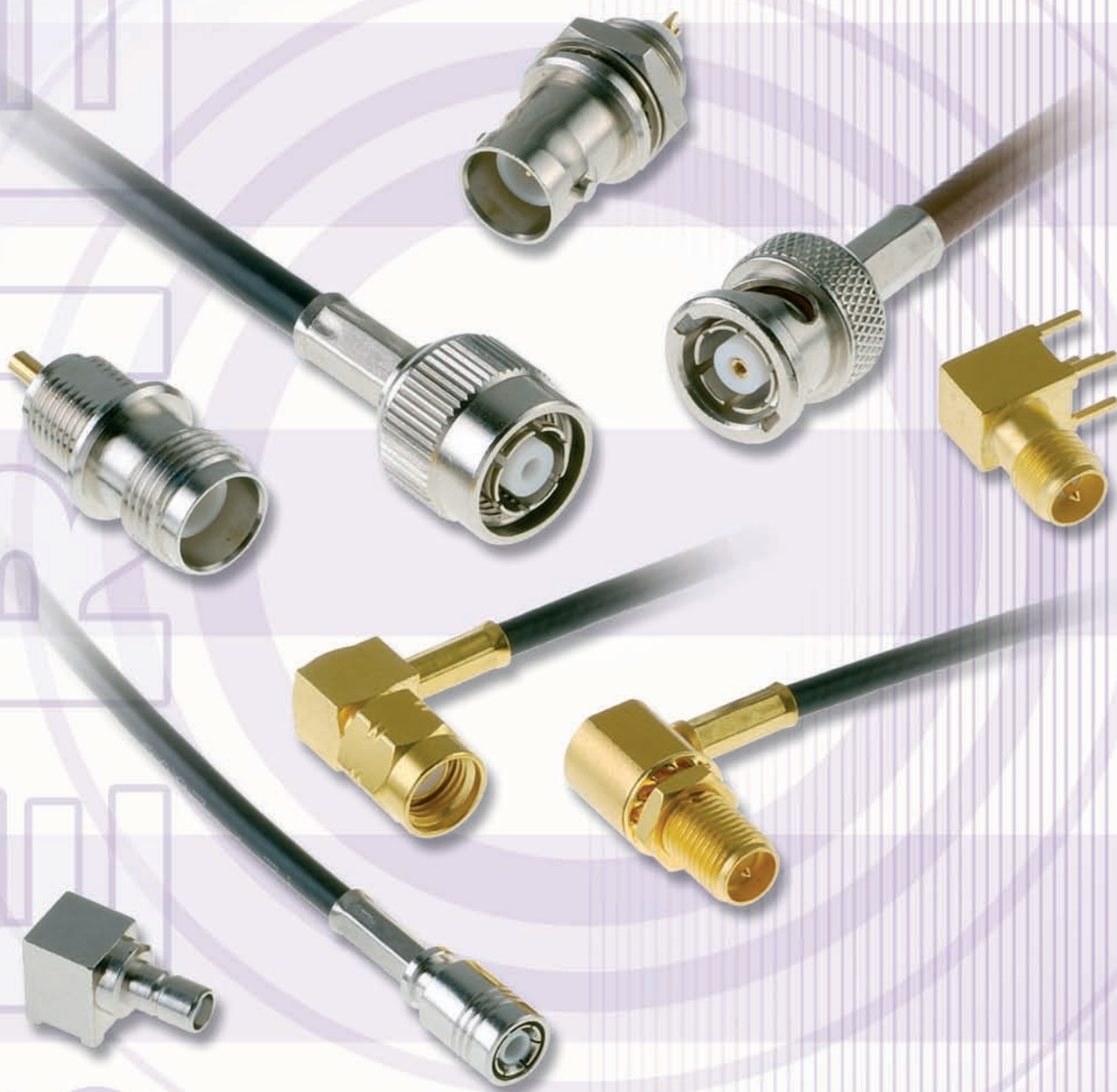


# REVERSE POLARITY series

R300

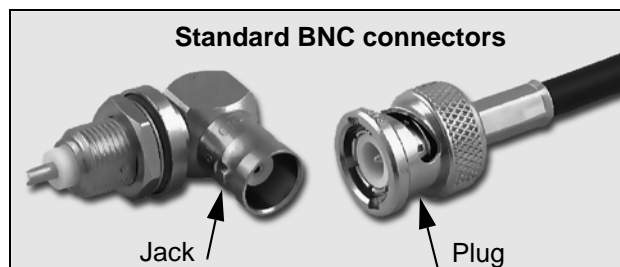


|                            | PAGE  |
|----------------------------|-------|
| Introduction.....          | 4     |
| Finder guide.....          | 5-6   |
| <b>RP SMB</b> series.....  | 7-8   |
| <b>RP SMA</b> series.....  | 9-11  |
| <b>RP BNC</b> series.....  | 12-14 |
| <b>RP TNC</b> series.....  | 15-18 |
| Panel drilling.....        | 19    |
| Assembly instructions..... | 20-28 |

### What is a reverse polarity connector ?

Radiall offers reverse polarity (or gender) connectors with the inversion of the center contact sexes and of the interface insulators:

- The plugs have a female center contact and the jacks have a male center contact (for the RP SMA, RP BNC and RP TNC series).
- The plugs have a male center contact and the jacks have a female center contact (for the RP SMB series).  
The plug and the jack connector set also has the same visual shape and mechanical attributes as the standard series (see below).



They are compliant with the F.C.C. standard (Federal Communications Commissions) Part 15.203 which requires a non standard coaxial connector interface.

### Secure connection

This design prevents any inadvertent mating with standard connectors.

Example: a RP jack will only mate with a RP plug.

### Performances

All the RP series maintain the same characteristics (material, plating, matings...) and performances as the standard series to which they refer.

Example: a RP BNC connector will have the same characteristics as the equivalent BNC connector.

### Range

The RP connector range already includes the following interfaces: RP SMB, RP SMA, RP BNC, RP TNC.

Other connectors or series can be developed with the RP interface.

## RP CONNECTORS

| Models                    | Cable                      | Series                          |                                  |                                   |   |
|---------------------------|----------------------------|---------------------------------|----------------------------------|-----------------------------------|---|
|                           |                            | RP SMB series                   | RP SMA series                    | RP BNC series                     | RP TNC series   |
| straight plug             | 2/50/S                     |                                 | <b>R300 124 061</b><br>(page 10) |                                   |   |
|                           | 2.6/50/D                   | <b>R300 114 047</b><br>(page 8) | <b>R300 124 040</b><br>(page 10) |                                   |   |
|                           | 3/50                       |                                 |                                  | <b>R300 141 010*</b><br>(page 13) |   |
|                           | 5/50/S                     |                                 | <b>R300 124 073</b><br>(page 10) | <b>R300 141 060</b><br>(page 13)  | <b>R300 143 062</b><br><b>R300 143 070</b><br>(page 16) |
|                           | 5/50/S<br>(LMR 200)        |                                 |                                  | <b>R300 141 020</b><br>(page 13)  | <b>R300 143 082</b><br>(page 16)                        |
|                           | 5/50/D                     |                                 | <b>R300 124 080</b><br>(page 10) | <b>R300 141 030*</b><br>(page 13) |   |
|                           | 10/50/S                    |                                 |                                  |                                   | <b>R300 143 090</b><br>(page 16)                        |
|                           | 10.2/50/S<br>(Belden 9913) |                                 |                                  |                                   | <b>R300 143 050</b><br>(page 16)                        |
|                           | 10.3/50/S<br>(LMR 400)     |                                 |                                  |                                   | <b>R300 143 010</b><br>(page 16)                        |
| right angle plug          | 2/50/S                     |                                 | <b>R300 124 161</b><br>(page 10) |                                   |   |
|                           | 2.6/50/S                   |                                 | <b>R300 124 183</b><br>(page 10) |                                   |   |
|                           | 5/50/S+D                   |                                 |                                  | <b>R300 141 120*</b><br>(page 13) |   |
| straight jack             | 10/50/S                    |                                 |                                  |                                   | <b>R300 143 220</b><br>(page 16)                        |
|                           | 10.2/50/S<br>(Belden 9913) |                                 |                                  |                                   | <b>R300 143 250</b><br>(page 16)                        |
|                           | 10.3/50/S<br>(LMR 400)     |                                 |                                  |                                   | <b>R300 143 210</b><br>(page 16)                        |
| straight bulkhead jack    | 2/50/S                     |                                 | <b>R300 124 235</b><br>(page 11) |                                   |   |
|                           | 2.6/50/S                   |                                 | <b>R300 124 240</b><br>(page 11) |                                   |   |
|                           | 5/50/S                     |                                 |                                  |                                   | <b>R300 143 240</b><br>(page 17)                        |
| 2 hole flange jack        | 2/50/S                     |                                 |                                  |                                   | <b>R300 143 270</b><br>(page 17)                        |
|                           | 2.6/50/S                   |                                 |                                  |                                   | <b>R300 143 260</b><br>(page 17)                        |
| right angle bulkhead jack | 2/50/S                     |                                 | <b>R300 124 323</b><br>(page 11) |                                   |   |
|                           | 2.6/50/S                   |                                 | <b>R300 124 343</b><br>(page 11) |                                   |   |

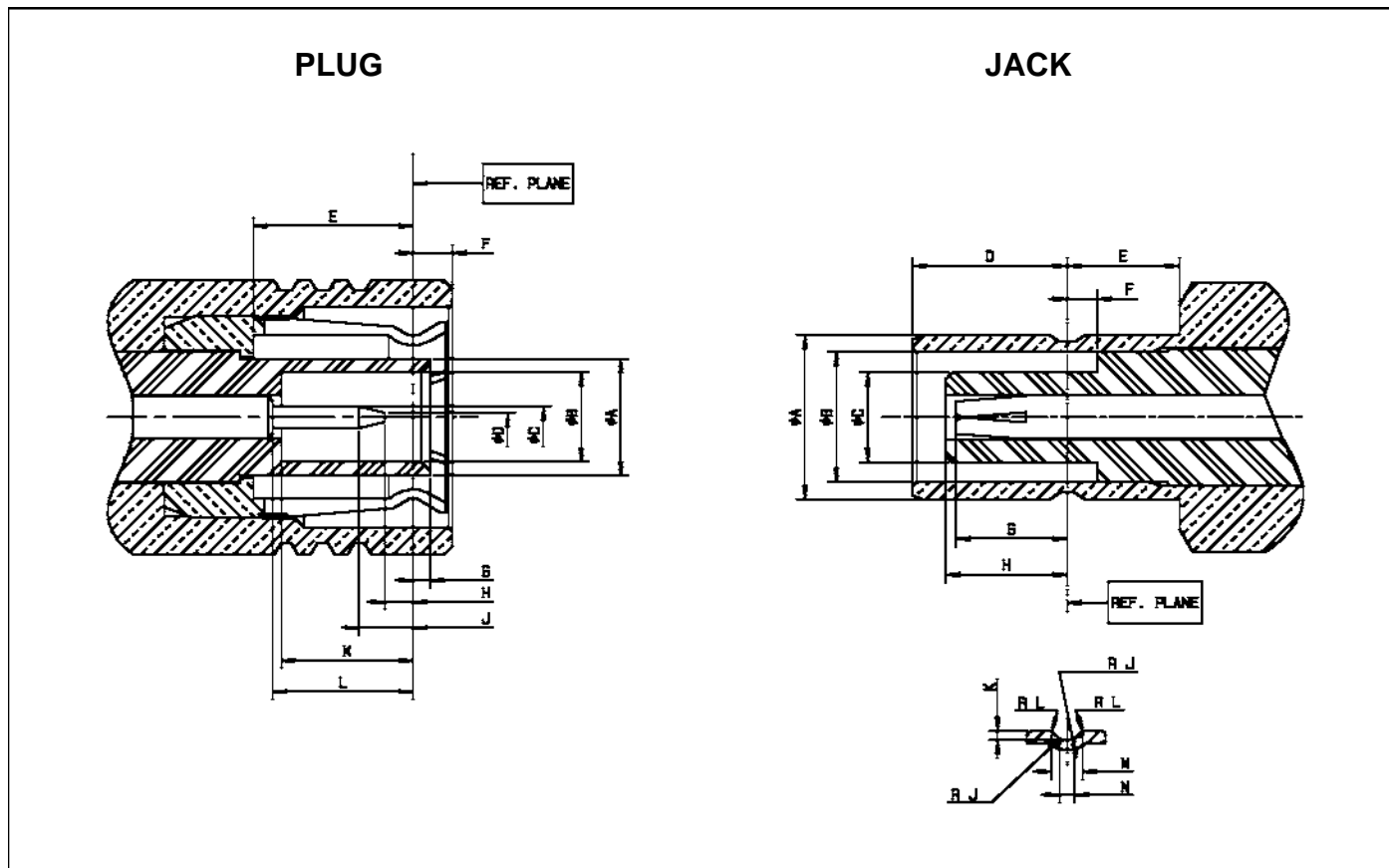
\* clamp type

## RP CONNECTORS (continued)

| Models                            | Series                          |                                  |                                  |                                  |
|-----------------------------------|---------------------------------|----------------------------------|----------------------------------|----------------------------------|
|                                   | RP SMB series                   | RP SMA series                    | RP BNC series                    | RP TNC series                    |
| straight bulkhead receptacle      |                                 |                                  | <b>R300 141 400</b><br>(page 14) | <b>R300 143 400</b><br>(page 18) |
| straight 2 hole flange receptacle |                                 |                                  | <b>R300 141 420</b><br>(page 14) |                                  |
| right angle PCB receptacle        | <b>R300 114 425</b><br>(page 8) | <b>R300 124 403</b><br>(page 11) |                                  |                                  |
| right angle SMT receptacle        | <b>R300 114 457</b><br>(page 8) |                                  |                                  |                                  |

## ADAPTERS WITH RP INTERFACE

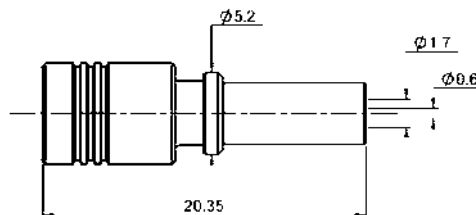
| Models          | RP SMB series                   |                                 | RP TNC series                    |                                  |
|-----------------|---------------------------------|---------------------------------|----------------------------------|----------------------------------|
|                 | Plug<br>(male center contact)   | Jack<br>(female center contact) | Plug<br>(female center contact)  | Jack<br>(male center contact)    |
| <b>SMA plug</b> |                                 |                                 | <b>R191 902 000</b><br>(page 18) | <b>R191 903 000</b><br>(page 18) |
| <b>SMA jack</b> | <b>R191 976 307</b><br>(page 8) | <b>R191 976 327</b><br>(page 8) | <b>R191 904 000</b><br>(page 18) | <b>R191 905 000</b><br>(page 18) |



| LETTER | mm   |      | inch  |      |
|--------|------|------|-------|------|
|        | min. | max. | min.  | max. |
| A DIA  |      | 2.7  |       | .106 |
| B DIA  | 2.08 |      | .082  |      |
| C DIA  | 0.48 | 0.53 | .019  | .020 |
| D DIA  |      | 0.25 |       | .001 |
| E      | 3.58 |      | .141  |      |
| F      |      | 1.63 |       | .064 |
| G      |      | 0.55 |       | .022 |
| H      | 0.02 |      | .0008 |      |
| J      |      | 1.67 |       | .066 |
| K      | 2.88 |      | .113  |      |
| L      | 2.81 |      | .111  |      |

| LETTER | mm   |      | inch |      |
|--------|------|------|------|------|
|        | min. | max. | min. | max. |
| A DIA  |      | 3.71 |      | .146 |
| B DIA  | 2.9  |      | .114 |      |
| C DIA  |      | 2.06 |      | .081 |
| D      | 3.33 | 3.58 | .131 | .141 |
| E      | 1.65 |      | .065 |      |
| F      | 0.55 |      | .022 |      |
| G      | 2.11 | 2.81 | .083 | .111 |
| H      |      | 2.88 |      | .113 |
| R J    |      | 0.13 |      | .005 |
| K      | 0.15 | 0.25 | .006 | .001 |
| R L    | 0.05 | 0.15 | .002 | .006 |
| M      | 0.69 | 0.94 | .027 | .037 |
| N      | 0.28 | 0.38 | .011 | .015 |

## STRAIGHT PLUG FULL CRIMP TYPE FOR FLEXIBLE CABLES (male center contact)



| Cable group  | Part number           | Captive center contact | Assembly instructions | Finish | Packaging    |
|--------------|-----------------------|------------------------|-----------------------|--------|--------------|
| 2.6 / 50 / D | <b>R300 114 047**</b> | yes                    | M02                   | BBR*   | 100 pcs/bulk |

## PCB RECEPTACLES (female center contact)

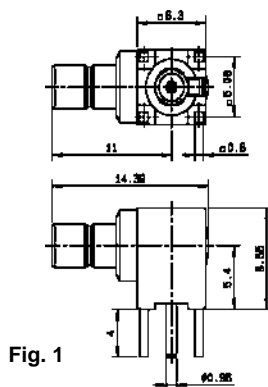


Fig. 1

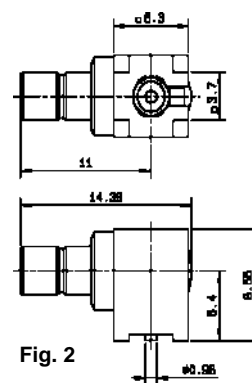


Fig. 2

| Part number         | Fig. | Captive center contact | Finish | PCB pattern | Assembly instructions | Packaging    | Note        |
|---------------------|------|------------------------|--------|-------------|-----------------------|--------------|-------------|
| <b>R300 114 425</b> | 1    | yes                    | Nickel | P01         |                       | 100 pcs/reel | solder legs |
| <b>R300 114 457</b> | 2    | yes                    | BBR*   |             | M08                   | 100 pcs/reel | SMT         |

## BETWEEN SERIES ADAPTERS

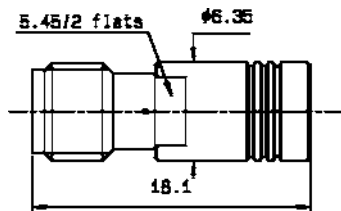


Fig. 1

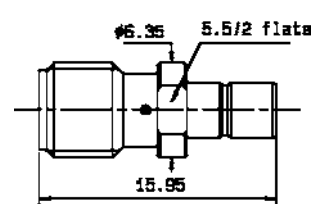
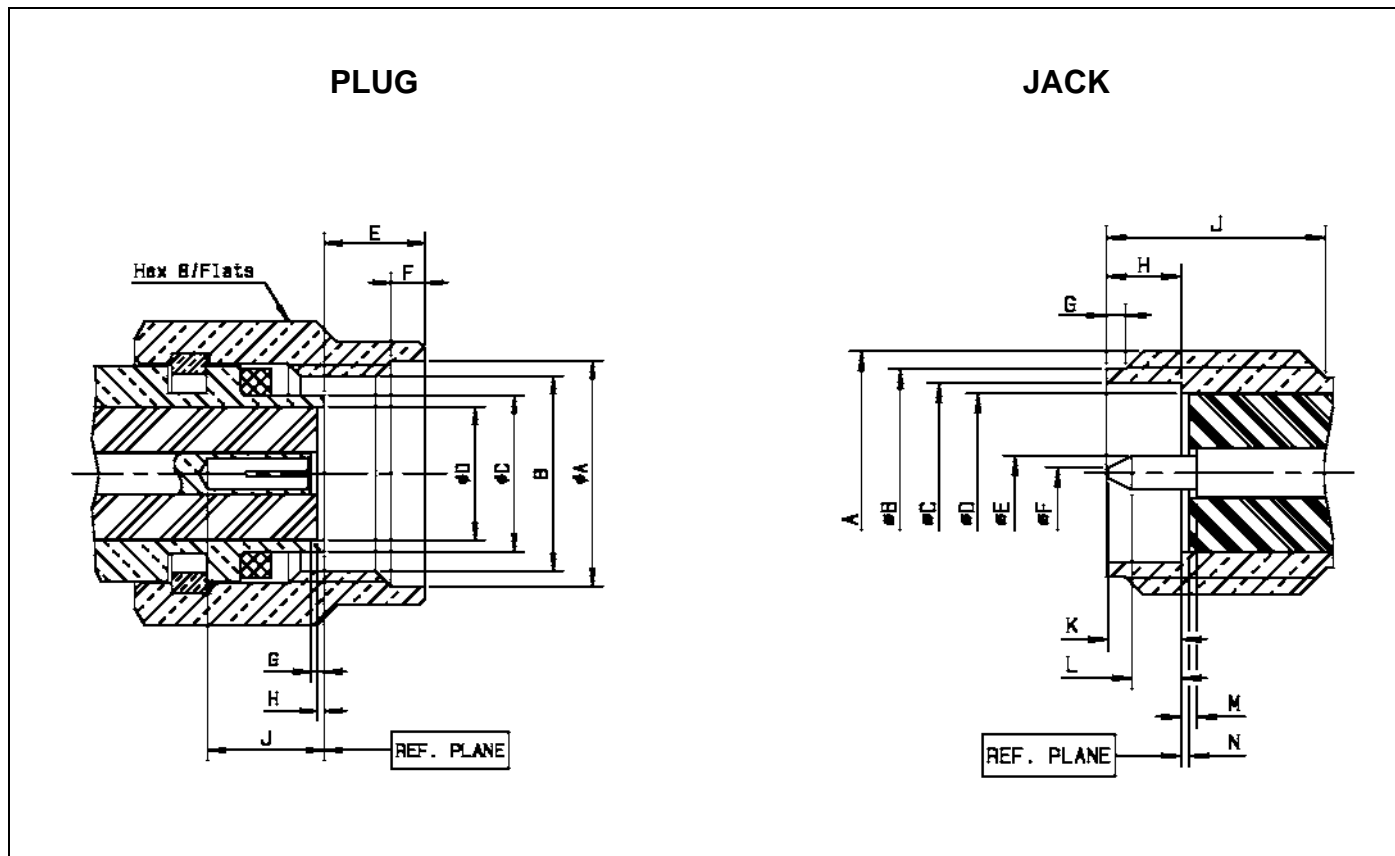


Fig. 2

| Part number         | Fig. | Captive center contact | Finish | Packaging | Note                   |
|---------------------|------|------------------------|--------|-----------|------------------------|
| <b>R191 976 307</b> | 1    | yes                    | BBR*   | unit      | RP SMB plug - SMA jack |
| <b>R191 976 327</b> | 2    | yes                    | BBR*   | unit      | RP SMB jack - SMA jack |

\* Bright Bronze Radiall

\*\* For unit packaging, add "W" after the P/N



| LETTER | mm            |      | inch         |      |
|--------|---------------|------|--------------|------|
|        | min.          | max. | min.         | max. |
| A DIA  | 6.35          |      | .250         |      |
| B      | 1/4-36 UNS-2B |      |              |      |
| C DIA  |               | 4.59 |              | .181 |
| D DIA  | 4.1 nominal   |      | .161 nominal |      |
| E      |               | 3.43 |              | .135 |
| F      | 0.38          | 1.14 | .015         | .045 |
| G      | 0             | 0.25 | 0            | .010 |
| H      | 0             | 0.2  | 0            | .008 |
| J      | 2.92          |      | .115         |      |

| LETTER | mm            |      | inch         |      |
|--------|---------------|------|--------------|------|
|        | min.          | max. | min.         | max. |
| A      | 1/4-36 UNS-2A |      |              |      |
| B DIA  | 5.28          | 5.49 | .208         | .216 |
| C DIA  | 4.596         |      | .181         |      |
| D DIA  | 4.1 nominal   |      | .161 nominal |      |
| E DIA  | 0.9           | 0.94 | .035         | .037 |
| F DIA  |               | 0.3  |              | .012 |
| G      | 0.38          | 1.14 | .015         | .045 |
| H      | 1.88          | 1.98 | .074         | .078 |
| J      | 4.31          |      | .170         |      |
| K      |               | 2.54 |              | .100 |
| L      | 1.27          |      | .050         |      |
| M      | 0             | 0.25 | 0            | .010 |
| N      | 0             | 0.2  | 0            | .008 |



## STRAIGHT PLUGS CRIMP TYPE FOR FLEXIBLE CABLES (female center contact)

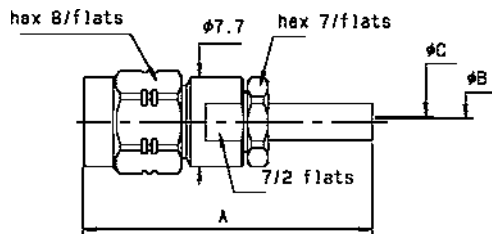


Fig. 1

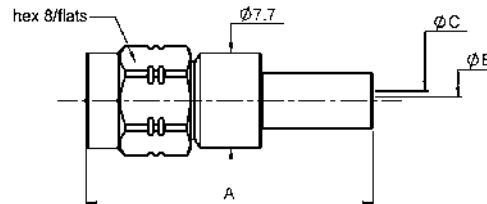
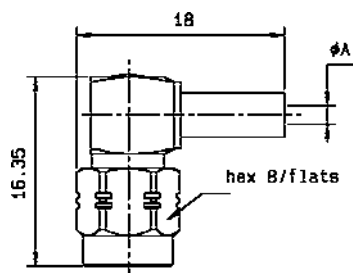


Fig. 2

| Cable group  | Part number         | Fig. | Dimensions (mm) |      |      | Captive center contact | Assembly instructions | Finish | Packaging    | Note       |
|--------------|---------------------|------|-----------------|------|------|------------------------|-----------------------|--------|--------------|------------|
|              |                     |      | A               | B    | C    |                        |                       |        |              |            |
| 2 / 50 / S   | <b>R300 124 061</b> | 1    | 25              | 0.6  | 0.95 | yes                    | M06                   | gold   | 100 pcs/bulk |            |
| 2.6 / 50 / D | <b>R300 124 040</b> | 2    | 23.4            | 0.6  | 1.61 | yes                    | M02                   | BBR*   | 100 pcs/bulk | full crimp |
| 5 / 50 / S   | <b>R300 124 073</b> | 2    | 26.4            | 1.05 | 3.11 | yes                    | M02                   | BBR*   | 100 pcs/bulk |            |
| 5 / 50 / D   | <b>R300 124 080</b> | 2    | 26.4            | 1.05 | 3.11 | yes                    | M02                   | BBR*   | 100 pcs/bulk |            |

## RIGHT ANGLE PLUGS CRIMP TYPE FOR FLEXIBLE CABLES (female center contact)



| Cable group  | Part number         | Dimensions A (mm) | Captive center contact | Assembly instructions | Finish | Packaging    |
|--------------|---------------------|-------------------|------------------------|-----------------------|--------|--------------|
| 2 / 50 / S   | <b>R300 124 161</b> | 0.95              | yes                    | M04                   | gold   | 100 pcs/bulk |
| 2.6 / 50 / D | <b>R300 124 183</b> | 1.61              | yes                    | M04                   | gold   | 100 pcs/bulk |

\* Bright Bronze Radiall

## STRAIGHT BULKHEAD JACKS CRIMP TYPE FOR FLEXIBLE CABLES (male center contact)

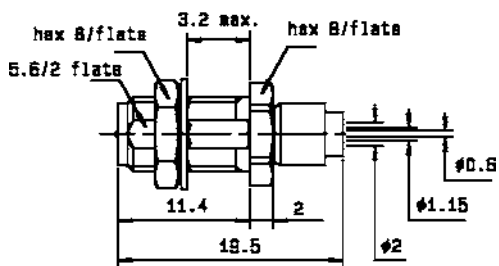


Fig. 1

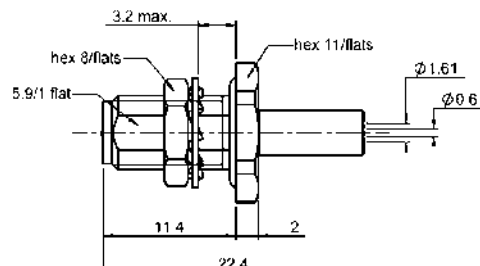
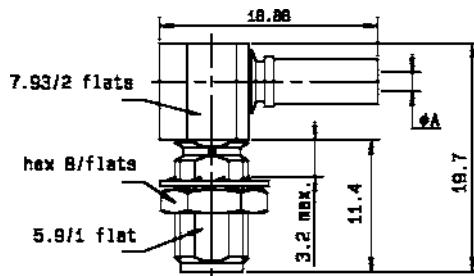


Fig. 2

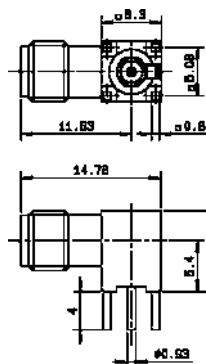
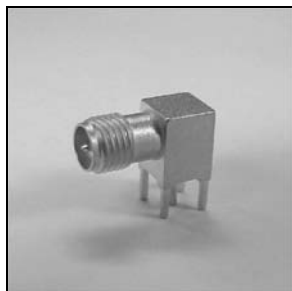
| Cable group  | Part number           | Fig. | Captive center contact | Assembly instructions | Panel drilling | Finish | Packaging    | Note                  |
|--------------|-----------------------|------|------------------------|-----------------------|----------------|--------|--------------|-----------------------|
| 2 / 50 / S   | <b>R300 124 235</b>   | 1    | yes                    | M05                   | P05            | nickel | 100 pcs/bulk |                       |
| 2.6 / 50 / S | <b>R300 124 240**</b> | 2    | yes                    | M02                   | P02            | BBR*   | 100 pcs/bulk | panel seal full crimp |

## RIGHT ANGLE BULKHEAD JACKS CRIMP TYPE FOR FLEXIBLE CABLES (male center contact)



| Cable group  | Part number         | Dimensions A (mm) | Captive center contact | Assembly instructions | Panel drilling | Finish | Packaging    |
|--------------|---------------------|-------------------|------------------------|-----------------------|----------------|--------|--------------|
| 2 / 50 / S   | <b>R300 124 323</b> | 0.95              | yes                    | M04                   | P02            | nickel | 100 pcs/bulk |
| 2.6 / 50 / S | <b>R300 124 343</b> | 1.63              | yes                    | M04                   | P02            | nickel | 100 pcs/bulk |

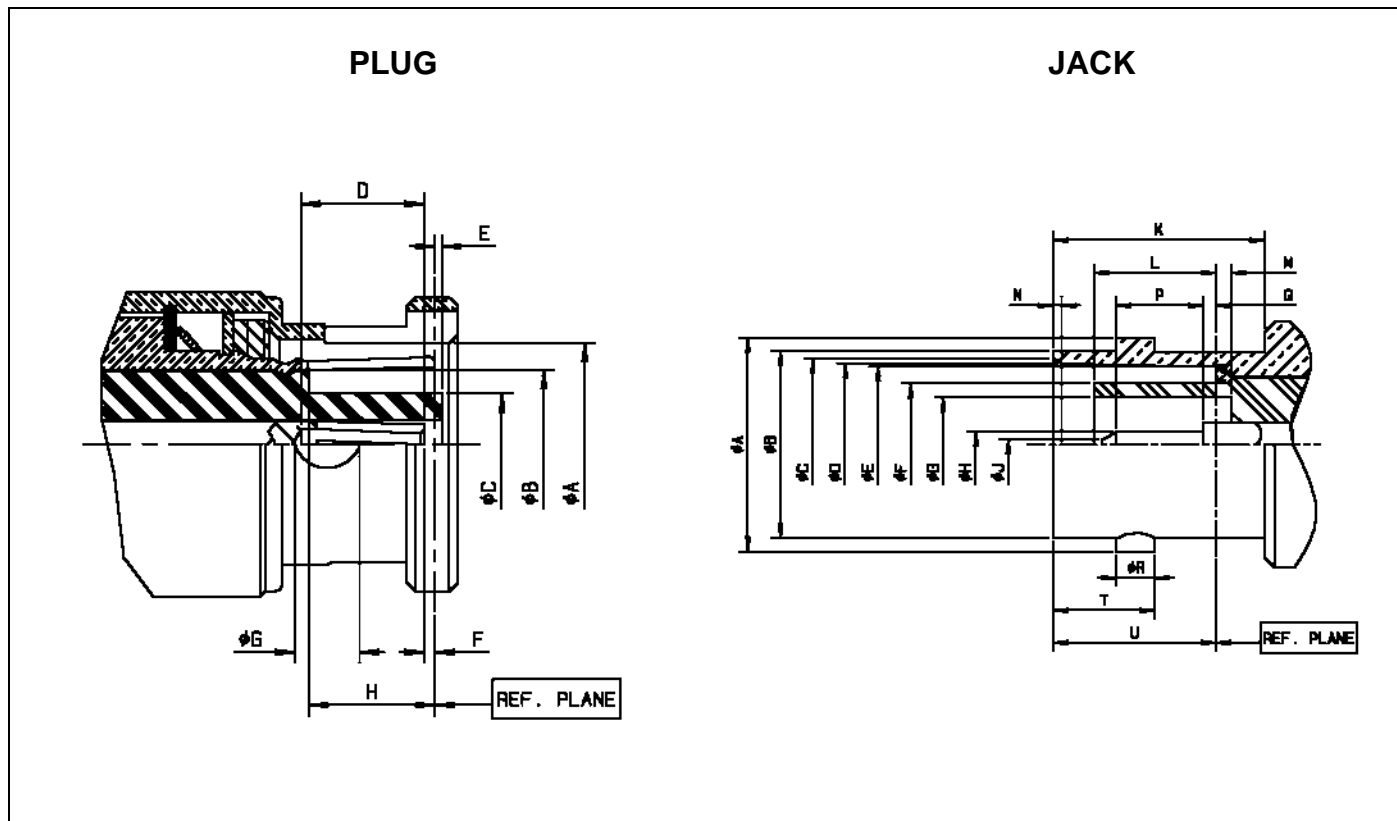
## PCB RECEPTACLES (male center contact)



| Part number         | Captive center contact | PCB pattern | Finish | Packaging    | Note        |
|---------------------|------------------------|-------------|--------|--------------|-------------|
| <b>R300 124 403</b> | yes                    | P01         | nickel | 100 pcs/reel | solder legs |

\* Bright Bronze Radiall

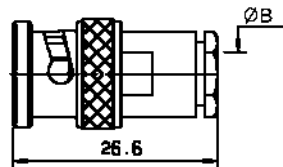
\*\* For unit packaging, add "W" after the P/N



| LETTER | mm   |      | inch |      |
|--------|------|------|------|------|
|        | min. | max. | min. | max. |
| A DIA  | 9.78 | 9.91 | .385 | .390 |
| B DIA  | 7    |      | .275 |      |
| C DIA  |      | 4.72 |      | .186 |
| D      | 4.95 |      | .195 |      |
| E      | 0.03 | 0.53 | .001 | .021 |
| F      | 0.61 | 1.12 | .024 | .044 |
| G DIA  | 3.15 |      | .124 |      |
| H      | 5.28 | 5.79 | .208 | .228 |

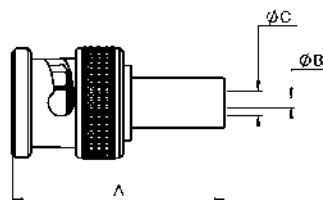
| LETTER | mm    |       | inch |      |
|--------|-------|-------|------|------|
|        | min.  | max.  | min. | max. |
| A DIA  | 10.97 | 11.07 | .432 | .436 |
| B DIA  | 9.6   | 9.7   | .378 | .382 |
| C DIA  | 8.79  | 9.04  | .346 | .356 |
| D DIA  | 8.31  | 8.46  | .327 | .333 |
| E DIA  | 8.1   | 8.15  | .319 | .321 |
| F DIA  |       | 6.4   |      | .252 |
| G DIA  | 4.83  |       | .190 |      |
| H DIA  | 1.32  | 1.37  | .052 | .054 |
| J DIA  |       | 0.64  |      | .025 |
| K      | 10.52 |       | .414 |      |
| L      | 4.78  | 5.28  | .188 | .208 |
| M      | 0.53  | 1.04  | .021 | .041 |
| N      | 0.38  | 0.76  | .015 | .030 |
| P      | 1.98  |       | .078 |      |
| Q      | 0     | 0.25  | 0    | .009 |
| R DIA  | 1.91  | 2.06  | .075 | .081 |
| T      | 5.18  | 5.28  | .204 | .208 |
| U      | 8.31  | 8.51  | .327 | .335 |

## STRAIGHT PLUGS CLAMP TYPE FOR FLEXIBLE CABLES (female center contact)



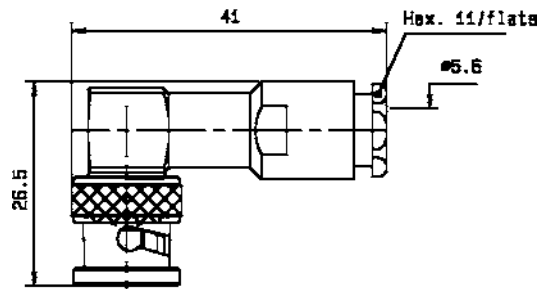
| Cable group  | Part number           | Dimensions B (mm) | Captive center contact | Assembly instructions | Finish | Packaging    |
|--------------|-----------------------|-------------------|------------------------|-----------------------|--------|--------------|
| 3 / 50       | <b>R300 141 010**</b> | 3.2               | no                     | please consult        | nickel | 100 pcs/bulk |
| 5 / 50 / S+D | <b>R300 141 030**</b> | 5.6               | no                     | please consult        | nickel | 100 pcs/bulk |

## STRAIGHT PLUGS FULL CRIMP TYPE FOR FLEXIBLE CABLES (female center contact)



| Cable group | Part number           | Dimensions (mm) |      |     | Captive center contact | Assembly instructions | Finish | Packaging    | Note         |
|-------------|-----------------------|-----------------|------|-----|------------------------|-----------------------|--------|--------------|--------------|
|             |                       | A               | B    | C   |                        |                       |        |              |              |
| 5 / 50 / S  | <b>R300 141 020**</b> | 27.3            | 1.27 | 3.1 | yes                    | M02                   | nickel | 100 pcs/bulk | LMR200 cable |
| 5 / 50 / S  | <b>R300 141 060**</b> | 27.3            | 1.05 | 3.1 | yes                    | M02                   | nickel | 100 pcs/bulk |              |

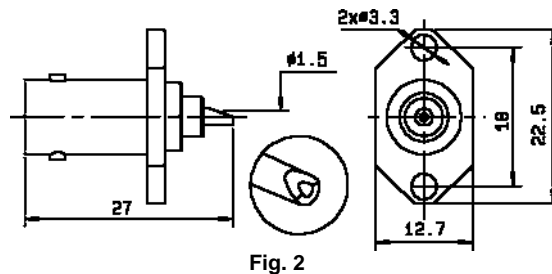
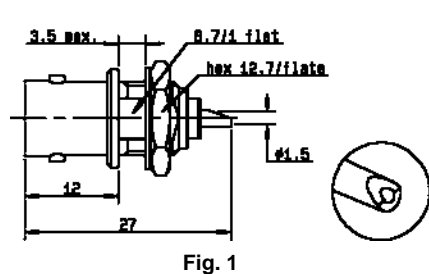
## RIGHT ANGLE PLUG CLAMP TYPE FOR FLEXIBLE CABLES (female center contact)



| Cable group  | Part number           | Captive center contact | Assembly instructions | Finish | Packaging    |
|--------------|-----------------------|------------------------|-----------------------|--------|--------------|
| 5 / 50 / S+D | <b>R300 141 120**</b> | yes                    | M07                   | nickel | 100 pcs/bulk |

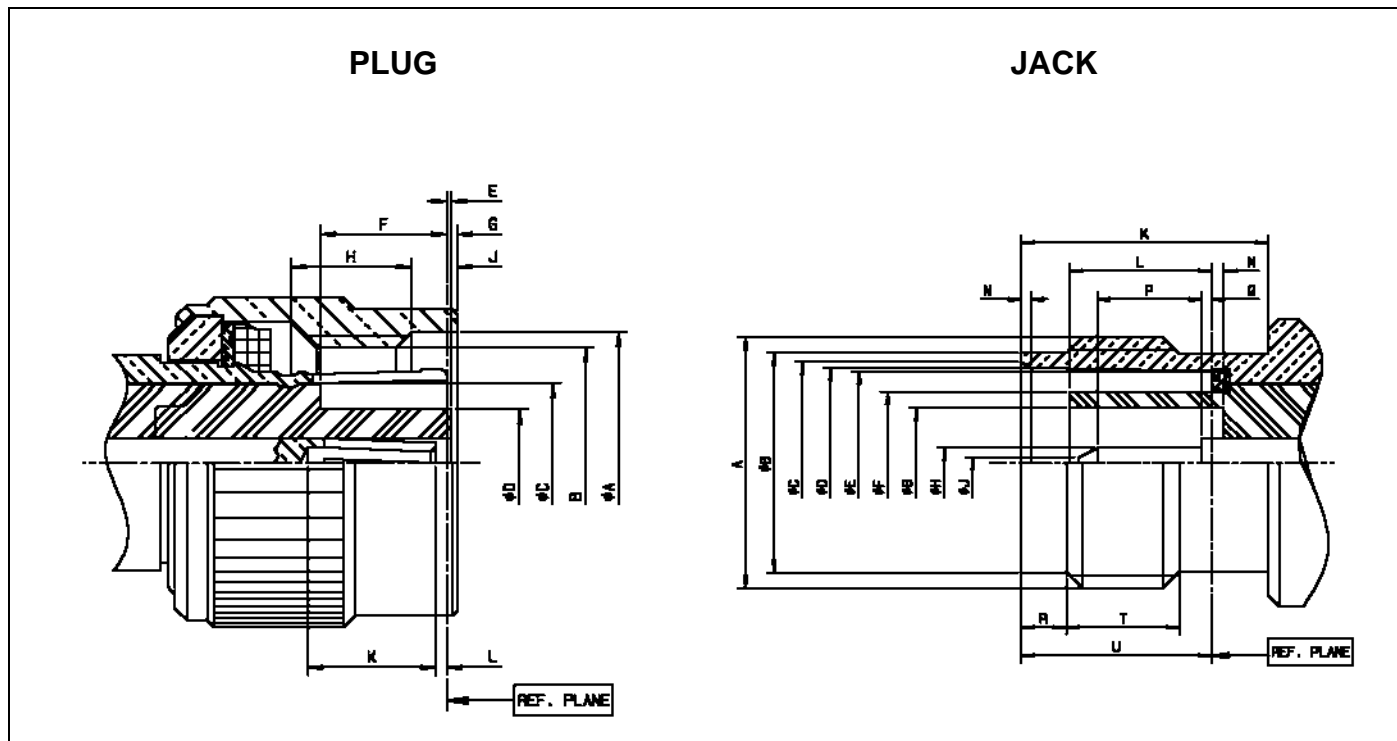
\*\* For unit packaging, add "W" after the P/N

## RECEPTACLES (male center contact)



| Part number    | Fig. | Captive center contact | Panel drilling | Finish | Packaging    |
|----------------|------|------------------------|----------------|--------|--------------|
| R300 141 400** | 1    | yes                    | P03            | nickel | 100 pcs/bulk |
| R300 141 420** | 2    | yes                    | P08            | nickel | 100 pcs/bulk |

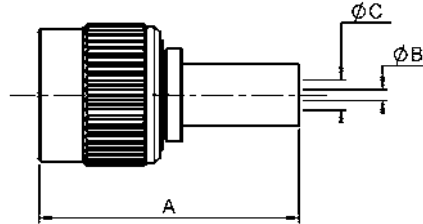
\*\* For unit packaging, add "W" after the P/N



| LETTER | mm              |      | inch |      |
|--------|-----------------|------|------|------|
|        | min.            | max. | min. | max. |
| A DIA  | 11.18           |      | .440 |      |
| B      | 7/16-28 UNEF-2B |      |      |      |
| C DIA  | 7               |      | .275 |      |
| D DIA  |                 | 4.72 |      | .186 |
| E      | 0.03            | 0.53 | .001 | .020 |
| F      | 5.28            | 5.79 | .208 | .228 |
| G      |                 | 1.98 |      | .078 |
| H      | 3.96            |      | .156 |      |
| J      | 1.6             |      | .063 |      |
| K      | 4.95            |      | .195 |      |
| L      | 0.61            | 1.12 | .024 | .044 |

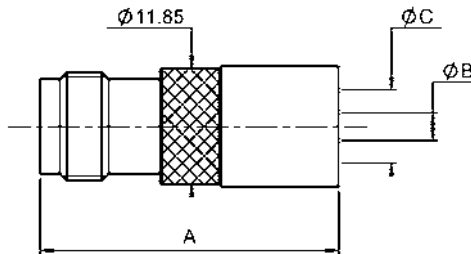
| LETTER | mm              |      | inch |      |
|--------|-----------------|------|------|------|
|        | min.            | max. | min. | max. |
| A      | 7/16-28 UNEF-2A |      |      |      |
| B DIA  | 9.6             | 9.68 | .378 | .381 |
| C DIA  | 8.79            | 9.04 | .346 | .356 |
| D DIA  | 8.31            | 8.46 | .327 | .333 |
| E DIA  | 8.1             | 8.15 | .319 | .321 |
| F DIA  | -               | 6.4  |      | .252 |
| G DIA  | 4.83            |      | .190 |      |
| H DIA  | 1.32            | 1.37 | .052 | .054 |
| J DIA  |                 | 0.64 |      | .025 |
| K      | 10.52           |      | .414 |      |
| L      | 4.78            | 5.28 | .188 | .208 |
| M      | 0.53            | 1.04 | .021 | .041 |
| N      | 0.38            | 0.76 | .015 | .030 |
| P      | 1.98            |      | .078 |      |
| Q      | 0               | 0.25 | 0    | .010 |
| R      | 1.73            | 2.24 | .068 | .088 |
| T      | 4.75            |      | .187 |      |
| U      | 8.31            | 8.51 | .327 | .335 |

### STRAIGHT PLUGS CRIMP TYPE FOR FLEXIBLE CABLES (female center contact)



| Cable group   | Part number           | Dimensions (mm) |      |      | Captive center contact | Assembly instructions | Finish | Packaging    | Note                    |
|---------------|-----------------------|-----------------|------|------|------------------------|-----------------------|--------|--------------|-------------------------|
|               |                       | A               | B    | C    |                        |                       |        |              |                         |
| 5 / 50 / S    | <b>R300 143 062**</b> | 26.6            | 1.05 | 3.1  | yes                    | M02                   | nickel | 100 pcs/bulk | full crimp              |
| 5 / 50 / S    | <b>R300 143 082**</b> | 26.6            | 1.27 | 3.1  | yes                    | M02                   | nickel | 100 pcs/bulk | LMR200 cable full crimp |
| 5 / 50 / D    | <b>R300 143 070</b>   | 26.6            | 1.05 | 3.1  | yes                    | M02                   | nickel | 100 pcs/bulk | full crimp              |
| 10 / 50 / S   | <b>R300 143 090**</b> | 28.2            | 2.45 | 7.46 | yes                    | M03                   | nickel | 100 pcs/bulk |                         |
| 10.2 / 50 / S | <b>R300 143 050**</b> | 28.2            | 2.85 | 7.8  | yes                    | M03                   | nickel | 100 pcs/bulk | Belden 9913 cable       |
| 10.3 / 50 / S | <b>R300 143 010**</b> | 28.2            | 2.85 | 7.46 | yes                    | M03                   | BBR*   | 100 pcs/bulk | LMR400 cable            |

### STRAIGHT JACKS CRIMP TYPE FOR FLEXIBLE CABLES (male center contact)



| Cable group   | Part number           | Dimensions (mm) |      |      | Captive center contact | Assembly instructions | Finish | Packaging    | Note              |
|---------------|-----------------------|-----------------|------|------|------------------------|-----------------------|--------|--------------|-------------------|
|               |                       | A               | B    | C    |                        |                       |        |              |                   |
| 10 / 50 / S   | <b>R300 143 220**</b> | 30.5            | 2.5  | 7.44 | yes                    | M03                   | nickel | 100 pcs/bulk |                   |
| 10.2 / 50 / S | <b>R300 143 250**</b> | 30.5            | 2.85 | 7.78 | yes                    | M03                   | nickel | 100 pcs/bulk | Belden 9913 cable |
| 10.3 / 50 / S | <b>R300 143 210**</b> | 30.5            | 2.85 | 7.44 | yes                    | M03                   | BBR*   | 100 pcs/bulk | LMR400 cable      |

\* Bright Bronze Radiall

\*\* For unit packaging, add "W" after the P/N

## STRAIGHT 2 HOLE FLANGE JACKS CRIMP TYPE FOR FLEXIBLE CABLES (male center contact)

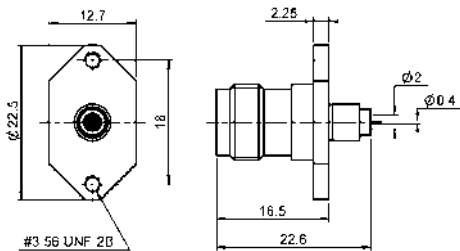


Fig. 1

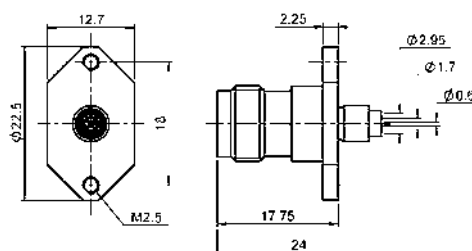
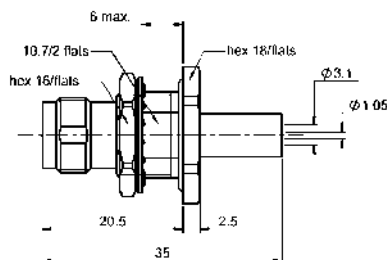


Fig. 2

| Cable group  | Part number           | Fig. | Captive center contact | Assembly instructions | Panel drilling | Finish | Packaging    |
|--------------|-----------------------|------|------------------------|-----------------------|----------------|--------|--------------|
| 2 / 50 / S   | <b>R300 143 270**</b> | 1    | yes                    | M01                   | P06            | nickel | 100 pcs/bulk |
| 2.6 / 50 / S | <b>R300 143 260</b>   | 2    | yes                    | M01                   | P07            | nickel | 100 pcs/bulk |

## STRAIGHT BULKHEAD JACKS FULL CRIMP TYPE FOR FLEXIBLE CABLES (male center contact)

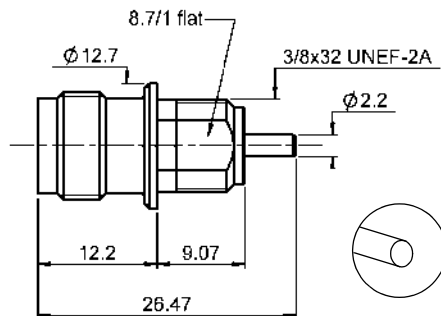


| Cable group | Part number           | Captive center contact | Assembly instructions | Panel drilling | Finish | Packaging    | Note       |
|-------------|-----------------------|------------------------|-----------------------|----------------|--------|--------------|------------|
| 5 / 50 / S  | <b>R300 143 240**</b> | yes                    | M02                   | P04            | nickel | 100 pcs/bulk | panel seal |

\*\* For unit packaging, add "W" after the P/N



## BULKHEAD RECEPTACLES (male center contact)



| Part number    | Captive center contact | Panel drilling | Finish | Packaging    |
|----------------|------------------------|----------------|--------|--------------|
| R300 143 400** | yes                    | P03            | BBR*   | 100 pcs/bulk |

## BETWEEN SERIES ADAPTERS

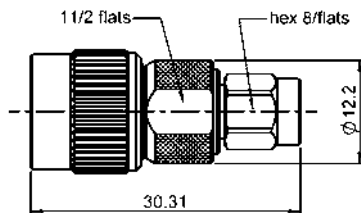
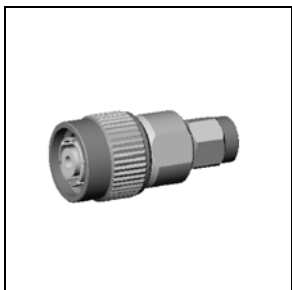


Fig. 1

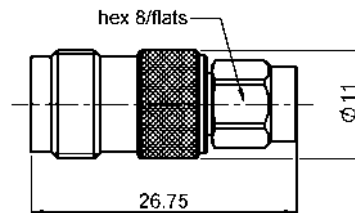


Fig. 2

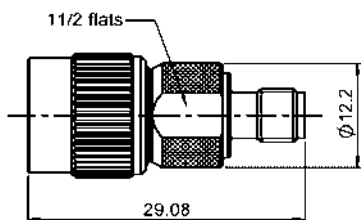


Fig. 3

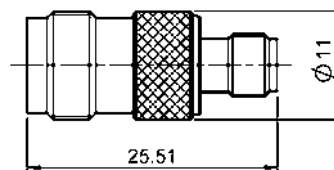


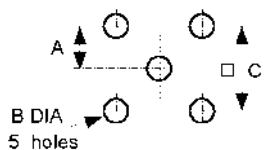
Fig. 4

| Part number  | Fig. | Finish | Packaging | Note                 |
|--------------|------|--------|-----------|----------------------|
| R191 902 000 | 1    | nickel | unit      | RP TNC plug-SMA plug |
| R191 903 000 | 2    | nickel | unit      | RP TNC jack-SMA plug |
| R191 904 000 | 3    | nickel | unit      | RP TNC plug-SMA jack |
| R191 905 000 | 4    | nickel | unit      | RP TNC jack-SMA jack |

\* Bright Bronze Radiall

\*\* For unit packaging, add "W" after the P/N

**P01**



|   | mm   |      |
|---|------|------|
|   | maxi | mini |
| A | 2.59 | 2.49 |
| B | 1.4  | 1.3  |
| C | 5.13 | 5.03 |

**P02**



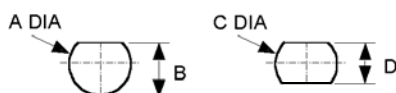
|   | mm   |      |
|---|------|------|
|   | maxi | mini |
| A | 6.5  | 6.4  |
| B | 6.15 | 6    |

**P03**



|   | mm   |      |
|---|------|------|
|   | maxi | mini |
| A | 9.75 | 9.65 |
| B | 8.9  | 8.8  |

**P04**



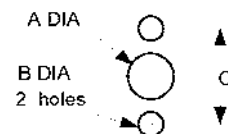
|   | mm   |      |
|---|------|------|
|   | maxi | mini |
| A | 12.8 | 12.7 |
| B | 12.1 | 12   |
| C | 12.8 | 12.7 |
| D | 10.9 | 10.8 |

**P05**



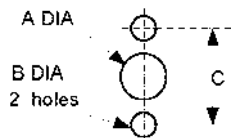
|   | mm   |      |
|---|------|------|
|   | maxi | mini |
| A | 6.5  | 6.4  |
| B | 5.8  | 5.7  |

**P06**



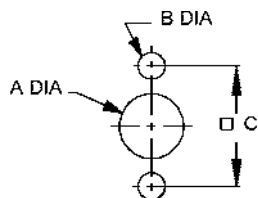
|   | mm   |      |
|---|------|------|
|   | maxi | mini |
| A | 5.49 | 5.41 |
| B | 2.8  | 2.7  |
| C | 18.1 | 17.9 |

**P07**



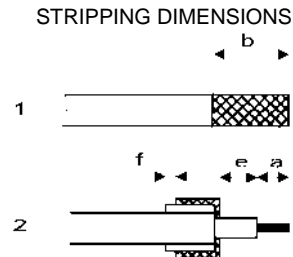
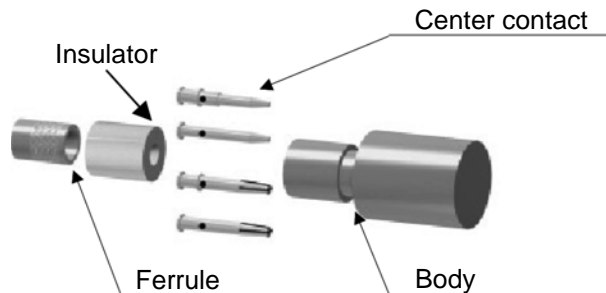
|   | mm    |       |
|---|-------|-------|
|   | maxi  | mini  |
| A | 11.3  | 11.2  |
| B | 2.7   | 2.6   |
| C | 18.05 | 17.95 |

**P08**



|   | mm    |       |
|---|-------|-------|
|   | maxi  | mini  |
| A | 9.3   | 9.2   |
| B | 3.3   | 3.2   |
| C | 18.05 | 17.95 |

## M 01

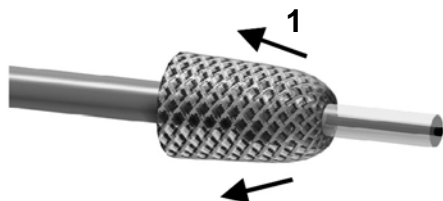


| Part number         | Stripping length (mm) |     |     |     | Ferrule |                                    |   | Center contact |                                    |   |
|---------------------|-----------------------|-----|-----|-----|---------|------------------------------------|---|----------------|------------------------------------|---|
|                     | a                     | b   | e   | f   | hex.    | standard crimp tools dies included | MIL standard R282 293 000 (M22520/5-01) +dies | hex.           | standard crimp tools dies included | MIL standard R282 293 000 (M22520/5-01) +dies |
| <b>R300 143 260</b> | 5.45                  | 8.4 | 3.4 | 1.5 | 4.52    | R282 211 000                       | R282 235 009 (M22520/5-09)                    | 1.73           | R282 223 000                       | R282 235 009 (M22520/5-09)                    |
| <b>R300 143 270</b> | 3                     | 10  | 5   |     |         |                                    |   |                |                                    |   |

- 1**
- Strip the cable as shown in sketch 1.
  - Slide the ferrule until it bottoms against the sleeve.



- 2**
- Fold the braid back.
  - Trim off the extra braid as shown in sketch 2.



- 3**
- Trim the inner conductor as shown in sketch 2.
  - Slide insulator onto cable dielectric.



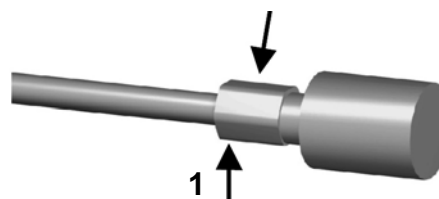
- 4**
- Slide the center contact on until it bottoms against the insulator back nut.
  - Solder or crimp the contact with crimping tool (see table).



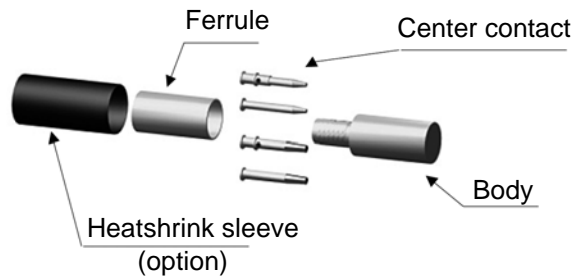
- 5**
- Mount the body onto the sub-assembly.



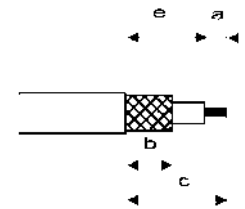
- 6**
- Crimp the body with crimping tool (see table).



## M 02



STRIPPING DIMENSIONS

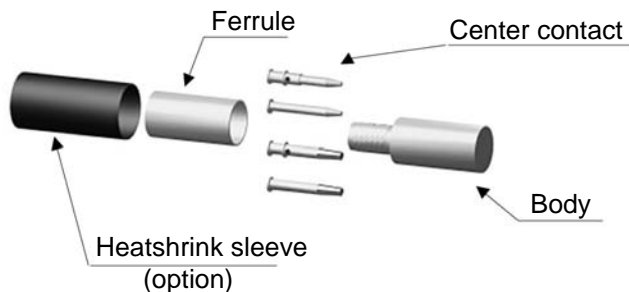


| Part number  | Stripping length (mm) |     |      |      | Ferrule |                                    |  | Center contact   |
|--|-----------------------|-----|------|------|---------|------------------------------------|--|--|
|  | a                     | b   | c    | e    | hex.    | standard crimp tools dies included | MIL standard R282 293 000 (M22520/5-01)+dies |  |
| R300 114 047   | 2.5                   | 5.4 | 11   | 8.5  | 3.25    | R282 211 000                       | R282 235 003 (M22520/5-03)                   | Crimp tool R282 281 000 + Positioner R282 967 012 select. n°3  |
| R300 124 040   | 3                     | 6.3 | 10.8 | 7.8  | 3.84    | R282 271 000                       | R282 235 037 (M22520/5-37)                   | Crimp tool R282 281 000 + Positioner R282 967 012 select. n°5  |
| R300 124 073<br>R300 124 080   |                       |     |      |      | 5.41    | R282 223 000                       | R282 235 011 (M22520/5-11)                   | Crimp tool R282 281 000 + Positioner R282 967 012 select. n°7  |
| R300 124 240   |                       |     |      |      | 3.25    | R282 271 000                       | R282 235 003 (M22520/5-03)                   | Crimp tool R282 281 000 + Positioner R282 967 012 select. n°5  |
| R300 141 020<br>R300 141 060<br>R300 143 062<br>R300 143 070<br>R300 143 082 | 4                     | 8.5 | 15.6 | 11.6 | 5.41    | R282 223 000                       | R282 235 011 (M22520/5-11)                   | Standard crimp tools dies included R282 223 000 hex. 1.73 or MIL standard R282 293 000 (M22520/5-01) + dies R282 235 011 (M22520/5-11) hex. 1.73 |
| R300 124 240   |                       |     | 15   | 11   |         |                                    |  |  |

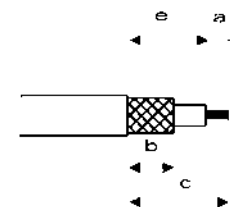
- 1 - Slide the heatshrink sleeve onto the cable (Option).  
- Slide the ferrule onto the cable.  
- Strip the cable.
- 
- 2 - Slide the centre contact on until it bottoms against the cable dielectric.  
- Crimp the centre contact with crimping tool.
- 
- 3 - Fan the braid.
- 

- 4 - Slide the cable into the body until it bottoms against insulator.
- 
- 5 - Slide the ferrule over the braid.  
- Crimp the ferrule with crimping tool.
- 
- 6 - Cut the excess of braid if necessary.  
- Slide the sleeve over the ferrule and heatshrink it in place (Option).
-

## M 03

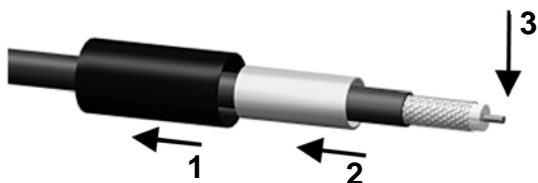


STRIPPING DIMENSIONS

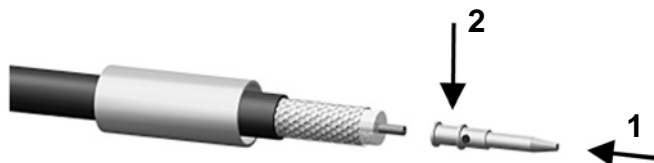


| Part number  | Stripping length (mm) |     |    |   | hex.  | Ferrule                            |  |
|--|-----------------------|-----|----|---|-------|------------------------------------|--|
|  | a                     | b   | c  | e |       | standard crimp tools dies included | MIL standard<br>R282 293 000<br>(M22520/5-01)+dies |
| R300 143 010<br>R300 143 050<br>R300 143 090<br>R300 143 210<br>R300 143 220<br>R300 143 250 | 3                     | 7.5 | 12 | 9 | 10.54 | R282 231 000                       | R282 235 116<br>(Y116DANIELS)                      |

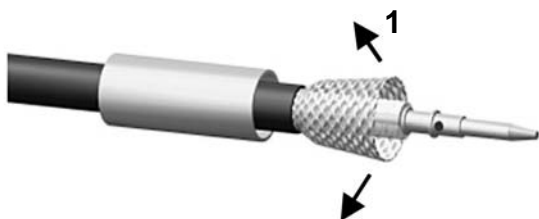
- 1**
- Slide the heatshrink sleeve onto the cable (Option).
  - Slide the ferrule onto the cable.
  - Strip the cable.



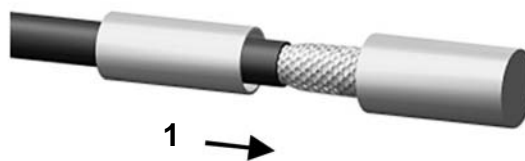
- 2**
- Slide the centre contact on until it bottoms against the cable dielectric.
  - Solder the centre contact.
  - Clean solder area.



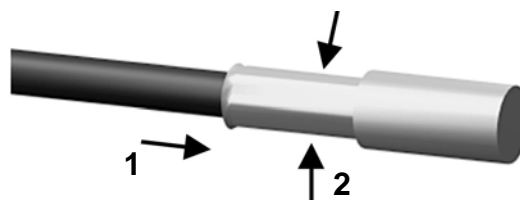
- 3**
- Fan the braid.



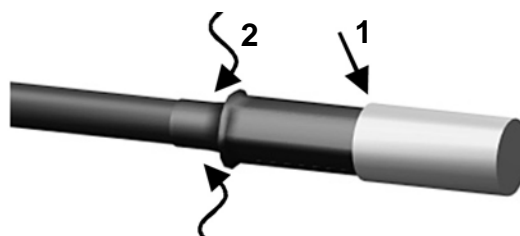
- 4**
- Slide the cable into the body until it bottoms against insulator.



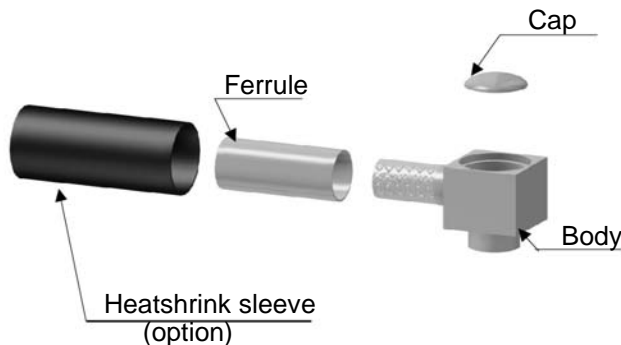
- 5**
- Slide the ferrule over the braid.
  - Crimp the ferrule with crimping tool.



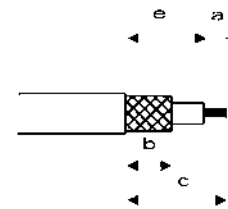
- 6**
- Cut the excess of braid if necessary.
  - Slide the sleeve over the ferrule and heatshrink it in place (Option).



## M 04

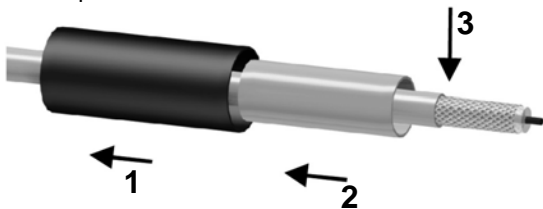


STRIPPING DIMENSIONS



| Part number  | Stripping length (mm) |     |      |      | hex. | Ferrule                               |  |
|--------------|-----------------------|-----|------|------|------|---------------------------------------|--|
|              | a                     | b   | c    | e    |      | standard crimp tools<br>dies included | MIL standard<br>R282 293 000<br>(M22520/5-01)+dies |
| R300 124 161 | 2                     | 6.5 | 12   | 10   | 2.67 | R282 211 000                          | R282 235 003<br>(M22520/5-03)                      |
| R300 124 183 |                       |     |      |      | 3.25 |                                       |  |
| R300 124 323 | 1.8                   | 5.7 | 12.6 | 10.8 | 2.67 |                                       |  |
| R300 124 343 |                       | 6.3 | 12.8 | 11.4 | 3.25 |                                       |  |

- 1**
- Slide the heatshrink sleeve onto the cable (option).
  - Slide the ferrule onto the cable.
  - Strip the cable.



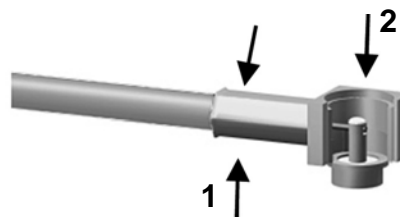
- 2**
- Fan the braid.



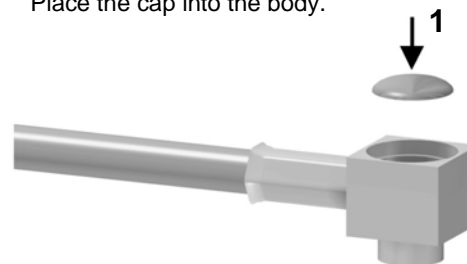
- 3**
- Push the connector body under the braid.
  - Slide the ferrule over the braid.



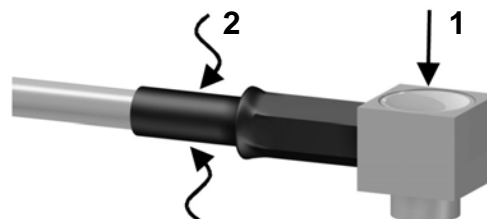
- 4**
- Crimp the ferrule with crimping tool.
  - Solder the inner conductor.



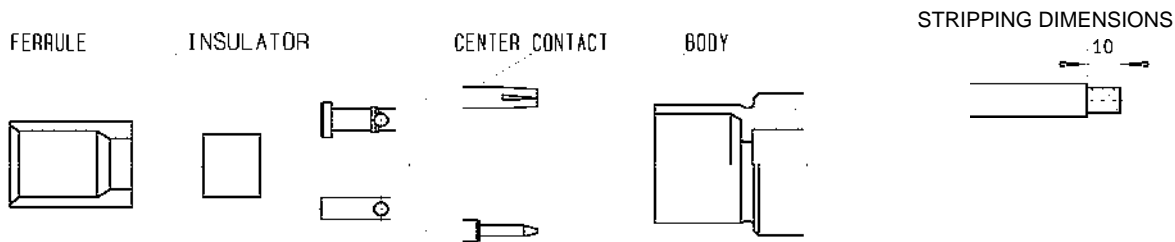
- 5**
- Place the cap into the body.



- 6**
- Press on the cap flush or slightly below the surface of the body assembly.
  - Slide the sleeve over the ferrule and heatshrink it in place (option).



# M 05



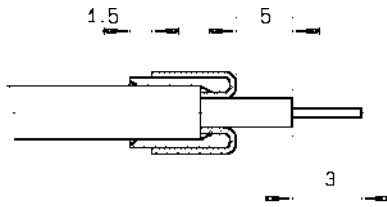
|              |
|--------------|
| Part number  |
| R300 124 235 |

1

- Strip the cable.

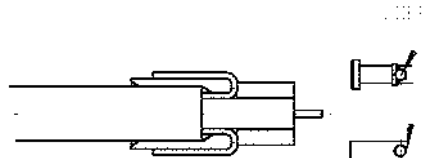
2

- 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 center contact until it bottoms against cable dielectric.
- Solder center contact.



4

- Slide sub-assembly into the connector body with the ferrule.
- Crimp the body, crimping tool R282 211 000 (Hex.: 4.52) or crimping tool R282 293 000 (M22520/5-01) + dies R282 235 009 (M22520/5-09).



## M 06

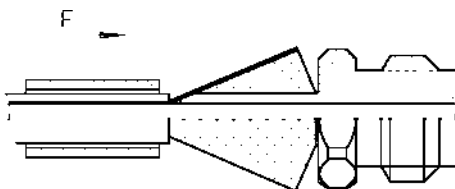
STRIPPING DIMENSIONS



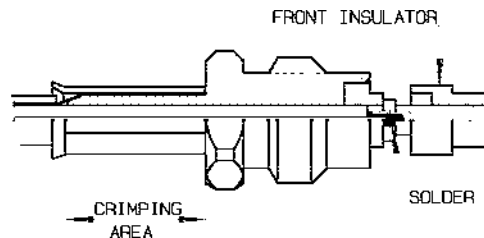
| Part number         | Stripping length (mm) |   |      | hex. | Ferrule                               |   |
|---------------------|-----------------------|---|------|------|---------------------------------------|---|
|                     | a                     | b | c    |      | Standard crimp tools<br>dies included | MIL standard R282 293 000<br>(M22520/5-01)+dies |
| <b>R300 124 061</b> | 3.5                   | 7 | 13.5 | 2.67 | R282 211 000                          | R282 235 003<br>(M22520/5-03)                   |

- 1**
- Slide the ferrule onto the cable.
  - Strip the cable.

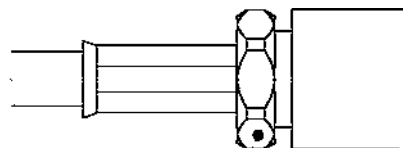
- 2**
- Fan the braid.
  - Slide the back body between dielectric and braid.
  - Slide ferrule over the braid (in direction F).



- 3**
- Crimp the ferrule with crimping tool (see table).
  - 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.

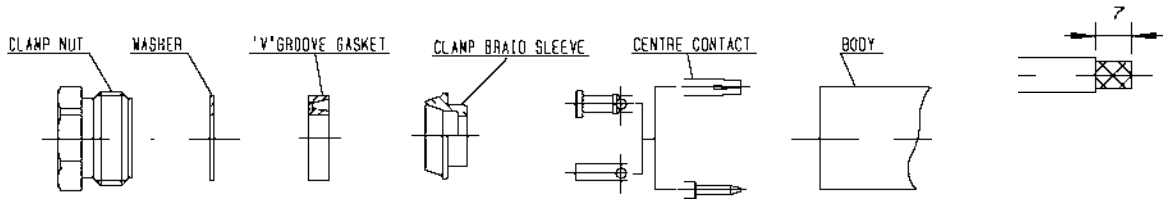


Hex. : 7 /plats



# M 07

STRIPPING DIMENSIONS



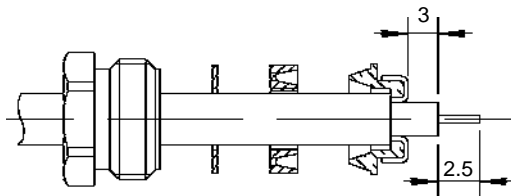
|               |
|---------------|
| Part number   |
| R 300 141 120 |

1

- Strip the cable.

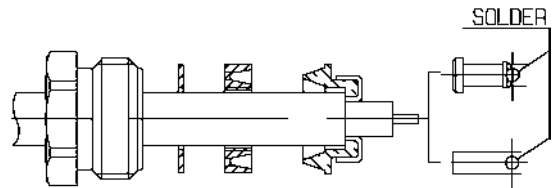
2

- Slide the clamp nut, the washer and the "V" groove gasket onto the cable.
- Slide clamp braid sleeve over braid.
- Fold back braid and trim off excess braid.
- Trim back dielectric as shown.



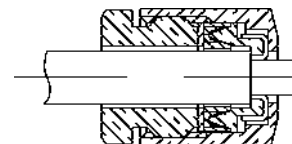
3

- Solder the cable inner conductor into center contact.



4

- Screw sub-assembly into the connector body. Recommended coupling torque 450 N.cm.

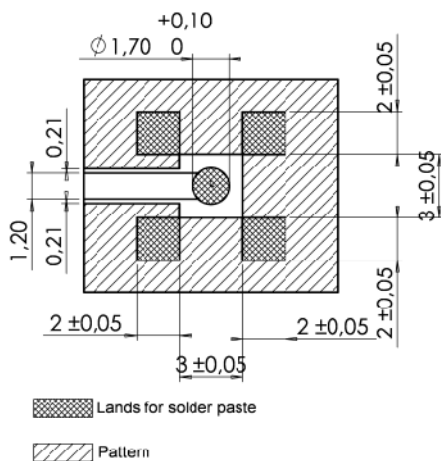


# M 08

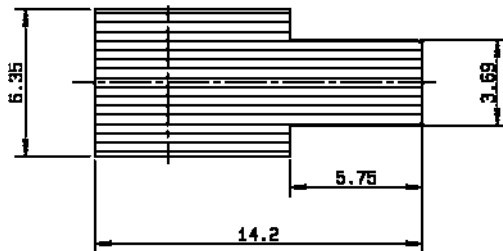
Part number

R 300 114 457

Soldering pattern



Video shadow



COPLANAR LINE: Pattern and signal are on the same side. Thickness of PCB = 1.6 mm.  
The material of PCB is the glass epoxy resin ( $E_r = 4.8$ ). The solder paste should be printed except for the land pattern on the PCB.

## M08 (Flg)

### A - SOLDERING PROCEDURE USING AUTOMATIC PICK AND PLACE EQUIPMENT:

#### 1) Solder paste:

- RADIALL recommends using a **solder paste Sn63-Pb35- Ag2 type** (63% tin - 35% lead - 2% silver) "**no clean - low residue**" (5% solid residue of flux quantity) that will permit the **elimination of the cleaning operation step** after soldering.
- When using a conventional solder paste with high level (50%) of flux solid residue, it is important to incorporate a good cleaning operation step, similar to what is described below in paragraph 5.
- Note: when choosing a solder paste for gold-plated PCB pattern, it is important to use a paste made with silver. This will help to avoid formation of intermetallics as part of the solder joint.

#### 2) Solder paste deposition:

- The solder paste should be deposited on the designated zone areas (see patterns p. 27) by a screen printing process. RADIALL advises a thickness of .008" (0.2 mm).
- If using a thickness of less than .008" (0.2 mm) the zone area must be specifically designed for this thickness (please consult RADIALL).
- Please optically verify that the edges of the zone are clean and without contaminates.

#### 3) Placement of the component:

- Place the receptacle onto the PCB with automatic pick and place equipment. Please verify that the PCB zoned areas have not oxidised.
- Various types of suction can be used.
- RADIALL does not recommend using adhesive agents on the receptacle or on the PCB.
- The use of a video camera is preferred for checking the positioning of the components (see video shadow, p. 27).

#### 4) Soldering: infra-red reflow process:

- Please follow RADIALL's recommended profile as illustrated.
- When using a "no clean - low residue" type of solder paste, RADIALL recommends a linear pre-heat profile not to exceed 160°C with a 1 to 2°C/s. rise.

#### 5) Cleaning of the PCB:

- When using a conventional solder paste with high level of residue, please clean the PCB with a substitute product, similar to CFC, that complies with International Environmental Agency rules.
- RADIALL recommends using a vapor phase process (ultrasonic waves are acceptable).

#### 6) Quality check:

- Verify by visual inspection that center contact of the receptacle has not been contaminated by solder or flux.
- Solder joints: verify by visual inspection that the formation of meniscus on the sides of the receptacle legs are proper.

### B - SOLDERING PROCEDURE BY MANUAL OPERATION:

#### 1) Solder paste: (Refer to procedure A - 1)

#### 2) Flux deposition:

- Deposit a thin layer of flux on mounting zone.
- Allow the flux to evaporate a few seconds before applying solder paste (in order to avoid dilution of the paste).

#### 3) Solder paste deposition:

- Deposit a small quantity of solder paste on mounting zone area by syringe.
- Be careful, do not apply solder paste outside of the zone area.

#### 4) Placement of the component:

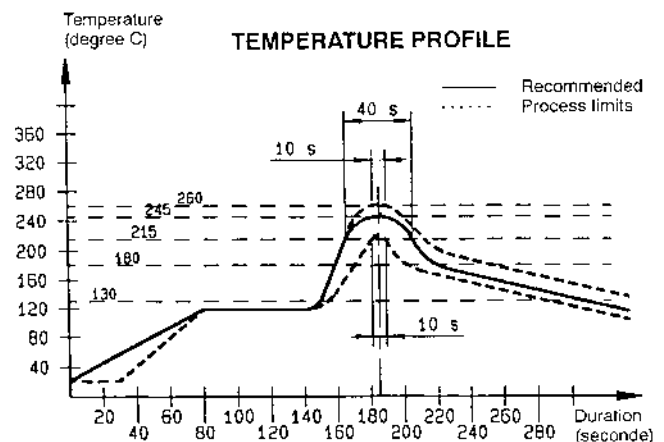
- Lift the body of the receptacle with tweezers. Do not use your fingers (fingers risk twisting the legs of the the receptacle or ejecting the center contact and can contaminate contact surfaces).
- Place the component on the mounting zone by pressing lightly on the top of the receptacle with tweezers. The receptacle legs will stick into the solder paste.

#### 5) Soldering:

- Pre-heat stage: use a heat gun (soldering iron is not recommended) at a distance of .800" (20 mm) from the receptacle, applying the jet of air in a continuous circular motion, until the solder paste starts to look dull. this stage avoids any thermal shock since both areas to be soldered are brought up to the same temperature.
- Final re-melting step is carried out by moving the heat gun to a closer distance of .200" (5 mm) from the receptacle while guiding the jet of air onto each receptacle leg, at a 45° angle.

#### 6) Cleaning of the PCB: (Refer to procedure A-5)

#### 7) Quality check: (Refer to procedure A-6)



# RADIALL



## COAXIAL CABLE ASSEMBLIES

Fast & Reliable : Your Source for Microwave & RF Cable Assemblies



RADIALL   
The next connexion

# NOTES

---