

MCX Series - M5 (50 Ω) / M7 (75 Ω)



MCX

FEATURES :

- Push-on / pull-off mating
- Weight and space saving
- Available for both 50 Ω and 75 Ω
- Compliant to CECC22220
- 30% Smaller than SMB

APPLICATIONS :

- Base Stations
- Power Amplifiers
- Instrumentation
- Broadband Modules
- Cellular & GPS
- Wireless Network Antennas



ELECTRICAL SPECIFICATIONS

<u>Impedance</u>	<u>50 Ω / 75 Ω</u>
<u>Frequency Range</u>	<u>0 – 6 GHz / 0-3 GHz</u>
<u>Working Voltage</u>	<u>\leq 335 VRMS at sea level</u>
<u>Dielectric Withstanding Voltage</u>	<u>100 VRMS at sea level</u>
<u>VSWR</u>	<u>Straight : 1.3 max</u>
	<u>Right Angle : 1.5 max</u>
<u>Contact Resistance</u>	<u>Center Contact : \leq 5 mΩ</u>
	<u>Outer Contact : \leq 2.5 mΩ</u>
<u>Insulator Resistance</u>	<u>1000 MΩ min.</u>

MATERIAL SPECIFICATIONS

<u>Body and outer contacts</u>	<u>Brass, gold plated</u>
<u>Male contact</u>	<u>Brass, gold plated</u>
<u>Female contact</u>	<u>Beryllium Copper, gold plated</u>
<u>Insulator</u>	<u>PTFE</u>
<u>Crimp ferrule</u>	<u>Copper or brass, gold plated</u>

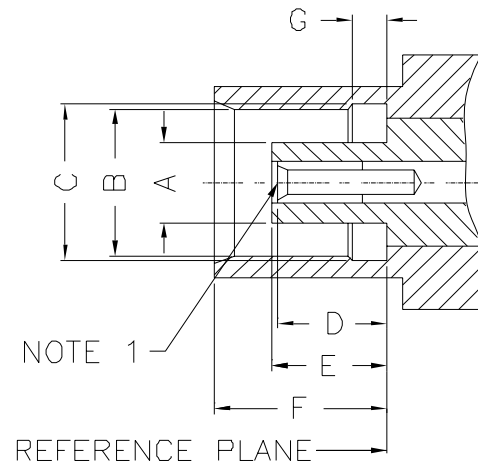
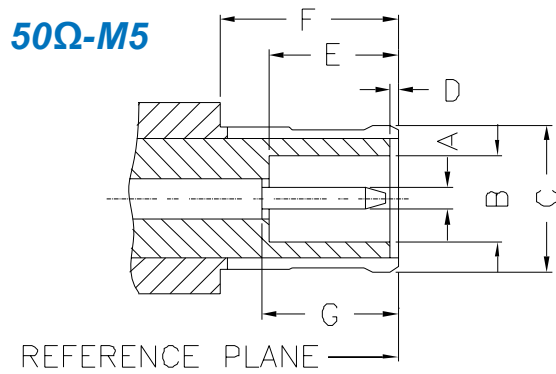
MECHANICAL SPECIFICATIONS

<u>Contact Retention</u>	<u>\geq 2.3 lbs</u>
<u>Engagement Force</u>	<u>\leq 5.6 lbs</u>
<u>Disengagement Force</u>	<u>\geq 2.3 lbs</u>
<u>Durability (matings)</u>	<u>500 cycles min.</u>

ENVIRONMENTAL

<u>Temperature Range</u>	<u>-55°C to +155°C</u>
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INTERFACE MATING DIMENSIONS

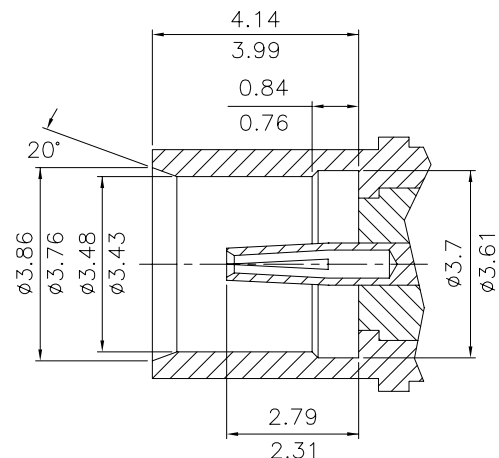
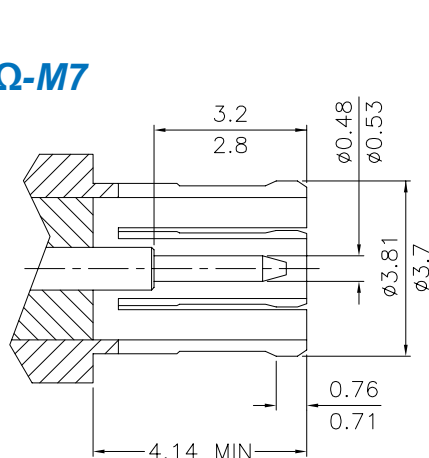


PLUG		
Letter	Millimeters	
	Minimum	Maximum
A	0.48	0.53
B	2.00	2.07
C	3.66	3.76
D	0.00	0.30
E	2.81	3.20
F	4.16	-
G	2.81	3.20

JACK		
Letter	Millimeters	
	Minimum	Maximum
A	1.80	1.97
B	3.43	3.48
C	3.61	3.75
D	2.31	2.79
E	2.61	2.79
F	4.00	4.12
G	0.75	0.85

Note 1 : I.D. to meet VSWR and contact resistance when mated with 0.48/0.53 mm dia. pin.

75Ω-M7

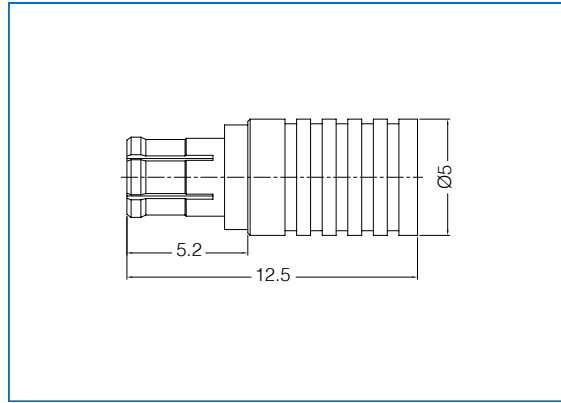


**Termination Plug
1 Watt**

MYM11A-TERG01

Impedance $Y = 5 = 50 \text{ Ohm}$

$Y = 7 = 75 \text{ Ohm}$



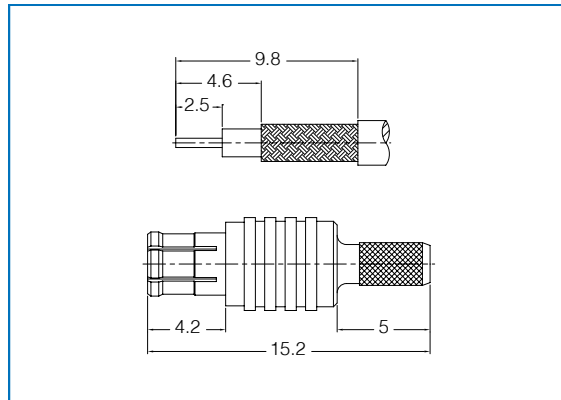
Straight Plug, Crimp

MYM11A-AXXG01

Cable group : 01, 02, 03, 04, 05, 06

Impedance $Y = 5 = 50 \text{ Ohm}$

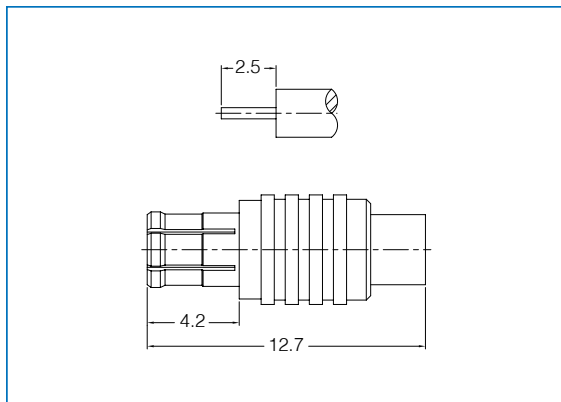
$Y = 7 = 75 \text{ Ohm}$



Straight Plug, Solder

M5M11B-AXXG01

Cable group : 28, 29, 33



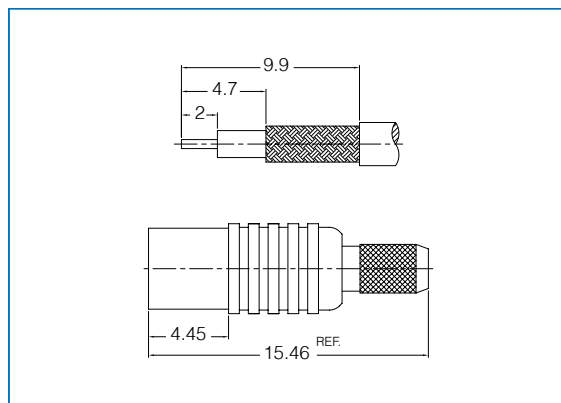
Straight Jack, Crimp

MYF11A-AXXG01

Cable group : 01, 02, 03, 04, 05, 06

Impedance $Y = 5 = 50 \text{ Ohm}$

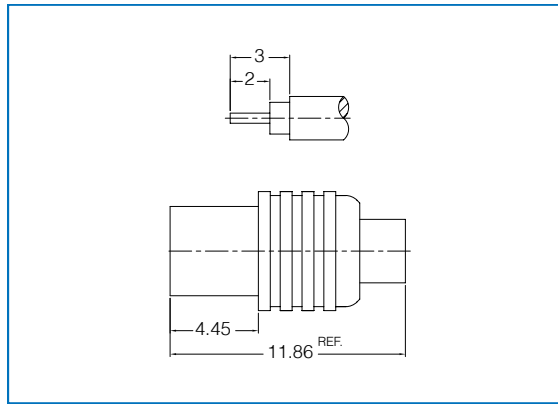
$Y = 7 = 75 \text{ Ohm}$



Straight Jack, Solder

M5F11B-AXXG01

Cable group : [28](#), [29](#), [33](#)



Cable Groups

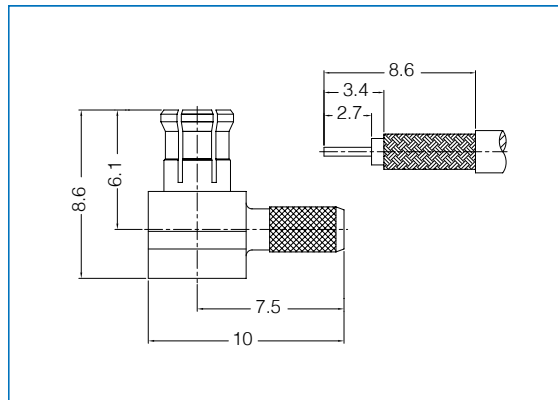
Right Angle Plug, Crimp

MYM21A-AXXG01

Cable group : [01](#), [02](#), [03](#), [04](#), [05](#), [06](#)

Impedance $Y = 5 = 50 \text{ Ohm}$

$Y = 7 = 75 \text{ Ohm}$

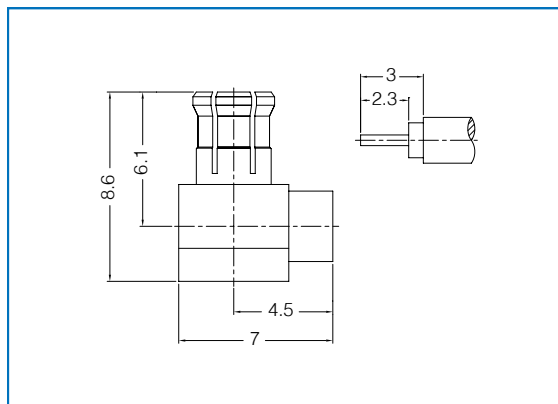


A01 - 50Ω - RG-178, 196
A02 - 50Ω - RG-174, 188A, 316, LMR100
A03 - 75Ω - RG-179, 187
A04 - 50Ω - RD-316U
A05 - 75Ω - RD-179U
A06 - 50Ω - RG-58, 58A, 58C, 141, LMR195
A07 - 50Ω - RG-55, 142, 223, 400
A08 - 50Ω - LMR200
A09 - 50Ω - RG-59U Plenum
A10 - 75Ω - RG-59, 62
A11 - 75Ω - Belden 1505A
A12 - 75Ω - Belden 8281
A13 - 75Ω - RG-59U Quad Shield
A14 - 75Ω - RG-59U Plenum

Right Angle Plug, Solder

M5M21B-AXXG01

Cable group : [28](#), [29](#), [33](#)



A15 - 75Ω - RG-6
A16 - 50Ω - 8X, LMR240
A17 - 50Ω - LMR400, Belden 9913
A18 - 50Ω - RG-8, 8A, 9, 213, 214
A19 - 75Ω - RG6U, Quad
A20 - 75Ω - RG-11
A21 - 75Ω - Belden 1694A
A22 - 75Ω - AT&T 734A
A23 - 75Ω - AT&T 735A
A24 - 50Ω - LMR800
A25 - 75Ω - Belden 1695A
A26 - 75Ω - Belden 8218
A27 - 75Ω - BT-3002
A28 - 50Ω - 0885, 0885RF, RG-405U

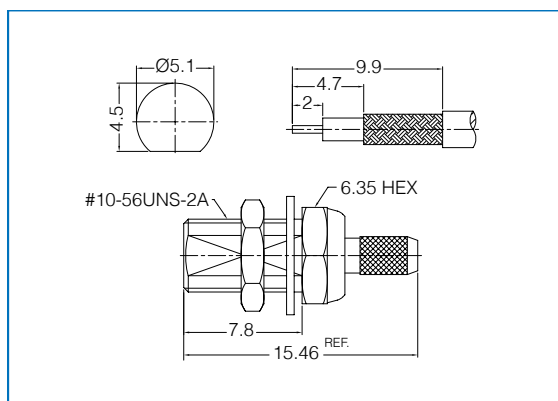
Bulkhead Crimp Jack

MYF31A-AXXG01

Cable group : [01](#), [02](#), [03](#), [04](#), [05](#), [06](#)

Impedance $Y = 5 = 50 \text{ Ohm}$

$Y = 7 = 75 \text{ Ohm}$

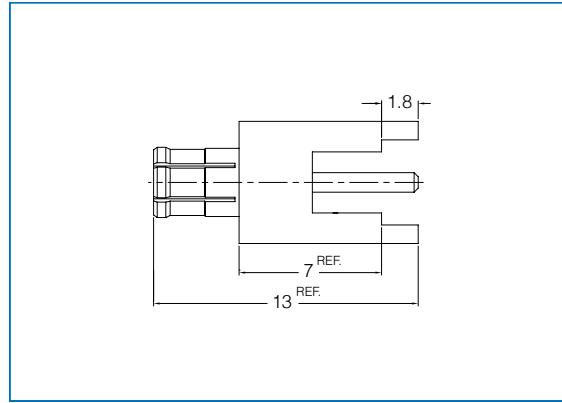


A29 - 50Ω - 141SR, RG-402U
A30 - 50Ω - 1.13mm OD micro
A31 - 50Ω - 1.32mm OD micro
A32 - 50Ω - 1.37mm OD micro
A33 - 50Ω - 047SR cable
A34 - 75Ω - FLEX 2
A35 - 75Ω - FLEX 3
A37 - 75Ω - FLEX 5
A38 - 50Ω - 3D-2V
A39 - 50Ω - 5D-2V
A40 - 50Ω - 8D-2V
A41 - 50Ω - 5D-FB, LMR300
A42 - 50Ω - 1/4" Superflex
A43 - 50Ω - 1/2" Superflex

**Straight Plug, PCB Mount
High Mount**

M5M11B-TPCG01

* Mounting hole : "B"



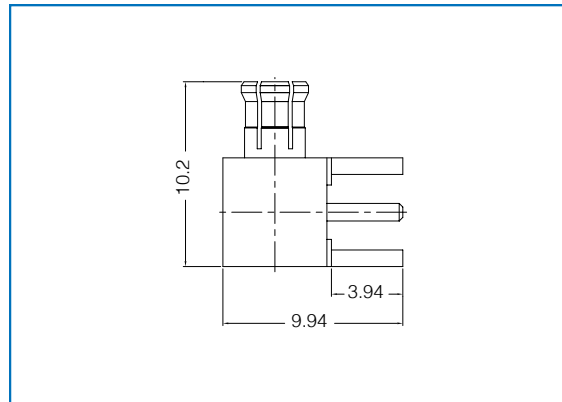
Right Angle Plug, PCB Mount

MYM21A-TPCG01

* Mounting hole : "B"

Impedance $Y = 5 = 50 \text{ Ohm}$

$Y = 7 = 75 \text{ Ohm}$



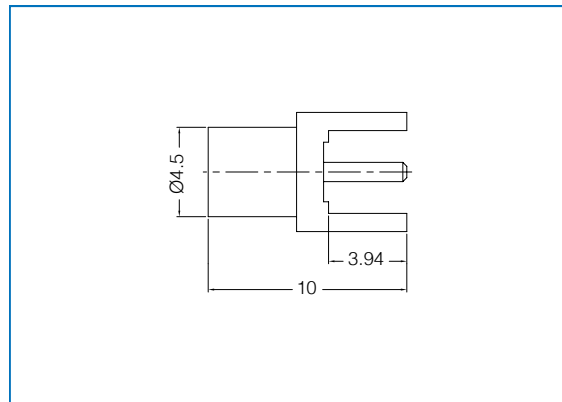
Straight Jack, PCB Mount

MYF11A-TPCG01

* Mounting hole : "B"

Impedance $Y = 5 = 50 \text{ Ohm}$

$Y = 7 = 75 \text{ Ohm}$



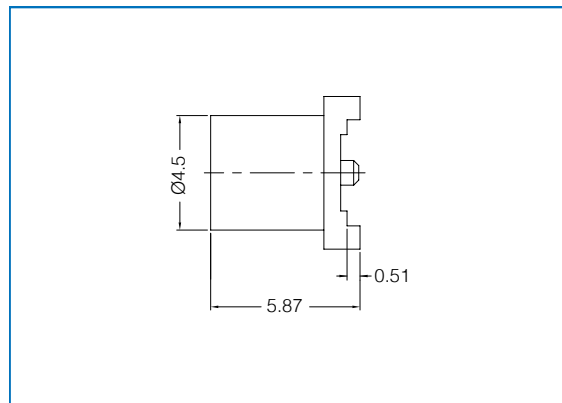
**Straight Jack,
PCB Surface Mount**

MYF11A-SPCG01

* Mounting Details : "B1"

Impedance $Y = 5 = 50 \text{ Ohm}$

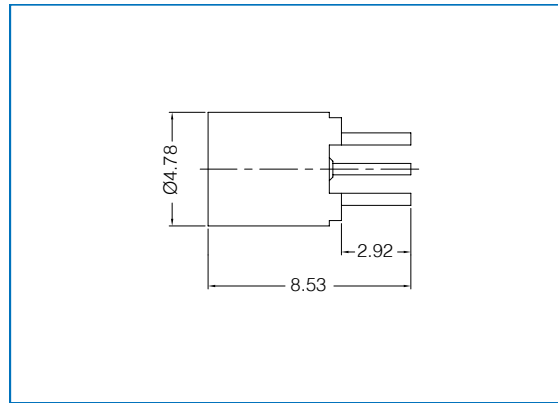
$Y = 7 = 75 \text{ Ohm}$



**Straight Jack, PCB Mount
Funnel Interface**

M5F12A-TPCG01

* Mounting hole : "B"



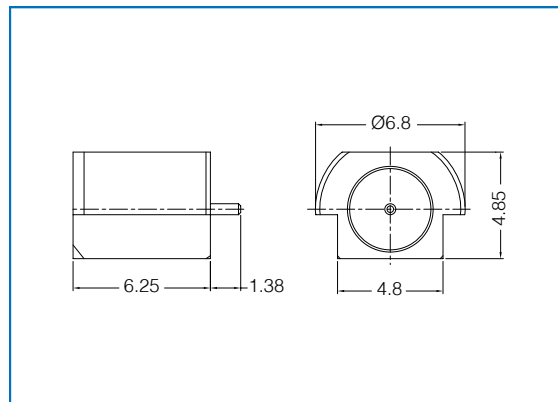
Straight Jack, Edgecard Mount

MYF11A-EPCG01

* Mounting Details : "See Drawing"

Impedance $Y = 5 = 50 \text{ Ohm}$

$Y = 7 = 75 \text{ Ohm}$



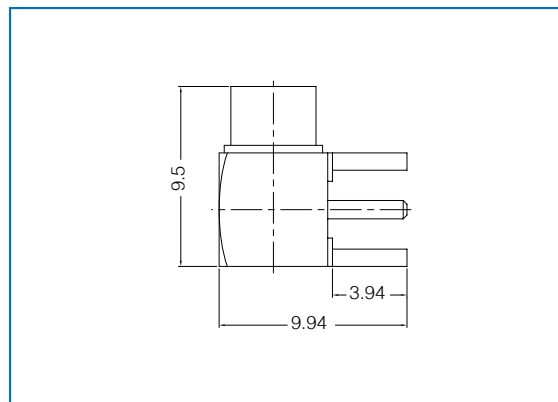
Right Angle Jack, PCB Mount

MYF21A-TPCG01

* Mounting hole : "B"

Impedance $Y = 5 = 50 \text{ Ohm}$

$Y = 7 = 75 \text{ Ohm}$



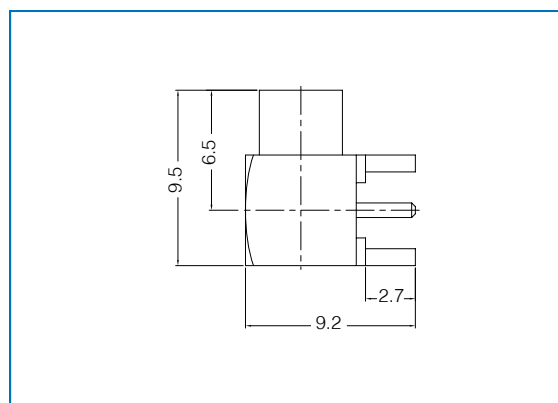
**Right Angle Jack, PCB Mount
Thin Board Version**

MYF21B-TPCG01

* Mounting hole : "B"

Impedance $Y = 5 = 50 \text{ Ohm}$

$Y = 7 = 75 \text{ Ohm}$



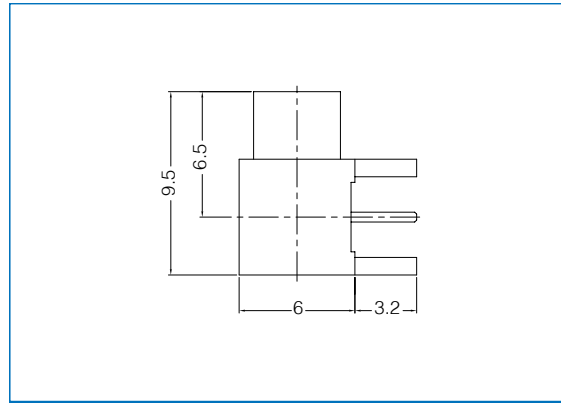
**Right Angle Jack, PCB Mount
Low Profile Version**

MYF21C-TPCG01

* Mounting hole : "B"

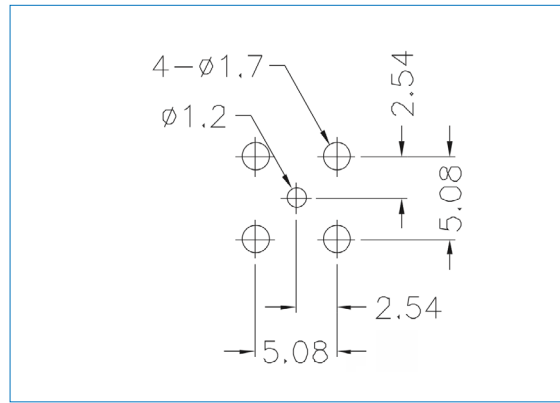
Impedance $Y = 5 = 50 \text{ Ohm}$

$Y = 7 = 75 \text{ Ohm}$

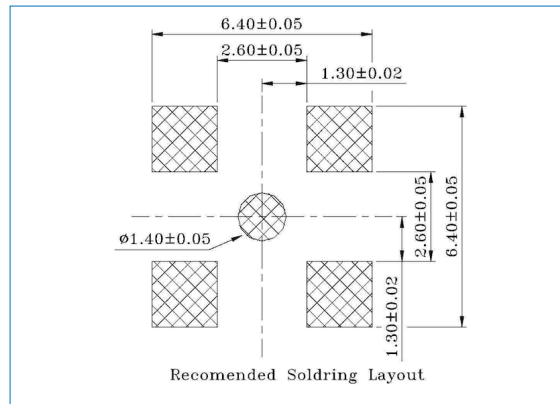


PCB Layouts

Layout-B



Layout-B1

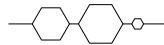




Application Chart of Crimping Dies

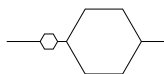


Die Set No. 1317



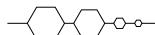
Hex Sizes : .213 / .255 / .068
Ferrule O.D. : 7.5mm / 6.5mm
Contact O.D. : 2.1mm
Cable Group : RG-58, 59, 62, 223, LMR-195, LMR-200, LMR-240
For : BNC, TNC, N, Mini-UHF

Die Set No. 1319



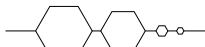
Hex Sizes : .10 / .429
Ferrule O.D. : 12.4mm
Contact O.D. : 3.0mm
Cable Group : RG-8, 11, 213, 214
For : N

Die Set No. 1346



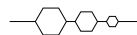
FHex Sizes : .213 / .178 / .068 / .042
ferrule O.D. : 6.5mm / 5.3mm
Contact O.D. : 2.1mm / 1.35mm
Cable Group : RG-58, 174, Belden-1855A, Belden-8218, AT&T 735A, BT-3002
For : BNC, True 75Ω BNC, TNC, N, SMA

Die Set No. 1347



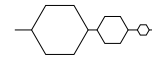
Hex Sizes : .324 / .255 / .068 / .042
Ferrule O.D. : 9.5mm / 7.5mm
Contact O.D. : 2.1mm / 1.35mm
Cable Group : RG-6, 59, Belden-8241, Belden-8281, AT&T 734A, LMR-240
For : BNC, True 75Ω BNC, TNC, N, SMA

Die Set No. 1351



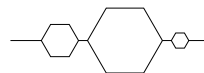
Hex Sizes : .178 / .128 / .068
Ferrule O.D. : 5.3mm / 3.9mm
Contact O.D. : 2.1mm
Cable Group : RG-174, 188, 196, 316, 179, LMR-100
For : BNC, TNC, SMA, SMB, SMC, MCX, MMCX

Die Set No. 1352



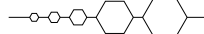
Hex Sizes : .324 / .178 / .068
Ferrule O.D. : 9.5mm / 5.3mm
Contact O.D. : 2.1mm
Cable Group : RG-174, 179, 316, LMR-100, Belden-8281, RG-6, LMR-300
For : BNC, TNC, N, SMA, SMB, SMC

Die Set No. 1353



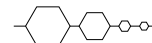
Hex Sizes : .213 / .429 / .10
Ferrule O.D. : 6.5mm / 12.4mm
Contact O.D. : 3.0mm
Cable Group : RG-58, 8, 223, LMR-195, LMR-200
For : N

Die Set No. 1355



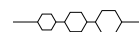
Hex Sizes : .052 / .068 / .10 / .213 / .255
Ferrule O.D. : 7.5mm / 6.5mm
Contact O.D. : 3.0mm / 2.1mm / 1.5mm
Cable Group : RG-58, 59, 62, 223, LMR-195
For : BNC, TNC, SMA, SMB, SMC, Mini-UHF, N

Die Set No. 1376



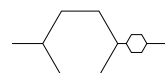
Hex Sizes : .255 / .178 / .068 / .052
Ferrule O.D. : 7.5mm / 5.3mm
Contact O.D. : 2.1mm / 1.5mm
Cable Group : RG-59, 62, 223, 174, 179, 316, LMR-100
For : BNC, TNC, N, SMA, SMB, SMC

Die Set No. 1377



Hex Sizes : .105 / .128 / .151
Ferrule O.D. : 4.4mm / 3.9mm
Contact O.D. : 3.0mm
Cable Group : RG-178, 316, 179, RD-179, RD-316, LMR-100
For : SMA, SMB, SMC, MCX, MMCX

Die Set No. 1380



Hex Sizes : .429 / .118
Ferrule O.D. : 12.4mm
Contact O.D. : 3.5mm
Cable Group : Belden-9913, LMR-400
For : BNC, TNC, N

Reflection → Conversion Table

VSWR	Rf	RL (dB)
1.010	0.005	46.06
1.020	0.0099	40.09
1.030	0.0148	36.61
1.040	0.0196	34.15
1.050	0.0244	32.26
1.060	0.0291	30.71
1.070	0.0338	29.42
1.080	0.0385	28.30
1.090	0.0431	27.32
1.100	0.0476	26.44
1.110	0.0521	25.66
1.120	0.0566	24.94
1.130	0.061	24.29
1.140	0.0654	23.69
1.150	0.0698	23.13
1.160	0.0741	22.61
1.170	0.0783	22.12
1.180	0.0826	21.66
1.190	0.0868	21.23
1.200	0.0909	20.83
1.210	0.095	20.44
1.220	0.0991	20.08
1.230	0.1031	19.73
1.240	0.1071	19.40
1.250	0.1111	19.08
1.260	0.115	18.78
1.270	0.1189	18.49
1.280	0.1228	18.22
1.290	0.1266	17.95
1.300	0.1304	17.69
1.310	0.1342	17.45
1.320	0.1379	17.21
1.330	0.1416	16.98
1.340	0.1453	16.75
1.350	0.1489	16.54
1.360	0.1525	16.33
1.370	0.1561	16.13
1.380	0.1597	15.94
1.390	0.1632	15.75

RL (dB)	Rf	VSWR
50.00	0.0032	1.006
49.00	0.0035	1.007
48.00	0.004	1.008
47.00	0.0045	1.009
46.00	0.005	1.010
45.00	0.0056	1.011
44.00	0.0063	1.013
43.00	0.0071	1.014
42.00	0.0079	1.016
41.00	0.0089	1.018
40.00	0.01	1.020
39.00	0.0112	1.023
38.00	0.0126	1.025
37.00	0.0141	1.029
36.00	0.0158	1.032
35.00	0.0178	1.036
34.00	0.02	1.041
33.00	0.0224	1.046
32.00	0.0251	1.052
31.00	0.0282	1.058
30.00	0.0316	1.065
29.00	0.0355	1.074
28.00	0.0398	1.083
27.00	0.0447	1.094
26.00	0.0501	1.106
25.00	0.0562	1.119
24.00	0.0631	1.135
23.00	0.0708	1.152
22.00	0.0794	1.173
21.00	0.0891	1.196
20.00	0.1	1.222
19.00	0.1122	1.253
18.00	0.1259	1.288
17.00	0.1413	1.329
16.00	0.1585	1.377
15.00	0.1778	1.433
14.00	0.1995	1.499
13.00	0.2239	1.577
12.00	0.2512	1.671

Rf	RL (dB)	VSWR
0.005	46.02	1.010
0.010	40.00	1.020
0.015	36.48	1.030
0.020	33.98	1.041
0.025	32.04	1.051
0.030	30.46	1.062
0.035	29.12	1.073
0.040	27.96	1.083
0.045	26.94	1.094
0.050	26.02	1.105
0.055	25.19	1.116
0.060	24.44	1.128
0.065	23.74	1.139
0.070	23.10	1.151
0.075	22.50	1.162
0.080	21.94	1.174
0.085	21.41	1.186
0.090	20.92	1.198
0.095	20.45	1.210
0.100	20.00	1.222
0.105	19.58	1.235
0.110	19.17	1.247
0.115	18.79	1.260
0.120	18.42	1.273
0.125	18.06	1.286
0.130	17.72	1.299
0.135	17.39	1.312
0.140	17.08	1.326
0.145	16.77	1.339
0.150	16.48	1.353
0.155	16.19	1.367
0.160	15.92	1.381
0.165	15.65	1.395
0.170	15.39	1.410
0.175	15.14	1.424
0.180	14.88	1.439
0.185	14.66	1.454
0.190	14.42	1.469
0.195	14.20	1.484

VSWR = Voltage Standing Wave Ratio Rf = Reflection Coefficient RL = Return Loss