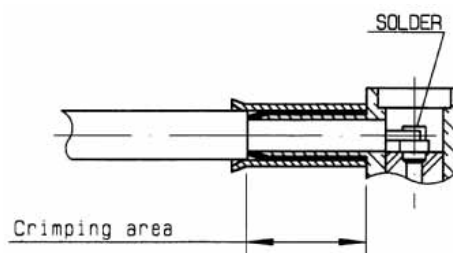
2

- Fan the braid.
- Push connector body under the braid.
- Slide the ferrule on the braid (in direction F).



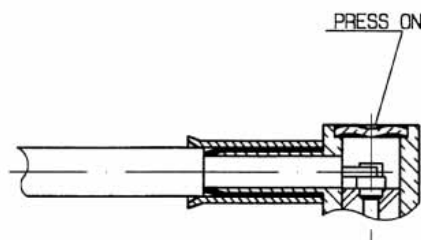
3

- Crimp the ferrule with crimping tool (crimping tool board).
- Solder inner conductor

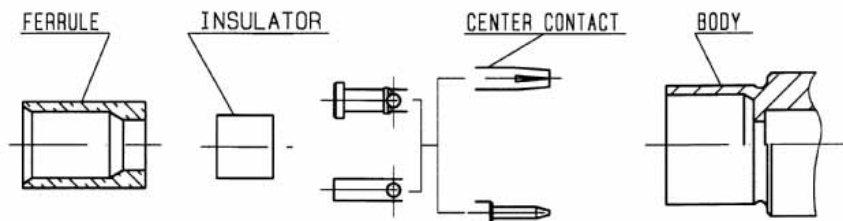


4

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



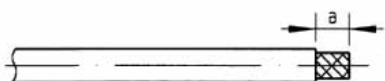
M 03



Part number	Stripping length				Hex.	Crimping tool R282 293 000 (M22520/5-01) + dies	Crimping tool
	a	b	c	d			
R124 310 020 R124 310 023	10	3	5	1.5	4.52	R282 235 009 (M22520/5-09)	R282 211 000

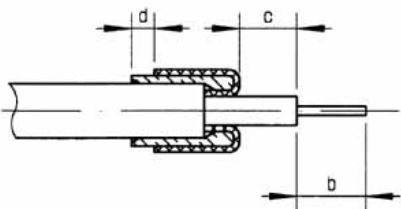
1

- Strip the cable.



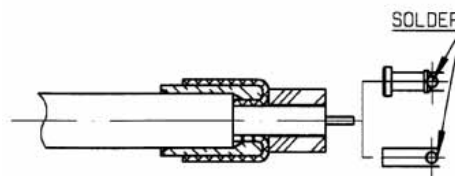
2

- Slide on the ferrule until it bottoms against the jacket.
- Fan the braid.
- Fold back braid and trim off surplus braid.
- Trim the inner conductor as shown.



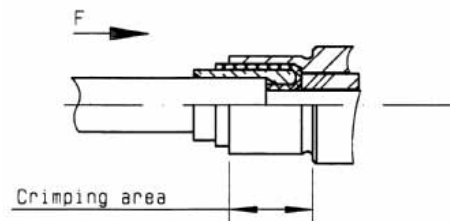
3

- Slide the insulator.
- Slide on the centre contact until it bottoms against cable dielectric.
- Solder centre contact.

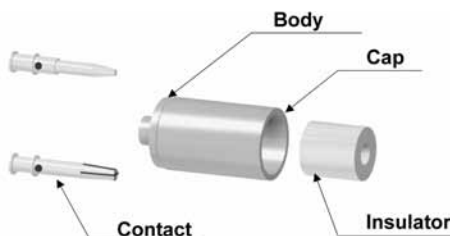


4

- Slide sub-assembly into the connector body with the ferrule.
- Crimp the body.



M 04



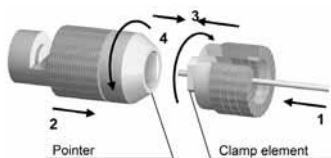
STRIPPING DIMENSIONS



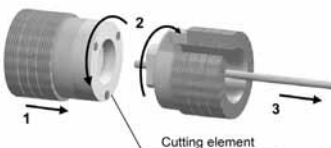
We recommend a thermal preconditioning of the cable before assembling

Part number	b (mm)	Stripping tool	Trimmer	Positioner a	Soldering jig	Solder gauge	Positioner b	Recess gauge	Recess tool	Plunger
R124 052 003	0.45	R282 051 000	R282 063 000	R282 744 220	R282 740 000	R282 862 060	R282 744 060	R282 914 000	R282 915 010	R282 730 040
R124 222 003							R282 744 010			
R124 225 003 R124 251 003	0.2	R282 053 000	R282 067 000				R282 744 011			
R124 252 003	0.45	R282 051 000	R282 063 000				R282 744 010			
R124 255 003	0.2	R282 053 000	R282 067 000				R282 744 011			
R124 256 003	0.45	R282 051 000	R282 063 000				R282 744 010			
R124 325 003	0.2	R282 053 000	R282 067 000				R282 744 011			
R124 326 003	0.45	R282 051 000	R282 063 000				R282 744 010			

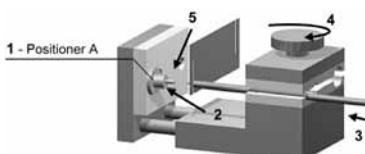
- Insert the cable into the clamp element.
 - Present the pointer in front of the clamp element.
 - Push the cable until it stops, while holding the clamp element pushed on the hollow part of the pointer.
 - Turn the clamp element until the release of the pointer.



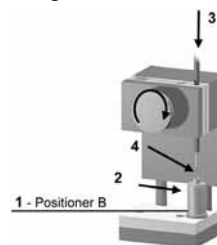
- Present the cutting element in front of the clamp element.
 - Push and turn both elements, back part opposite to the front part.
 - Once they reach the stop, pull without revolving.



- 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 centre contact.



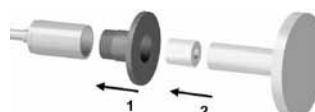
- After cooling, remove the assembly from the jig.
 - Screw the positioner B onto the assembly jig.
 - Slide the cable into the connector until it bottoms against the positioner B.
 - Tighten.
 - Put three rings of solder around the cable and solder.



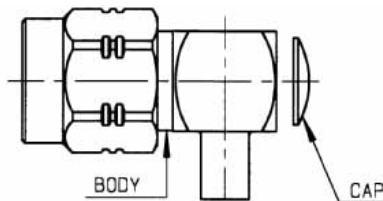
- After cooling, remove the assembly from the jig.
 - Screw dielectric recess gauge and trim dielectric.



- Screw dielectric insert tool onto the connector and insert the insulator with the dielectric plunger.



M 05



We recommend a thermal preconditionning of the cable before assembling

Part number	Stripping tool	Trimmer	Soldering jig	Positioner
R124 153 003	R282 051 000	R282 063 000	R282 740 000	R282 744 201
R124 154 003	R282 053 000	R282 067 000		

- 1**

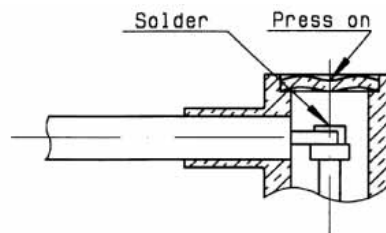
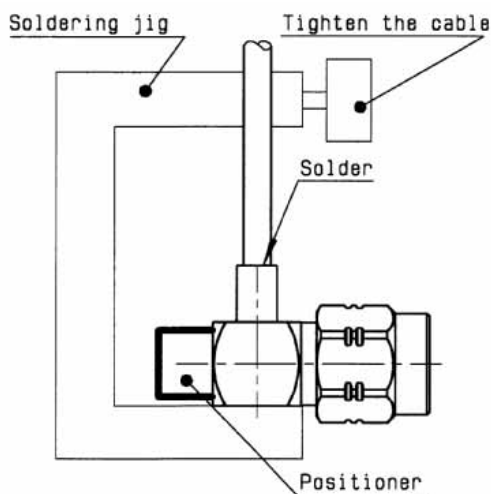
 - Strip the dielectric of the cable.
 - Trim inner contact.
 - Clean the cable.

3

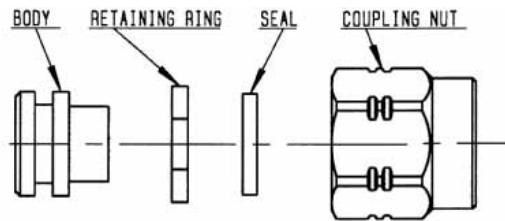
 - Solder inner conductor.
 - Put the cap in its place.
 - Press cap flush or slightly below surface of body assembly.



- 2**
- Introduce the cable into the connector body until it stops.
 - Place the sub assembly into the soldering jig (or equivalent) with positioner and tighten it.
 - Solder the body onto the cable. Let the assembly cool down before removing it from the jig.



M 06

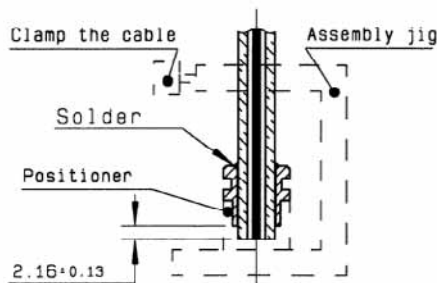


We recommend a thermal preconditioning of the cable before assembling

Part number	Assembly jig	Positioner	Thumb crew	Stripping tool	Trimmer	Insert tool	Retaining ring
R124 054 003	R282 740 000	R282 744 100	R282 059 100	R282 053 100	R282 066 100	R282 760 000	R282 200 000

1

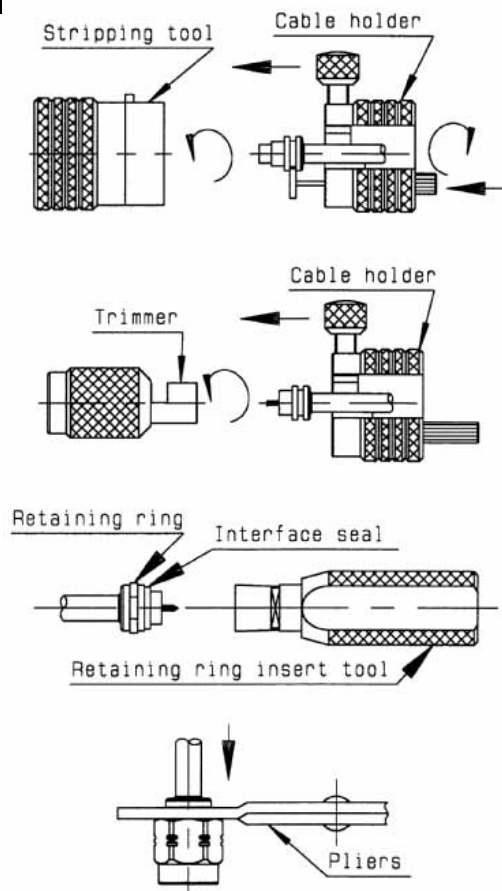
- Place the cable into the assembly jig.
- Place the connector body and positioner onto the cable and clamp the cable.
- Put 3 rings of solder around the cable.
- Solder the body onto the cable.



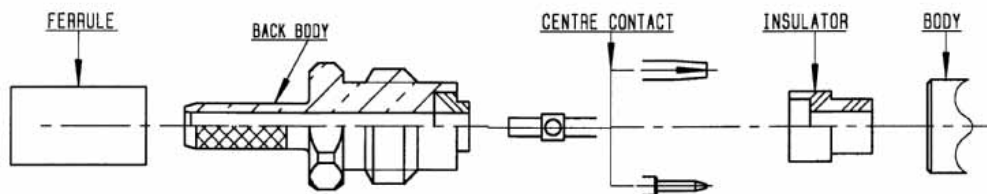
2

- Immobilize the cable using the thumb crew on the cable holder.
- Get the positioner into the connector groove, using knurled push-button.
- Push-button until it stops.
- Tighten cable.
- Present the stripping tool opposite to the cable holder.
- Push and turn both elements with respect to each other.
- When the tool stops cutting: pull off without turning it.
- Present the trimmer opposite to the cable holder, push and turn both elements with respect to each other until fully home.
- Place retaining ring onto its insert tool.
- Push sub-assembly into the tool until the retaining ring snaps into place.
- Place the interface seal O ring onto body.
- Compress retaining ring using retaining ring pliers.
- Push coupling nut onto sub-assembly and over retaining ring.

2



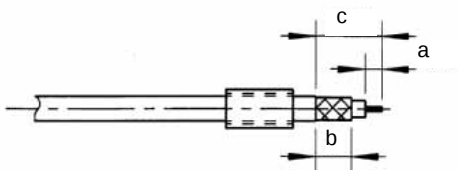
M 07



Part number	Stripping length (mm)			Crimping tool	
	a	b	c	Dies included	MIL standard R282 293 000 (M22520/5-01) + dies
R124 069 120 R124 069 123	3.5	7	13.5	R282 211 000 Hex 2.67	R282 235 003 (M22520/5-03)

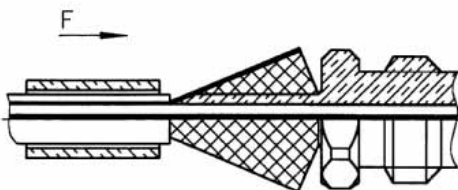
1

- Slide the ferrule onto the cable.
- Strip the cable.



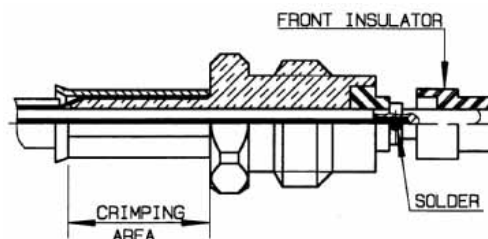
2

- Fan the braid.
- Slide the back body between dielectric and braid.
- Slide ferrule over the braid (in direction F).



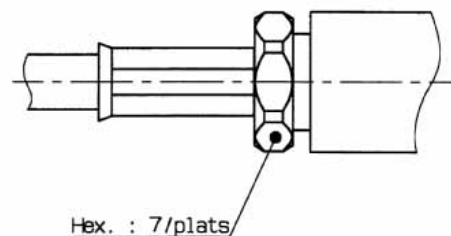
3

- Crimp the ferrule with crimping tool (crimping tool board).
- Mount the centre contact and solder it.
- Mount the front insulator.



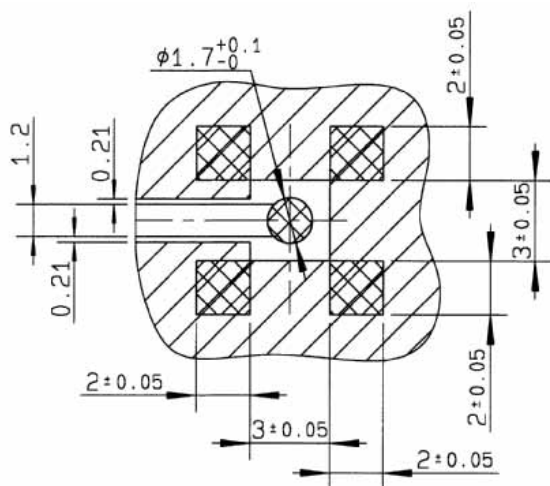
4

- Screw sub-assembly into the connector body. Recommended coupling torque 90 N.cm.



M 08

Part number	
R124 681 000	R124 427 000
R124 681 800	R124 427 800



 Pattern

 Land for solder paste

COPLANAR LINE

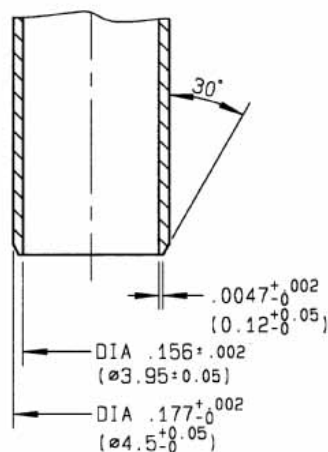
Pattern and signal are on the same side.

Thickness of PCB: 1.6 mm.

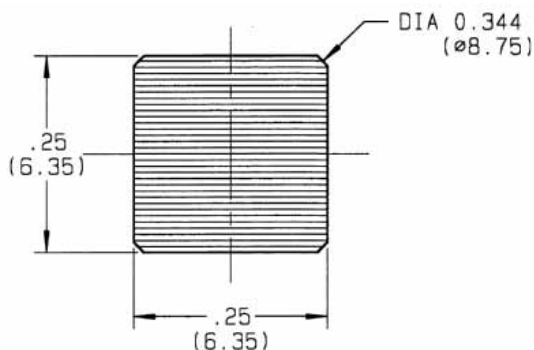
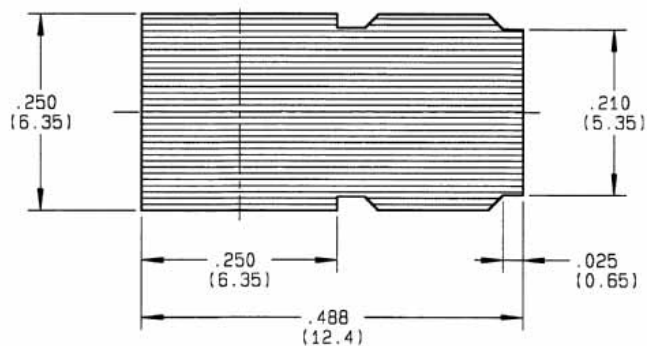
The material of PCB is the epoxy resin of glass fabrics backs ($E_r = 4.8$).

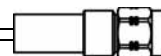
The solder resist should be printed

ASPIRATION PORT



SHADOW OF RECEPTACLE FOR VIDEO CAMERA





M 08(flq)

SOLDER PROCEDURE

1

Deposition of solder paste 'Sn Ag4 Cu0.5' on mounting zone by screen printing application.
We recommend a low residue flux.
We advise a thickness of 150 microns mini (0.005 inch).
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' type.
Video camera is recommended for the positioning of the component.
Adhesive agents must not be used on the receptacle.

3

Soldering by infra-red reflow.
Below, please find the typical profile to use.

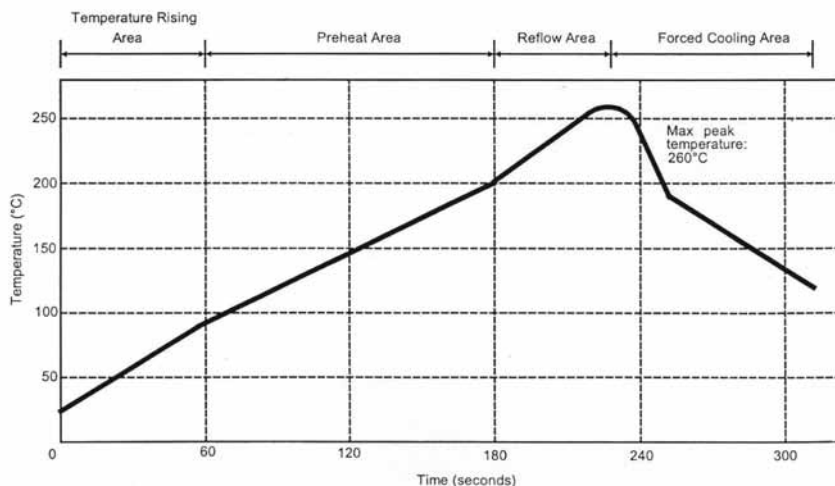
4

Cleaning of printed circuit boards.

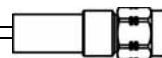
5

Checking of solder joints and position of the component by visual inspection.

TEMPERATRURE PROFILE



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



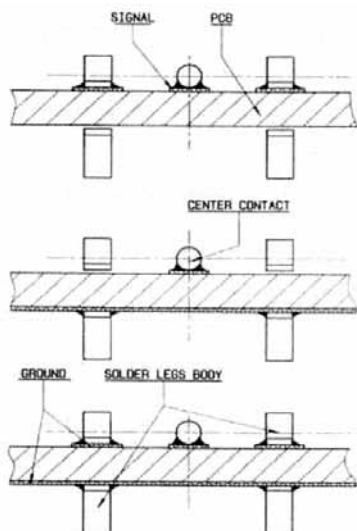
M 09

Part number
R124 423 223

MOUNTING TYPE

This type of connector is adapted to one specific PCB thickness.

It can be used with different ways of transmission.



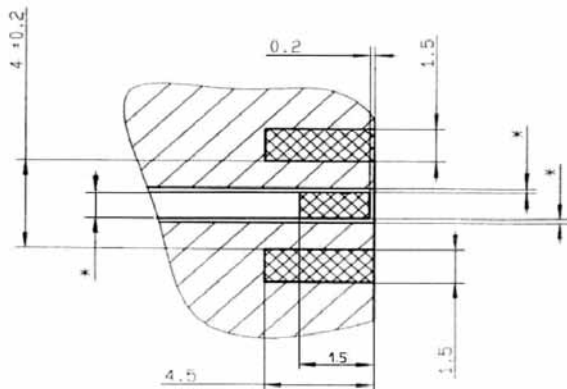
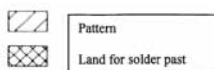
1 - COPLANAR LINE
Signal and ground are coplanar.

2 - MICROSTRIP LINE
Signal and ground are opposite.

3 - Coplanar and opposite grounds.

Solution 3 features a stronger mechanical retention on the PCB because the 4 leads are soldered.

DIMENSIONS



COPLANAR LINE

Pattern and signal are on the same side.

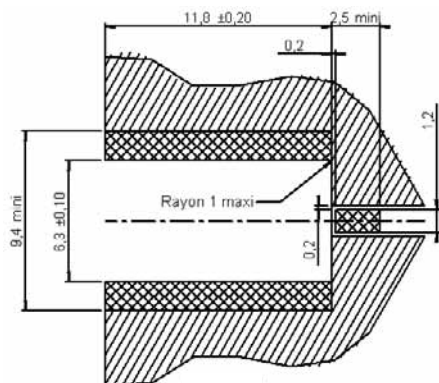
The material of PCB is the epoxy resin of glass fabrics bacs ($\epsilon_r = 4.8$).
The solder resist should be printed except for the land pattern on the

* Parameters flaged by a star must be defined dimensionally regarding the thickness of the PCB and the transmission way these parameters could be measured by RADIALL if requested.

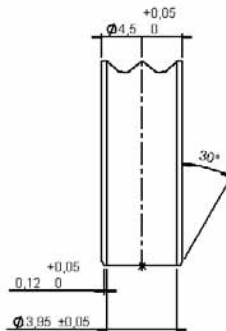
M 10

Part number

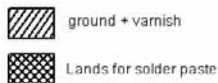
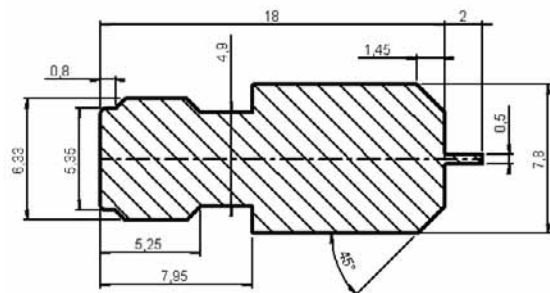
R124 423 833



ASPIRATION PORT



SHADOW OF RECEPTACLE FOR VIDEO CAMERA



COPLANAR LINE

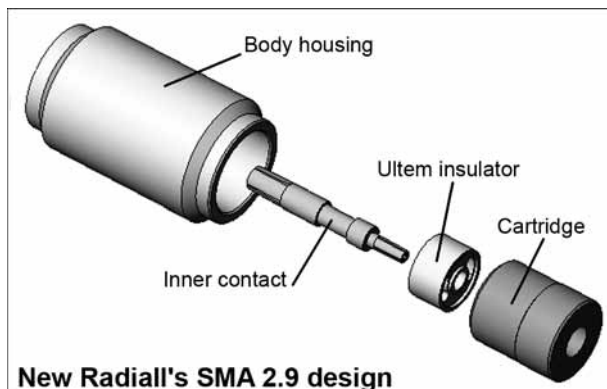
Pattern and signal are on the same side.

Thickness of PCB: 1.6 mm.

The material of PCB is the epoxy resin of glass fabrics bacs (Er = 4.8).



This new Radiall's SMA 2.9 range has been designed for field systems up to 40 GHz and replaces our current version of SMA 2.9 products which were mainly dedicated to laboratory test environments. A table with cross references between the new and the previous version is presented page 74.



With a different internal design, the new SMA 2.9 connectors offer the same electrical performances and fit into the same mounting configurations than previous products. They are chemical fluid proof as well as dust ingress protected.

SMA 2.9 series is compatible with K[®] series, 2.92 mm, SMA and SMA 3.5 series and has a shortened male center contact, ensuring a non destructive mating. This new series is specially designed for aeronautics, military equipments as well as instrumentation or telecommunication applications.

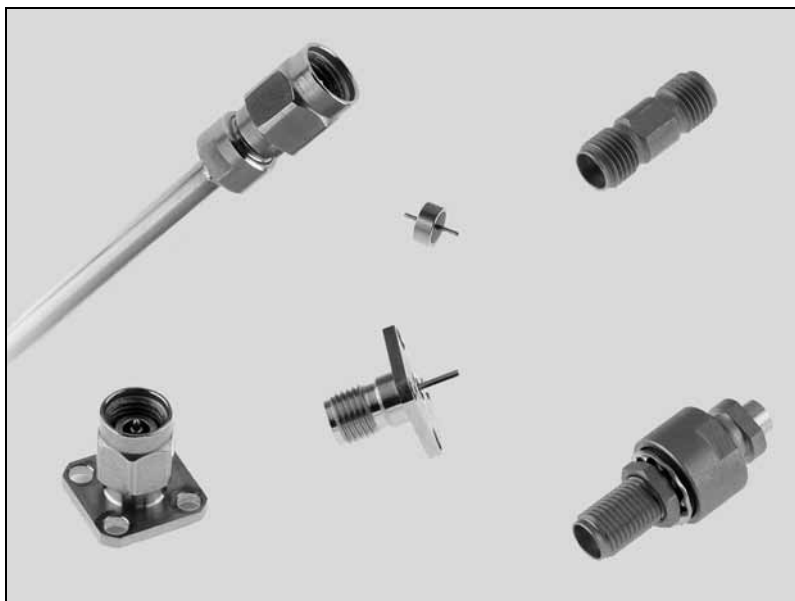
SMA 2.9 connectors range includes products for semi-rigid cable, high performance flexible microwave cable assemblies, panel receptacles and in-series adapters.

SPACE APPLICATIONS

We also have a complete range for space applications available according to ESA specifications.

STAINLESS STEEL CONNECTORS (316L ruggedized)

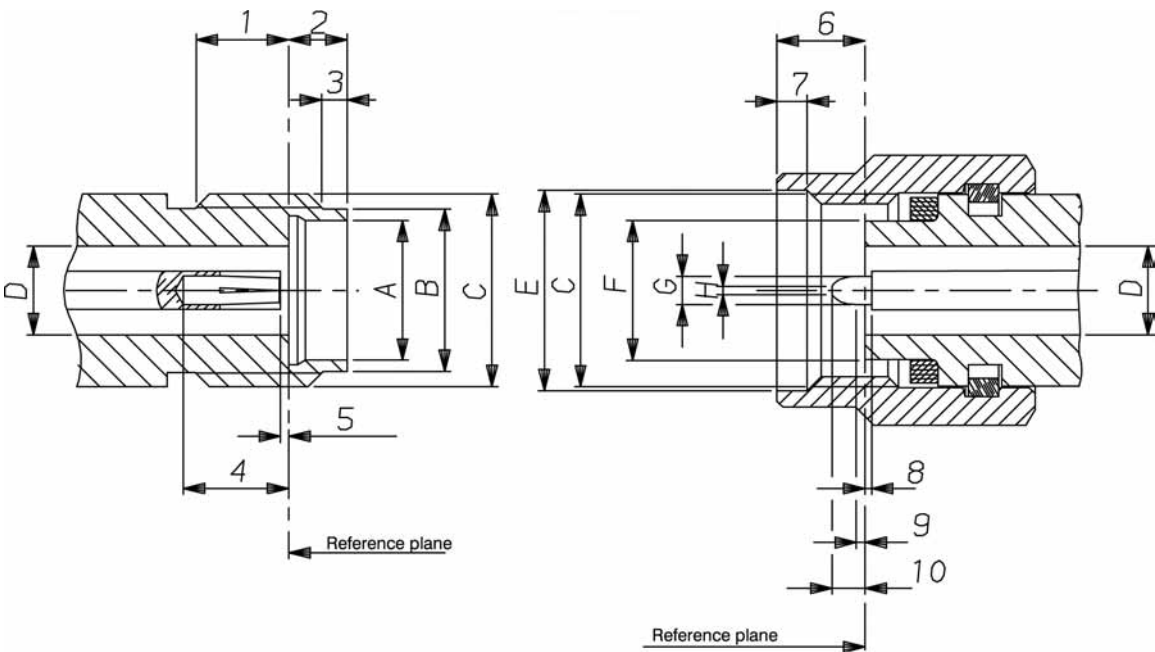
Radiall offers as well a range of cable assemblies equipped with stainless steel connectors for applications in harsh environment. Please consult us.





JACK

PLUG



LETTER or FIGURE	mm		inch	
	min.	max.	min.	max.
1	2.87	3.27	.113	.129
2	1.88	1.98	.074	.078
3	0.65	0.95	.026	.037
4	2.40	2.68	.094	.105
5	-	0.08	-	.003
A	4.60	4.63	.181	.182
B	5.30	5.35	.209	.211
C	1/4 - 36 UNS 2A			
D	2.90	2.94	.114	.116

LETTER or FIGURE	mm		inch	
	min.	max.	min.	max.
6	2.63	3.25	.103	.128
7	0.90	1.10	.035	.043
8	-	0.08	-	.003
9	0.49	0.78	.019	.031
10	1.22	1.40	.048	.055
C	1/4 - 36 UNS 2B			
D	2.90	2.94	.114	.116
E	6.60	6.70	.260	.264
F	4.55	4.58	.179	.180
G	0.92	0.94	.036	.037
H	0.20	0.34	.008	.013

All dimensions are given in mm (inches)

**ELECTRICAL CHARACTERISTICS**

Impedance	50 Ω
Frequency range	DC - 40 GHz
V.S.W.R.	$< 1.05 + 0.005 F$ (GHz)
Insertion loss	0.03 $\sqrt{F}$ (GHz)
RF leakage	- 90 dB max
Insulation resistance	$\geq 5000 \text{ m}\Omega$
Contact resistance	$\leq 2 \text{ m}\Omega$
• <i>outer conductor</i>	straight $\leq 3 \text{ m}\Omega$
• <i>inner conductor</i>	hermetic $\leq 7 \text{ m}\Omega$
Voltage rating	350 V(RMS)
Dielectric withstanding voltage	750 V(RMS)

MECHANICAL CHARACTERISTICS

Mechanical endurance	500 matings
Force to engage and disengage	$\leq 23 \text{ N cm}$ (2 in/lbs)
Mating torque	80 to 115 N cm (7 to 10 in/lbs)
Coupling nut retention force	$\leq 272 \text{ N}$ (61 lbf)
Cable retention force	.085" : 135 N (30 lbf) .141" : 270 N (60 lbf)
Contact captivation	28N (6.3 lbf)

ENVIRONMENTAL CHARACTERISTICS

Temperature range	-65°C, +165°C
Thermal shock	MIL-STD-202, Method 107, condition B
High temperature test	MIL-STD 202 method 108
Corrosion (salt spray)	MIL-STD 202 method 101 conditon B, 5 %
Vibration	MIL-STD 202 method 204 condition D, 20 g
Shock	MIL-STD 202 method 213 condition I, 100 g
Moisture resistance	MIL-STD 202 method 106

MATERIALS

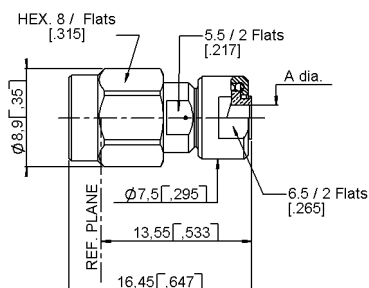
Bodies	Stainless steel
Center contacts	Beryllium copper
Insulators	Ultem 1000
Gaskets	Silicone rubber

PLATINGS

Bodies	Passivated
Center contacts	Gold plated

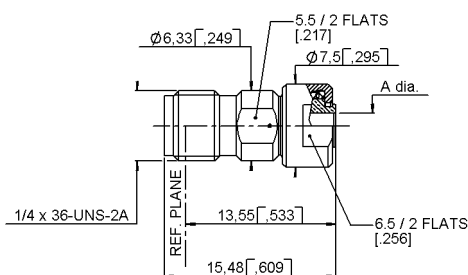


STRAIGHT PLUGS, SOLDER TYPE FOR MICROPOROUS SEMI-RIGID CABLES



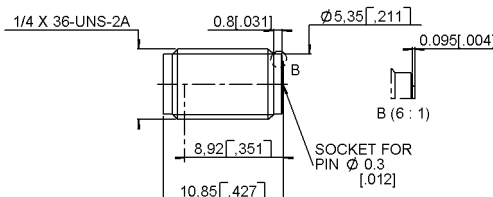
Cable group	Part number	Dimension A (mm)	Captive center contact	Assembly instructions
.085" microporous	R127 800 001	2.25	yes	M01
.141" microporous	R127 800 101	3.66	yes	M01

STRAIGHT JACKS, SOLDER TYPE FOR MICROPOROUS SEMI-RIGID CABLES



Cable group	Part number	Dimension A (mm)	Captive center contact	Assembly instructions
.085" microporous	R127 820 001	2.25	yes	M01
.141" microporous	R127 820 101	3.66	yes	M01

UNIVERSAL SCREW-ON FEMALE RECEPTACLE



Part number	Assembly instructions	Used with glass bead
R127 841 001	M02	R280 760 040*

* Glass bead: detail on page 72



SQUARE FLANGE FEMALE RECEPTACLES

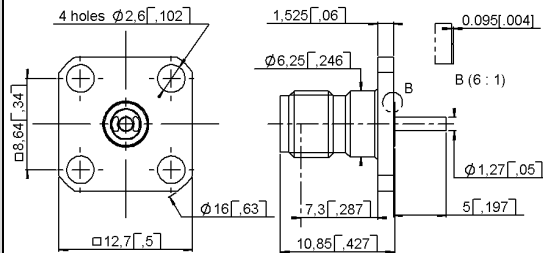


Fig. 1

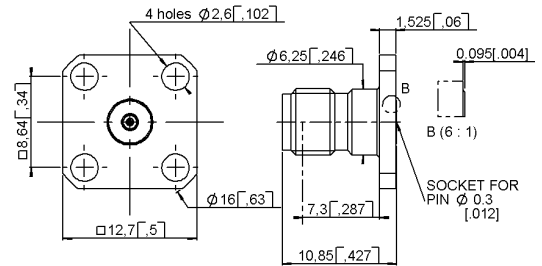
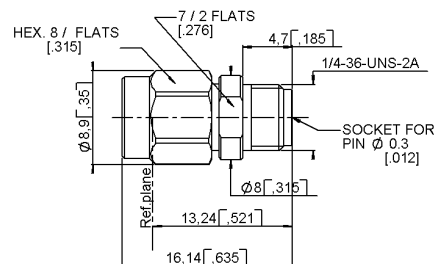


Fig. 2

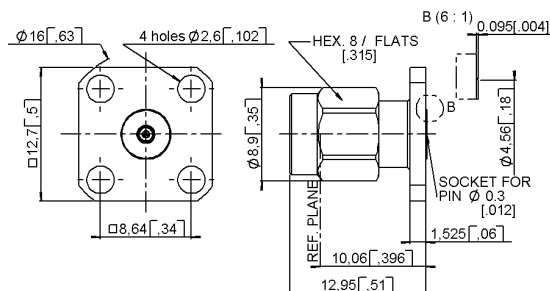
Part number	Fig	Captive center contact	Panel drilling	Used with glass bead	Note
R127 840 021	1	yes	P02	N/A	with cylindrical center contact
R127 842 001	2	yes	P01	R280 760 040*	

SCREW-ON MALE RECEPTACLE



Part number	Captive center contact	Assembly instructions	Used with glass bead
R127 844 001	yes	M02	R280 760 040*

SQUARE FLANGE MALE RECEPTACLE

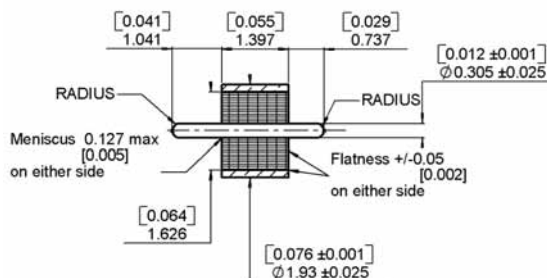


Part number	Captive center contact	Panel drilling	Used with glass bead
R127 845 001	yes	P01	R280 760 040*

* Glass bead: detail on page 72



GLASS BEAD



Part number	Packaging
R280 760 040	100
R280 760 040W	unit

IN SERIES ADAPTERS

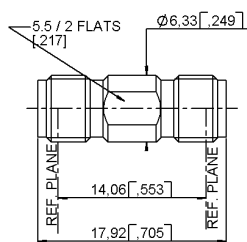


Fig. 1

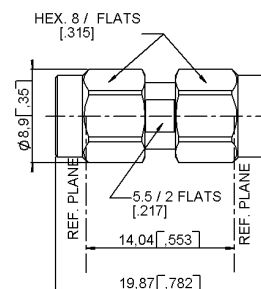


Fig. 2

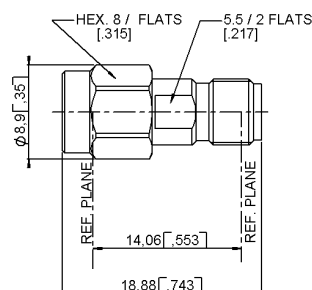


Fig. 3

Part number	Fig.	Captive center contact	Note
R127 870 001	1	yes	SMA 2.9 FEMALE - SMA 2.9 FEMALE
R127 871 001	2	yes	SMA 2.9 MALE - SMA 2.9 MALE
R127 872 001	3	yes	SMA 2.9 FEMALE - SMA 2.9 MALE



BETWEEN SERIES ADAPTERS

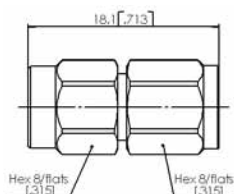


Fig. 1

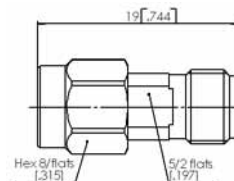


Fig. 2

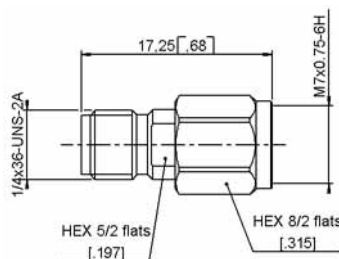


Fig. 3

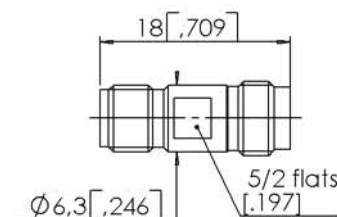


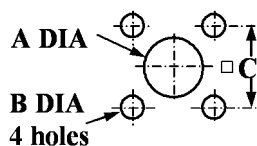
Fig. 4

Part number	Fig.	Note
R191 970 061	1	SMA 2.9 MALE - SMA 2.4 MALE
R191 970 071	2	SMA 2.9 MALE - SMA 2.4 FEMALE
R191 970 081	3	SMA 2.9 FEMALE - SMA 2.4 MALE
R191 970 091	4	SMA 2.9 FEMALE - SMA 2.4 FEMALE

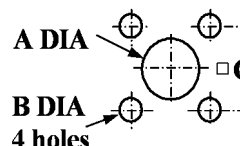
Remark: these adapters are still using the previous technology (4 kapton strips) allowing to reach 46 GHz within a temperature range of – 65 °C/+200 °C.

PANEL DRILLING

P01



P02



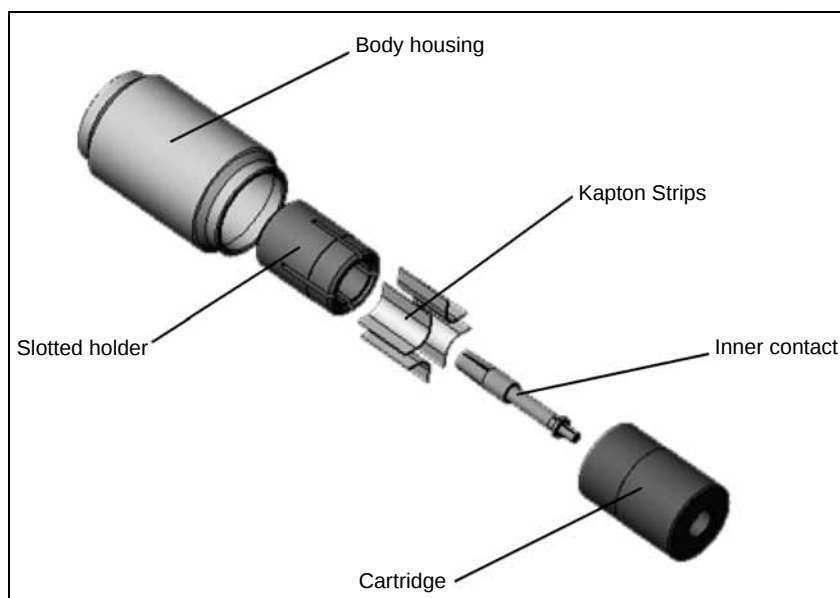
	mm		inch	
	maxi	mini	maxi	mini
A	1.63	1.60	.064	.063
B	2.70	2.60	.106	.102
C	8.69	8.59	.342	.338

	mm		inch	
	maxi	mini	maxi	mini
A	2.95	2.91	.116	.115
B	2.7	2.6	.106	.102
C	8.69	8.59	.342	.338



Please check the cross references table between the previous and the new version

Part number DC-46 GHz Insulator material: Kapton	Description	New part number DC-40 GHz Insulator material : Ultem
R127 052 001	Straight plug, solder type for microporous .085" SR cable (captive c.c.)	R127 800 001
R127 055 001	Straight plug, solder type for microporous .116" SR cable (captive c.c.)	
R127 222 001	Straight jack, solder type for microporous .085" SR cable (captive c.c.)	R127 820 001
R127 225 001	Straight jack, solder type for microporous .116" SR cable (captive c.c.)	
R127 601 001	Screw-on, female receptacle (without glass bead)	R127 841 001
R127 631 001	Square flange, female receptacle (without glass bead)	R127 842 001
R127 632 001	2 holes flange female receptacle (without glass bead)	
R127 638 001	Screw-on, male receptacle (without glass bead)	R127 844 001
R127 646 001	Square flange, male receptacle (without glass bead)	R127 845 001
R127 647 001	2 holes flange male receptacle (without glass bead)	
R127 703 001	Straight male - male in-series adapter	R127 871 001
R127 704 001	Straight male - female in-series adapter	R127 872 001
R127 705 001	Straight female - female in-series adapter	R127 870 001
R191 970 061*	SMA 2.9 male - SMA 2.4 male between-series adapter	
R191 970 071*	SMA 2.9 male - SMA 2.4 female between-series adapter	
R191 970 081*	SMA 2.9 female - SMA 2.4 male between-series adapter	
R191 970 091*	SMA 2.9 female - SMA 2.4 female between-series adapter	

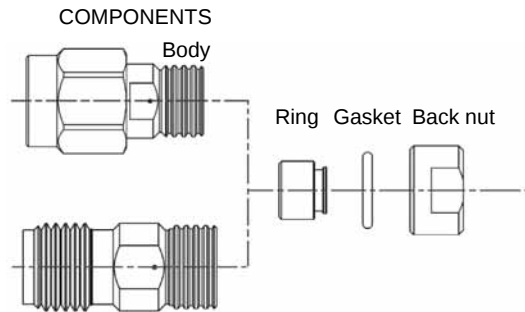


3D view of kapton range

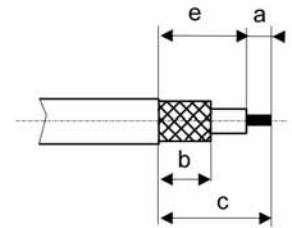
* These 4 products still use the previous technology (4 kapton strips shown in the 3D view below) allowing these adapters to reach 46 GHz, within a temperature range of – 65 °C/+200 °C.



M 01



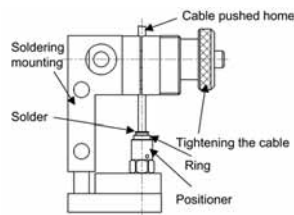
STRIPPING DIMENSIONS



Part number	Cable	a (mm)	Tool box	Soldering mounting	Soldering positioner	Cable holder	Stripping tool	Pointer gauge	Torque wrench
R127 800 001 R127 820 001	.085" microporous	1.78	R282 120 220	R282 740 000	R282 744 190	R282 059 010	R282 051 030	R282 061 030	R282 323 000
R127 800 101 R127 820 101	.141" microporous	2.17			R282 744 192		R282 053 030	R282 067 030	

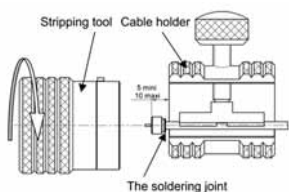
1

- Cut the cable to the desired length.
- Put the gasket until it bottoms against the nut (see figure paragraph 4 for the position).
- Slide the back nut onto the cable before soldering operation.
- Place the cable in the soldering mounting.
- Fit the ring and positioner on the cable, and tighten.
- Solder the ring on the cable.
- Clean the soldering.



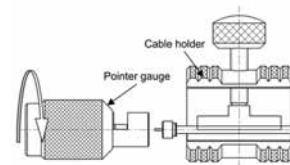
2

- Immobilize the cable using the thumb screw on the cable holder. Do not tighten the soldered joint.
- Check the position of cable in the v form of cable holder.
- Position the stripping tool opposite the cable holder.
- Turn and push both elements with respect to each other. Once they are bearing against each other, pull without turning.
- Remove the residue of dielectric around the inner cable with a scalpel.



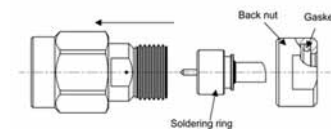
3

- Position the pointer gauge opposite the cable holder.
- Turn and push both elements with respect to each other until fully home.
- Remove the cable from the cable holder.
- Check the trimming.



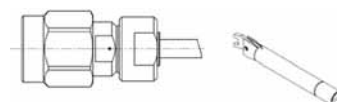
4

- Fit the soldered ring in the body housing.



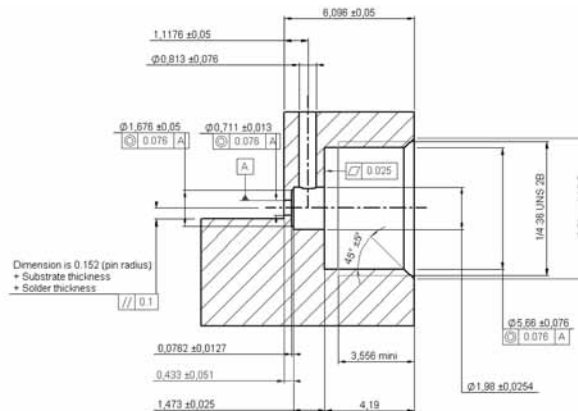
5

- Tighten the nut using the torque wrench (8.67 Inchs/Lbs).





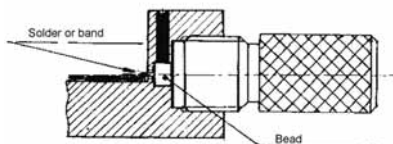
M 02



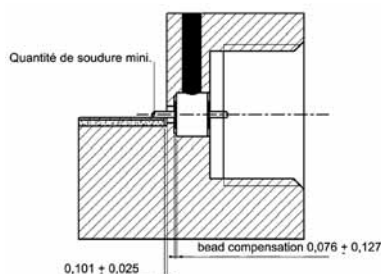
Part number	Positioner	Positioner gauge	Dynamometer screw driver	Drilling tool	Screw tap
R127 841 001	R282 745 000	R282 860 000	R282 341 010	R282 080 000	R282 082 000
R127 844 001			R282 342 000		

To obtain correct concentricity and dimensions on the panel drilling, we recommend to use RADIALL special tools: drilling tool and screw tap

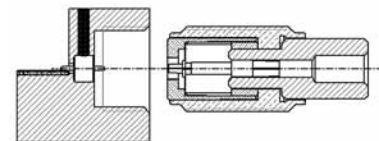
- | | |
|--|--|
| <p>1</p> <p>- SOLDERING of the glass bead
Set up of the R280 760 040 glass bead in the housing. Keep the glass Bead into position thanks to R282 745 000 Positionner.</p> | <p>3</p> <p>- MOUNTING of the flange on the box
Set up the R282 860 000 position gauge on the flange to ensure a good concentricity. Screw the assembly on the housing.</p> |
|--|--|



- 2 - POSITION of the glass bead after soldering
Check the soldering quality as well as the position of the glass bead in the housing.



- 3** - MOUNTING of the flange on the box
Set up the R282 860 000 position gauge on the flange to ensure a good concentricity. Screw the assembly on the housing.



- 4 - Locking of the flange on the box
Lock the flange on the housing thanks to dynamometer screw-driver.

