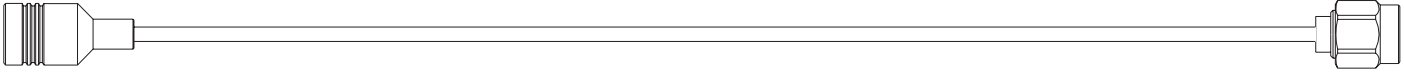


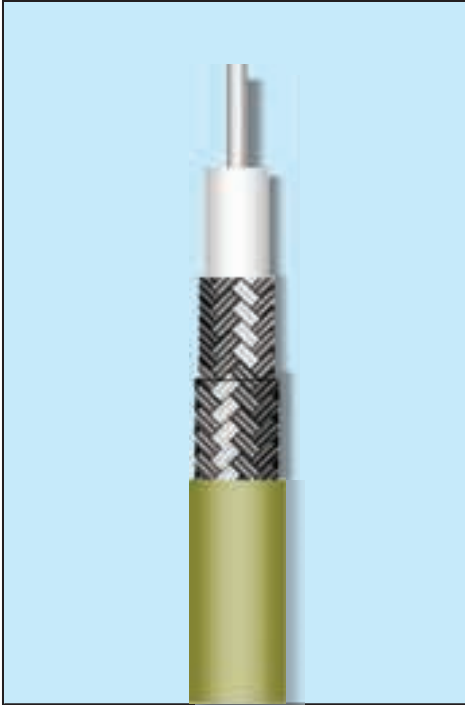
CABLE ASSEMBLIES

FLEXIBLE CABLE 5/50 D (RG142)



MIL-C-17/158-RG142 → Radiall p/n : C291 320 007 **S+**

FLEXIBLE AND
ECO-FRIENDLY
CABLES



CONSTRUCTION / DIMENSIONS

	material	mm	inches
center conductor	solid SPC CS ⁽¹⁾	0,94	0,037
dielectric	solid PTFE ⁽²⁾	2,95	0,116
inner shield	SPC ⁽³⁾ braid	-	-
outer shield	SPC ⁽³⁾ braid	4,19	0,165
jacket	brown FEP ⁽⁴⁾	4,95	0,195

ELECTRICAL CHARACTERISTICS

characteristic impedance	50 Ω ± 2 Ω	
operating frequency range	DC - 12.4 GHz	
shielding effectiveness	65 dB (DC - 3 GHz)	
voltage withstanding	5 000 V rms	
peak power	3.4 kW	
capacitance	97 pF / m	29.3 pF / ft
velocity of propagation	70% (4.8 ns / m)	

MECHANICAL CHARACTERISTICS

recommend. min. bend radius	25 mm	0.984 inch
weight	64 g / m	0.043 lbs / ft

APPLICATION NOTE

RG142 is one of the most popular RG cables.

This cable presents a good compromise between flexibility and electrical performances.

RG142 shall be selected among other 5/50 RG's for applications requiring high frequency range and low attenuation.

Usable in severe thermal conditions.

ENVIRONMENTAL CHARACTERISTICS

operating temperature range	-55 / +200 °C	-67 / +392 °F
fire resistance	yes (C SA FT6 / IEC 332-2)	
halogen free	no	

FREQUENCY / ATTENUATION (typ.) / CW MAX POWER (sea level / 25°C)

GHz	dB / m	dB / ft	Watts
0,5	0,30	0,09	665
1,0	0,44	0,13	470
1,5	0,55	0,17	384
2,0	0,65	0,20	332
3,0	0,81	0,25	271
6,0	1,22	0,37	192
8,0	1,45	0,44	166
10,0	1,66	0,50	149
12,4	1,90	0,58	133
attenuation calculation (dB/m)	$(0.40 \times \sqrt{F \text{ GHz}}) + (0.04 \times F \text{ GHz})$		
power calculation (W)	$470 / \sqrt{F \text{ GHz}}$		

⁽¹⁾ SPCCS = Silver Plated Copper Covered Steel

⁽²⁾ PTFE = Poly TetraFluoroEthylene

⁽³⁾ SPC = Silver Plated Copper

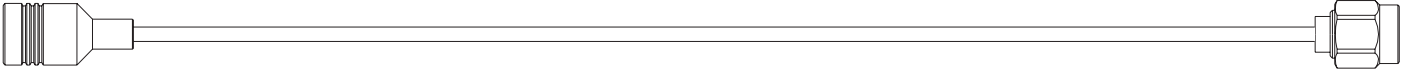
⁽⁴⁾ FEP = Fluorinated Ethylene Propylene

Note : typical attenuation for a couple of connectors (dB) = $0.045 \times \sqrt{F \text{ GHz}}$

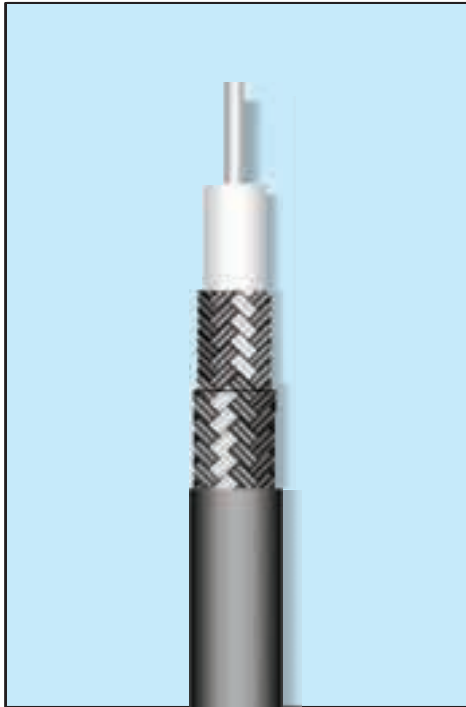
S+ : for the  program, please read page 88.

CABLE ASSEMBLIES

FLEXIBLE CABLE 5/50 D (RG223)



MIL-C-17/84-RG223 → Radiall p/n : C291 330 000 



CONSTRUCTION / DIMENSIONS

	material	mm	inches
center conductor	solid SPC ⁽¹⁾	0,89	0,035
dielectric	solid PE ⁽²⁾	2,95	0,116
inner shield	SPC ⁽¹⁾ braid	-	-
outer shield	SPC ⁽¹⁾ braid	4,19	0,165
jacket	black PVC ⁽³⁾	5,38	0,212

ELECTRICAL CHARACTERISTICS

characteristic impedance	50 Ω ± 2 Ω	
operating frequency range	DC - 12.4 GHz	
shielding effectiveness	65 dB (DC - 3 GHz)	
voltage withstanding	5 000 V rms	
peak power	2.6 kW	
capacitance	96 pF / m	29 pF / ft
velocity of propagation	66% (5 ns / m)	

MECHANICAL CHARACTERISTICS

recommend. min. bend radius	25 mm	0.984 inch
weight	55 g / m	0.0370 lbs / ft

APPLICATION NOTE

RG223 is one of the most popular RG cables.

This cable presents a good compromise between flexibility and electrical performances.

RG223 can be used instead of RG142 for cost reasons in applications that do not require high temperature resistance.

ENVIRONMENTAL CHARACTERISTICS

operating temperature range	-40 / +85 °C	-40 / +185 °F
fire resistance	no	
halogen free	no	

FREQUENCY / ATTENUATION (typ.) / CW MAX POWER (sea level / 25°C)

GHz	dB / m	dB / ft	Watts
0,5	0,32	0,10	71
1,0	0,46	0,14	50
1,5	0,57	0,17	41
2,0	0,67	0,20	35
3,0	0,85	0,26	29
6,0	1,27	0,38	20
8,0	1,51	0,46	18
10,0	1,73	0,52	16
12,4	1,97	0,60	14
attenuation calculation (dB / m)	$(0.42 \times \sqrt{F \text{ GHz}}) + (0.04 \times F \text{ GHz})$		
power calculation (W)	$50 / \sqrt{F \text{ GHz}}$		

⁽³⁾ SPC = Silver Plated Copper

⁽²⁾ PE = PolyEthylene

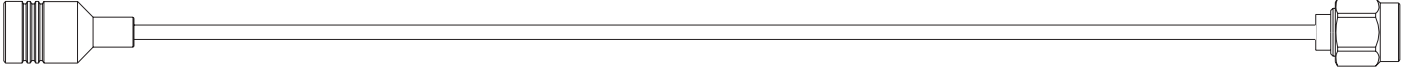
⁽³⁾ PVC = Poly Vinyl Chloride

Note : typical attenuation for a couple of connectors (dB) = $0.045 \times \sqrt{F \text{ GHz}}$

 : for the  program, please read page 88.

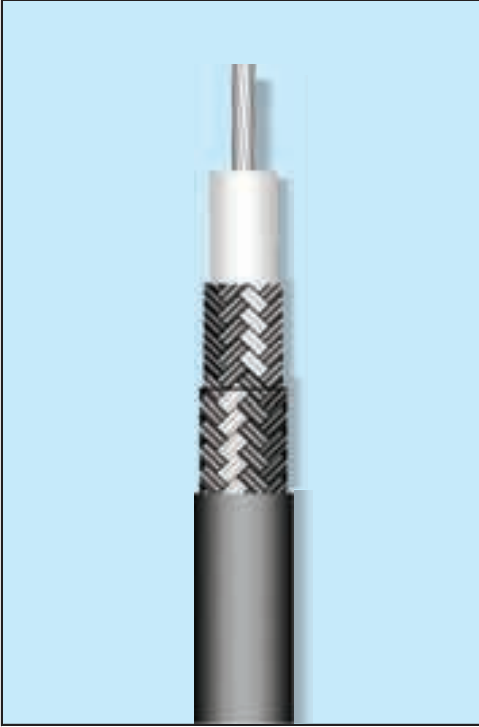
CABLE ASSEMBLIES

FLEXIBLE CABLE 5/50 D (RG400)



MIL-C-17/128-RG400 → Radiall p/n : C291 324 007

FLEXIBLE AND
ECO-FRIENDLY
CABLES



CONSTRUCTION / DIMENSIONS

	material	mm	inches
center conductor	stranded SP C ⁽¹⁾	0,98	0,039
dielectric	solid PTFE ⁽²⁾	2,95	0,116
inner shield	SPC ⁽¹⁾ braid	-	-
outer shield	SPC ⁽¹⁾ braid	4,19	0,165
jacket	brown FEP ⁽³⁾	4,95	0,195

ELECTRICAL CHARACTERISTICS

characteristic impedance	50 Ω ± 2 Ω	
operating frequency range	DC - 12.4 GHz	
shielding effectiveness	65 dB (DC - 3 GHz)	
voltage withstanding	5 000 V rms	
peak power	3.4 kW	
capacitance	97 pF / m	29.3 pF / ft
velocity of propagation	70% (4.8 ns / m)	

MECHANICAL CHARACTERISTICS

recomm. mini bend. radius	20 mm	0.79 inch
weight	66 g / m	0.0442 lbs / ft

APPLICATION NOTE

Due to its stranded inner conductor, RG 400 is much more flexible than RG 142 and RG223.

This cable will be chosen instead of equivalent RG's for specific applications requiring high flexibility

Usable in severe thermal conditions.

ENVIRONMENTAL CHARACTERISTICS

operating temperature range	-55 / +200 °C	-67 / +392 °F
fire resistance	yes (C SA FT6 / IEC 332-2)	
halogen free	no	

FREQUENCY / ATTENUATION (typ.) / CW MAX POWER (sea level - 25°C)

GHz	dB / m	dB / ft	Watts
0,5	0,36	0,11	665
1,0	0,52	0,16	470
1,5	0,65	0,20	384
2,0	0,76	0,23	332
3,0	0,95	0,29	271
6,0	1,42	0,43	192
8,0	1,68	0,51	166
10,0	1,92	0,58	149
12,4	2,19	0,66	133
attenuation calculation (dB/m)	(0.48 x √F GHz) + (0.04 x F GHz)		
power calculation (W)	470 / √F GHz		

⁽¹⁾ SPC = Silver Plated Copper

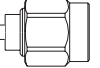
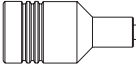
⁽²⁾ PTFE = Poly TetraFluoroEthylene

⁽³⁾ FEP = Fluorinated Ethylene Propylene

Note : typical attenuation for a couple of connectors (dB) = 0.045 x √F GHz

CABLE ASSEMBLIES

CONNECTORS COMPATIBLE WITH FLEXIBLE CABLES 5/50 D (RG142 - RG223 - RG400)



SMAseries (advised torque wrench for R125 plugs : R282 320 000 / 8 mm / 80-120 Ncm)

(advised torque wrench for R124 plugs : R282 320 030 / 8 mm / 60 Ncm)

(temperature range = -65 / +165 °C)

p/n	interface	geometry	attachment	frequency (GHz)	voltage with-standing (V rms)	captive cent. cont.	material	finish	miscellaneous
R124 076 320	plug	straight	full crimp	12,4	1000	yes	brass	BBR	commercial SMA
R124 076 323	plug	straight	full crimp	12,4	1000	yes	brass	gold	commercial SMA
R125 076 000	plug	straight	crimp	18	1000	no	stainless steel	gold	
R125 076 001	plug	straight	crimp	18	1000	no	stainless steel	passivated	
R125 076 120	plug	straight	full crimp	18	1000	yes	stainless steel	gold	
R125 076 121	plug	straight	full crimp	18	1000	yes	stainless steel	passivated	
R124 176 120	plug	right angle	crimp	12,4	1000	yes	brass	BBR	commercial SMA
R124 176 123	plug	right angle	crimp	12,4	1000	yes	brass	gold	commercial SMA
R125 176 000	plug	right angle	crimp	18	1000	yes	stainless steel	gold	
R125 176 001	plug	right angle	crimp	18	1000	yes	stainless steel	passivated	
R124 278 120	jack	straight	full crimp	12,4	1000	yes	brass	BBR	commercial SMA / square flange 12.7 mm / 4 holes dia. 2.6 mm
R124 278 123	jack	straight	full crimp	12,4	1000	yes	brass	gold	commercial SMA / square flange 12.7 mm / 4 holes dia. 2.6 mm
R125 278 000	jack	straight	crimp	18	1000	no	stainless steel	gold	square flange 12.7 mm / 4 holes dia. 2.6 mm
R125 278 001	jack	straight	crimp	18	1000	no	stainless steel	passivated	square flange 12.7 mm / 4 holes dia. 2.6 mm
R124 315 120	jack	straight	crimp	12,4	1000	yes	brass	BBR	commercial SMA / bulkhead feedthrough / panel nut torque = 150 Ncm
R124 315 123	jack	straight	crimp	12,4	1000	yes	brass	gold	commercial SMA / bulkhead feedthrough / panel nut torque = 150 Ncm
R125 315 120	jack	straight	full crimp	18	1000	yes	stainless steel	gold	bulkhead feedthrough / panel nut torque = 150 Ncm
R125 315 121	jack	straight	full crimp	18	1000	yes	stainless steel	passivated	bulkhead feedthrough / panel nut torque = 150 Ncm

QMAseries

(temperature range = -40 / +80 °C)

p/n	interface	geometry	attachment	frequency (GHz)	voltage with-standing (V rms)	captive cent. cont.	material	finish	miscellaneous
R123 076 000	plug	straight	full crimp	6	1000	yes	brass	BBR	
R123 176 000	plug	right angle	crimp	6	1000	yes	brass	BBR	
R123 315 000	jack	straight	crimp	6	1000	yes	brass	BBR	bulkhead feedthrough / panel nut torque = 160 Ncm

BMA series

(temperature range = -65 / +125 °C)

p/n	interface	geometry	attachment	frequency (GHz)	voltage with-standing (V rms)	captive cent. cont.	material	finish	miscellaneous
R128 088 001	female plug	straight	crimp	12,4	1000	yes	stainless steel	passivated	bulkhead feedthrough / panel nut torque = 150 Ncm
R128 088 827	female plug	straight	crimp	4	1000	yes	brass	BBR	commercial BMA / bulkhead feedthrough / panel nut torque = 150 Ncm
R128 238 001	male jack	straight	crimp	12,4	1000	yes	stainless steel	passivated	snap-in / panel flanging
R128 238 827	male jack	straight	crimp	4	1000	yes	brass	BBR	commercial BMA / snap-in / panel flanging
R128 268 001	male jack	straight	crimp	12,4	1000	yes	stainless steel	passivated	panel flanging / 2 hole flange / 2 holes dia. 2.6 mm
R128 268 827	male jack	straight	crimp	4	1000	yes	brass	BBR	commercial BMA / panel flanging / 2 hole flange / 2 holes dia. 2.6 mm



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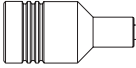


program, please read page 88.

Note : the above information is only listing recommended part-numbers. For other connectors or more information, please consult the general coax connector catalog, our website or your current sales contact.

CABLE ASSEMBLIES

CONNECTORS COMPATIBLE WITH FLEXIBLE CABLES 5/50 D (RG142 - RG223 - RG400)



BNC series

(temperature range = -65 / +165 °C)

p/n	interface	geometry	attachment	frequency (GHz)	voltage withstanding (V rms)	captive cent. cont.	material	finish	miscellaneous
R141 083 000	plug	straight	full crimp	4	1500	yes	brass	nickel	plastic boot compatible
R141 183 000	plug	right angle	crimp	4	1500	yes	brass	nickel	plastic boot compatible
R141 208 000	jack	straight	clamp	4	1500	yes	brass	nickel	
R141 220 000	jack	straight	full crimp	4	1500	yes	brass	nickel	plastic boot compatible
R141 256 000	jack	straight	clamp	4	1500	no	brass	nickel	square flange 17.5 mm / 4 holes dia. 2.6 mm
R141 258 000	jack	straight	clamp	4	1500	no	brass	nickel	square flange 17.5 mm / 4 holes M2.5 x 0.45
R141 297 000	jack	straight	full crimp	4	1500	yes	brass	nickel	square flange 17.5 mm / 4 holes dia. 2.6 mm
R141 327 000	jack	straight	clamp	4	1500	no	brass	nickel	bulkhead feedthrough / panel sealed / panel nut torque = 370 Ncm

TNC series

(temperature range = -65 / +165 °C)

p/n	interface	geometry	attachment	frequency (GHz)	voltage withstanding (V rms)	captive cent. cont.	material	finish	miscellaneous
R143 008 000	plug	straight	clamp	11	1500	no	brass	nickel	
R143 073 000	plug	straight	full crimp	11	1500	yes	brass	nickel	plastic boot compatible
R143 156 000	plug	right angle	clamp	11	1500	yes	brass	nickel	
R143 207 000	jack	straight	clamp	11	1500	no	brass	nickel	
R143 258 000	jack	straight	clamp	11	1500	no	brass	nickel	square flange 17.5 mm / 4 holes M2.5 x 0.45
R143 325 000	jack	straight	clamp	11	1500	yes	brass	nickel	bulkhead feedthrough / panel sealed / panel nut torque = 370 Ncm

N series

(advised torque wrench for plugs with 6 fl at coupling nut : R282 303 020 / 18 mm / 170 Ncm)

(temperature range = -55 / +155 °C)

p/n	interface	geometry	attachment	frequency (GHz)	voltage withstanding (V rms)	captive cent. cont.	material	finish	miscellaneous
R161 006 020	plug	straight	clamp	11	1500	yes	brass	BBR	hex. coupl. nut : 20 mm / flats coupl. nut torque = 170 Ncm
R161 083 000	plug	straight	full crimp	11	1500	yes	brass	BBR	plastic boot compatible
R161 083 137	plug	straight	full crimp	11	1500	yes	brass	BBR	low intermodulation / plastic boot compatible / mixed coupling nut : manual and 6 flat
R161 183 000	plug	right angle	crimp	11	1500	yes	brass	BBR	plastic boot compatible
R161 183 137	plug	right angle	crimp	11	1500	yes	brass	BBR	low intermodulation / plastic boot compatible / mixed coupling nut : manual and 6 flat
R161 238 000	jack	straight	full crimp	11	1500	yes	brass	BBR	plastic boot compatible
R161 283 000	jack	straight	full crimp	11	1500	yes	brass	BBR	square flange 25.4 mm / plastic boot compatible / 4 holes dia. 3.3 mm
R161 329 200	jack	straight	full crimp	11	1500	yes	brass	BBR	bulkhead feedthrough / plastic boot compatible / panel sealed / panel nut torque = 500 Ncm

QN series

(temperature range = -55 / +125 °C)

p/n	interface	geometry	attachment	frequency (GHz)	voltage withstanding (V rms)	captive cent. cont.	material	finish	miscellaneous
R164 076 000	plug	straight	full crimp	6	1500	yes	brass	BBR	
R164 176 000	plug	right angle	crimp	6	1500	yes	brass	BBR	
R164 283 000	jack	straight	crimp	6	1500	yes	brass	BBR	square flange 25.4 mm / 4 holes 3.3 mm
R164 329 200	jack	straight	full crimp	6	1500	yes	brass	BBR	bulkhead feedthrough / panel sealed / panel nut torque = 500 Ncm

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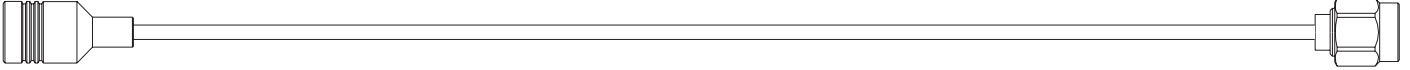


program, please read page 88.

Note : the above information is only listing recommended part-numbers. For other connectors or more information, please consult the general coax connector catalog, our web site or your current sales contact.

CABLE ASSEMBLIES

CONNECTORS COMPATIBLE WITH FLEXIBLE CABLES 5/50 D (RG142 - RG223 - RG400)



C series

(temperature range = -55 / +155 °C)

p/n	interface	geometry	attachment	frequency (GHz)	voltage with-standing (V rms)	captive cent. cont.	material	finish	miscellaneous
R166 005 000	plug	straight	clamp	3	1500	no	brass	nickel	
R166 256 000	jack	straight	clamp	3	1500	no	brass	nickel	square flange 25.4 mm / 4 holes dia 3.2 mm
R166 326 000	jack	straight	clamp	3	1500	no	brass	nickel	bulkhead feedthrough / panel sealed / panel nut torque = 500 Ncm

HNseries

(temperature range = -55 / +155 °C)

p/n	interface	geometry	attachment	frequency (GHz)	voltage with-standing (V rms)	captive cent. cont.	material	finish	miscellaneous
R176 006 000	plug	straight	clamp	3	2500	no	brass	nickel	

plastic boots (for BNC, TNC and N compatible connectors) (PVC / length = 67.54 mm)

p/n	color
R280 570 000 	black
R280 571 000 	red
R280 572 000 	green
R280 573 000 	blue
R280 574 000 	yellow
R280 575 000 	grey
R280 576 000 	white
R280 577 000 	brown
R280 578 000 	orange
R280 579 000 	purple
R280 580 000	translucent

heatshrink sleeves : a large range of heatshrink sleeves and labels is available : please consult us.

 : for the



program, please read page 88.

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