High Power RF
Cables, Connectors & Assemblies



- Semi-Conductor Manufacturing Equipment
- Flat Panel Manufacturing Equipment
- Solar Panel Manufacturing Equipment
- High Power Lasers
- High Power Radars
- TV/FM Broadcast
- Magnetic Resonance Imaging
- Other High Power RF Applications

TIMES
MICROWAVE SYSTEMS
An Amphenol Company

High Power Coaxial Cable, Connectors & Assemblies

Times offers a broad range of cables, connectors and assemblies for high power RF transmission. Applications such as magnetic resonance imaging (MRI), semi-conductor manufacturing equipment, flat panel manufacturing equipment, broadcast and high power lasers and radar each have their own electrical and mechanical requirements. With our broad range of solutions and capability of producing custom cables and connectors, Times is uniquely positioned to help with all of your high power RF transmission applications.

Although Times Microwave Systems is known for providing precision cable assemblies for microwave applications up to 40 GHz, we are also the leading provider of cables and assemblies for high power, low frequency applications. Our broad range of manufacturing capabilities enables us to offer rugged, flexible cables and cable assemblies, that can operate in high ambient temperatures and provide environmental resistance, while handling both high average and peak powers. Constructions are available to meet requirements for low loss, high RF shielding, and low VSWR.

Since each application requires a different set of performance characteristics, having a wide range of cables to choose from allows the trade-offs to be considered and the best cable for the application to be chosen. We produce cables with dielectrics of solid PE and PTFE, foam PE and expanded PTFE; outer conductors of round wire, flat wire and composite construtions; and jackets of PE, FEP, PVC, Urethane, Nomex®, Kapton® and other materials.

Connector Selection

At the relatively low frequencies and high powers typically encountered in these applications, considerations for the best interface selection are very different than in microwave applications. Impedance uniformity through the interface is not as critical, but high contact forces, low contact resistance and a large interface diameter are very important. From a performance point of view, EIA flange connectors are the ideal choice with their bolt-together outer contacts and inside spring finger center-contacts. Their disadvantages include large size, high cost and time-consuming installation. Other good choices include LC's and 7/16 DIN's. Frequently, the equipment being connected to dictates the interface. Some interfaces that Times Microwave Systems provide include:

- C
- N
- HN
- 7-16 DIN
- 1-5/8" EIA
- SC
- QDS
- LC
- 7/8" EIA
- 3-1/8"EIA
- Proprietary LC quick disconnect interface

Cable Assemblies

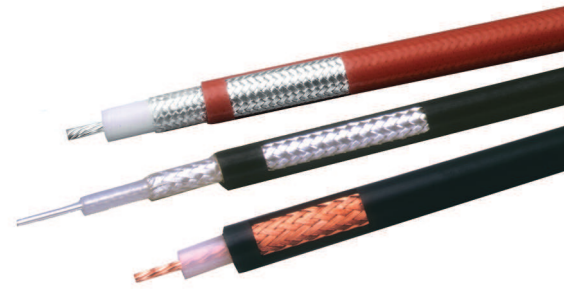
Our capability to manufacture cables and connectors and our expertise in assembling and testing them enable us to design custom cable assemblies for your application. Built to exacting standards, we design our cable assemblies for reliability in the most extreme operating conditons. Assemblies can be matched in phase length or supplied in specific electrical lengths with customer required markings added. Complete test data on VSWR, insertion loss, corona and other parameters can be provided as required.



HP Cables

Cable Feature:

Flexibility	Very Good
Cost	High
Attenuation	Medium
Power Handling	Very High
Temperature	High
Connector Availability	Good



	HP-393	HP-226	HP-600	HP-218	HP-900	HP-1200
AA Drawing Number	AA-9963	AA-9021	AA-11441	AA-9290	AA-11229	AA-11419
Part Number	510-0019	51848	510-0070	51928	54262	54359
Physical Specifications						
Description	in (mm)	in (mm)	in (mm)	in (mm)	in (mm)	in (mm)
Center Conductor	SC	SC	SC	SC	BC Tube	BC Tube
	0.094 (2.39)	0.126 (3.20)	0.152 (3.86)	0.230 (5.84)	0.227 (5.77)	0.308 (7.82)
Dielectric	PTFE	PTFE	PTFE	PTFE	PTFE	PTFE
	0.285 (7.24)	0.370 (9.40)	0.455 (11.56)	0.680 (17.27)	0.680 (17.27)	0.920 (23.27)
Inner Shield	TC	TC	TC	TC	MT	APA
	0.295 (7.49)	0.400 (10.13)	0.488 (12.40)	0.710 (18.11)	0.686 (17.42)	0.932 (23.67)
Interlayer	/	/	/	/	/	/
Outer Shield	TC	TC	TC	TC	TC	TC
	0.330 (8.38)	0.430 (10.87)	0.520 (13.23)	0.740 (18.95)	0.732 (18.59)	0.980 (24.89)
Jacket	FEP	FEP	FEP	Nomex/PTFE	Nomex/Kapton	PTFE
	0.390 (9.91)	0.490 (12.32)	0.590 (14.99)	0.790 (19.94)	0.775 (19.69)	1.050 (26.67)
Mechanical Specifications						
Bend Radius	For high power application, the minimum bend radius is recommended as 10 times of cable diameter.					
Weight	0.175 lb/ft	0.240 lb/ft	0.325 lb/ft	0.375 lb/ft	0.475 lb/ft	0.740 lb/ft
Operating Temperature Range	-55/+200°C	-55/+200°C	-55/+200°C	-55/+200°C	-55/+200°C	-40/+125°C
Electrical Specifications						
Impedance	50 ohms	50 ohms	50 ohms	50 ohms	50 ohms	50 ohms
Shielding Effectiveness	60 dB	60 dB	60 dB	60 dB	90 dB	60 dB
Dielectric Constant	1.98	1.98	1.98	1.73	1.73	1.73
Velocity of Propagation	71.0%	71.0%	71.0%	76.0%	76.0%	76.0%
Capacitance	28.6pF/ft	28.6pF/ft	29.0pF/ft	26.7pF/ft	26.7pF/ft	26.7pF/ft
DC Voltage (kV)	1.9	6.9	8.3	9.5	9.5	12.5
Attenuation: dB/100ft (100m)	(+25°C Ambient)					
13.56 MHz	0.72 (2.36)	0.56 (1.83)	0.40 (1.20)	0.26 (0.86)	0.21 (0.69)	0.16 (0.52)
50 MHz	1.41 (4.63)	1.10 (3.60)	0.70 (2.40)	0.51 (1.67)	0.41 (1.35)	0.30 (0.98)
100 MHz	2.03 (6.66)	1.58 (5.20)	1.39 (4.56)	0.73 (2.38)	0.59 (1.94)	0.44 (1.44)
1000 MHz	7.20 (23.75)	5.81 (19.1)	4.20 (13.78)	2.42 (7.94)	1.99 (6.53)	1.49 (4.89)
1500 MHz	9.20 (30.18)	7.44 (24.4)	5.50 (18.04)	3.02 (9.89)	2.49 (8.17)	1.89 (6.20)
2000 MHz	10.90 (35.75)	8.90 (29.19)	6.70 (20.99)	3.50 (11.48)	2.90 (9.60)	2.23 (7.31)
2500 MHz	12.50 (41.00)	10.30 (33.78)	7.80 (25.58)	4.00 (13.12)	3.30 (10.82)	2.56 (8.40)
3000 MHz	14.00 (46.92)	11.50 (37.72)	8.80 (28.86)	4.40 (14.43)	3.70 (12.14)	2.84 (9.32)
K1	0.19200	0.14676	0.13099	0.07077	0.05722	0.04190
K2	0.00117	0.00117	0.00117	0.00018	0.00018	0.00018
Power (kW) (+25°C Ambient; Sea Level)						
13.56 MHz	15.02	21.59	24.50	62.89	76.26	138.14
50 MHz	7.68	10.97	12.40	32.48	39.30	70.92
100 MHz	5.34	7.59	8.57	22.81	27.54	49.54
1000 MHz	1.51	2.08	2.31	6.86	8.18	14.38
1500 MHz	1.20	1.63	1.80	5.51	6.55	11.44
2000 MHz	1.01	1.37	1.50	4.71	5.58	9.69
2500 MHz	0.88	1.18	1.30	4.17	4.91	8.51
3000 MHz	0.79	1.05	1.16	3.76	4.43	7.64

* SC = Silver Plated Copper
* BC = Bare Copper
* TC = Tinned Copper

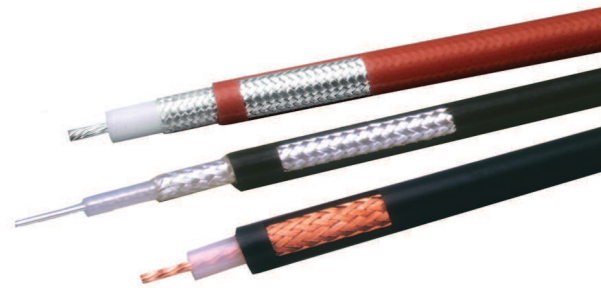
* MT = Metallized Composite Tapes

Note: HP-393 is marked RG-393-NPP-SN

HPL Cables

Cable Feature:

Flexibility	Very Good
Cost	Medium/High
Attenuation	Medium
Power Handling	High
Temperature	Medium
Connector Availability	Good



	HPL-393	HPL-226	HPL-600	HPL-218	HPL-1200
AA Drawing Number	AA-11461	AA-11460	AA-11458	AA-11459	AA-11475
Part Number	510-0079	510-0078	510-0080	510-0077	54367
Physical Specifications					
Description	in (mm)	in (mm)	in (mm)	in (mm)	in (mm)
Center Conductor	Stranded BC	Stranded BC	Stranded BC	Stranded BC	Stranded BC
	0.094 (2.39)	0.117 (2.97)	0.152 (3.86)	0.235 (5.97)	0.314 (7.98)
Dielectric	PTFE	PTFE	PTFE	PTFE	PTFE
	0.285 (7.24)	0.370 (9.40)	0.455 (11.56)	0.68 (17.27)	0.920 (23.37)
Inner Shield	TC	TC	TC	TC	TC
	0.314 (7.98)	0.400 (10.16)	0.488 (12.40)	0.714 (18.14)	0.966 (24.54)
Interlayer	/	/	/	/	/
Outer Shield	TC	TC	TC	TC	TC
	0.340 (8.64)	0.427 (10.85)	0.520 (13.21)	0.745 (18.92)	1.012 (25.70)
Jacket	TPV-TPE	TPV-TPE	TPV-TPE	TPV-TPE	TPV-TPE
	0.430 (10.92)	0.515 (13.08)	0.610 (15.49)	0.845 (21.46)	1.200 (30.48)
Mechanical Specifications					
Bend Radius	For high power application, the minimum bend radius is recommended as 10 times of cable diameter.				
Weight	0.185 lb/ft	0.240 lb/ft	0.310 lb/ft	0.610 lb/ft	1.188 lb/ft
Operating Temperature Range	-55/+125°C	-55/+125°C	-55/+125°C	-55/+125°C	-55/+125°C
Electrical Specifications					
Impedance	50 ohms	50 ohms	50 ohms	50 ohms	50 ohms
Shielding Effectiveness	60 dB	60 dB	60 dB	60 dB	60 dB
Dielectric Constant	1.98	1.98	1.98	1.73	1.73
Velocity of Propagation	71.0%	71.0%	71.0%	76.0%	76.0%
Capacitance	28.8pF/ft	28.8pF/ft	28.9pF/ft	26.8pF/ft	29.0pF/ft
DC Voltage (kV)	5.1	6.4	8.3	9.5	12.5
Attenuation: dB/100ft (100m) (+25°C Ambient)					
13.56 MHz	0.84 (2.76)	0.59 (1.94)	0.51 (1.67)	0.29 (0.95)	0.24 (0.80)
50 MHz	1.62 (5.31)	1.15 (3.77)	1.00 (3.28)	0.57 (1.87)	0.47 (1.55)
100 MHz	2.32 (7.61)	1.66 (5.45)	1.45 (4.76)	0.80 (2.62)	0.67 (2.21)
1000 MHz	7.87 (25.81)	5.77 (18.93)	5.37 (17.61)	2.63 (8.63)	2.26 (7.41)
1500 MHz	9.85 (32.31)	7.28 (23.88)	6.90 (22.63)	3.27 (10.73)	2.82 (9.24)
2000 MHz	11.60 (38.06)	8.62 (28.28)	8.29 (27.19)	3.81 (12.50)	3.30 (10.83)
2500 MHz	13.16 (43.18)	9.85 (32.32)	9.57 (31.39)	4.30 (14.10)	3.74 (12.27)
3000 MHz	14.62 (47.97)	10.99 (36.06)	10.80 (35.43)	4.75 (15.58)	4.14 (13.60)
K1	0.22414	0.15766	0.13292	0.07859	0.06565
K2	0.00078	0.00078	0.00117	0.00015	0.00018
Power (kW) (+25°C Ambient; Sea Level)					
13.56 MHz	11.58	18.09	24.77	54.06	65.29
50 MHz	5.97	9.28	12.54	27.99	33.70
100 MHz	4.18	6.47	8.66	19.69	23.64
1000 MHz	1.24	1.87	2.34	6.00	7.08
1500 MHz	0.99	1.48	1.83	4.84	5.68
2000 MHz	0.85	1.25	1.52	4.15	4.85
2500 MHz	0.75	1.10	1.32	3.68	4.28
3000 MHz	0.67	0.99	1.17	3.34	3.86

* SC = Silver Plated Copper
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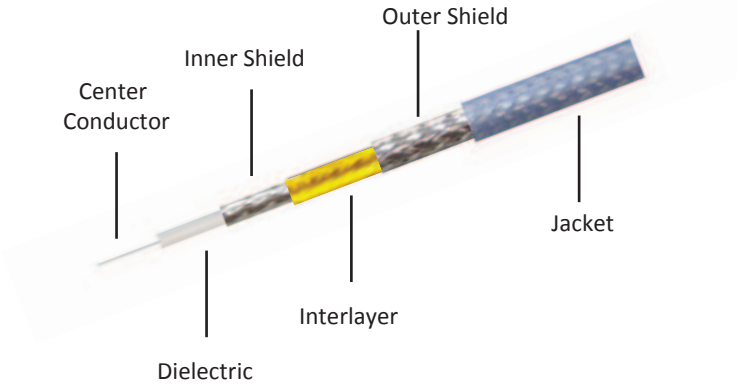
* MT = Metallized Composite Tapes

Note: HP-393 is marked RG-393-NPP-SN

SFT Cables

Cable Feature:

Flexibility	Good/Very Good
Cost	Very High
Attenuation	Low
Power Handling	Very High
Temperature	High
Connector Availability	Good

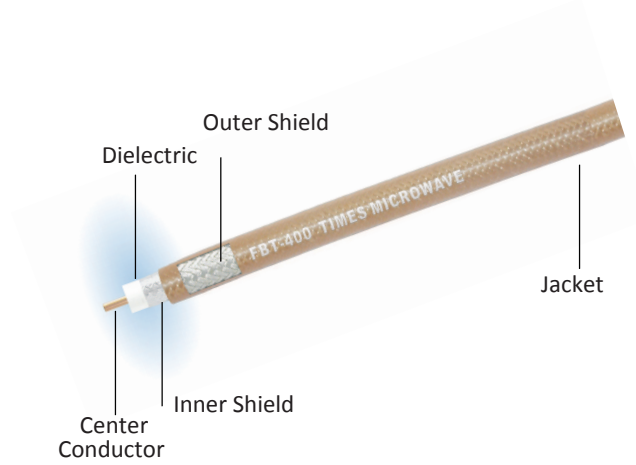


	SFT-393	SFT-226	SFT-500	SFT-600
AA Drawing Number	AA-8653	AA-8654	AA-11168	AA-9649
Part Number	51800	51803	510-0037	51963
Physical Specifications				
Description	in (mm)	in (mm)	in (mm)	in (mm)
Center Conductor	Solid SPC	Solid SPC	Stranded SPC	Stranded SPC
	0.096 (2.44)	0.131 (3.33)	0.145 (3.68)	0.160 (4.06)
Dielectric	PTFE	PTFE	PTFE	PTFE
	0.285 (7.24)	0.370 (9.40)	0.408 (10.36)	0.455 (11.56)
Inner Shield	SPC Flat Braid	SPC Flat Braid	SPC Flat Braid	SPC Flat Braid
	0.295 (7.49)	0.380 (9.65)	0.420 (10.67)	0.465 (11.81)
Interlayer	MT	MT	NA	MT
	0.301 (7.65)	0.385 (9.78)		0.471 (11.96)
Outer Shield	SPC	SPC	SPC	SPC
	0.330 (8.38)	0.399 (10.14)	0.448 (11.38)	0.500 (12.70)
Jacket	FEP	FEP	FEP	FEP
	0.390 (9.91)	0.485 (12.32)	0.490 (12.45)	0.555 (14.10)
Mechanical Specifications				
Bend Radius	For high power application, the minimum bend radius is recommended as 10 times of cable diameter.			
Weight	0.126 lb/ft	0.235 lb/ft	0.230 lb/ft	0.240 lb/ft
Operating Temperature Range	-55/+200°C	-55/+200°C	-55/+200°C	-55/+200°C
Electrical Specifications				
Impedance	50 ohms	50 ohms	50 ohms	50 ohms
Shielding Effectiveness	100 dB	100 dB	80 dB	100 dB
Dielectric Constant	1.73	1.73	1.73	1.73
Velocity of Propagation	76.0%	76.0%	76.0%	76.0%
Capacitance	26.7pF/ft	26.7pF/ft	26.7pF/ft	26.7pF/ft
DC Voltage (kV)	5	6	7	8
Attenuation: dB/100ft (100m) (+25°C Ambient)				
13.56 MHz	0.50 (1.65)	0.40 (1.40)	0.40 (1.31)	0.39 (1.28)
50 MHz	0.97 (3.18)	0.80 (2.80)	0.77 (2.53)	0.76 (2.48)
100 MHz	1.38 (4.52)	1.20 (3.90)	1.09 (3.58)	1.07 (3.52)
1000 MHz	4.48 (14.69)	3.90 (12.79)	3.58 (11.75)	3.52 (11.54)
1500 MHz	5.53 (18.16)	4.90 (16.07)	4.44 (14.57)	4.36 (14.30)
2000 MHz	6.40 (21.10)	5.70 (18.70)	5.20 (17.06)	5.10 (16.70)
2500 MHz	7.20 (23.80)	6.40 (20.99)	5.80 (19.02)	5.70 (18.80)
3000 MHz	8.00 (26.20)	7.00 (22.96)	6.40 (20.99)	6.30 (20.70)
K1	0.13593	0.12183	0.10749	0.10137
K2	0.00018	0.00018	0.00018	0.00018
Power (kW) (+25°C Ambient; Sea Level)				
13.56 MHz	20.07	27.91	33.36	36.93
50 MHz	10.41	14.47	17.28	19.13
100 MHz	7.34	10.19	12.17	13.46
1000 MHz	2.26	3.14	3.07	4.11
1500 MHz	1.83	2.54	3.01	3.32
2000 MHz	1.58	2.18	2.59	2.85
2500 MHz	1.40	1.94	2.29	2.53
3000 MHz	1.27	1.76	2.08	2.29

FBT Cables

Cable Feature:

Flexibility	Fair
Cost	Medium/High
Attenuation	Low
Power Handling	High
Temperature	High
Connector Availability	Very Good



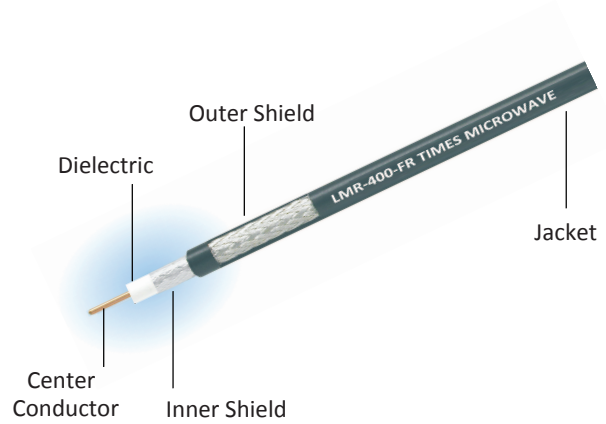
	FBT-400	FBT-500	FBT-600
AA Drawing Number	AA-8957	AA-8958	AA-8959
Part Number	54171	54172	54173
Physical Specifications			
Description	in (mm)	in (mm)	in (mm)
Center Conductor	Solid BCCAI	Solid BCCAI	Solid BCCAI
	0.095 (2.14)	0.123 (3.12)	0.150 (3.81)
Dielectric	PTFE	PTFE	PTFE
	0.285 (7.24)	0.370 (9.40)	0.455 (11.56)
Inner Shield	MT	MT	MT
	0.291 (7.39)	0.376 (9.55)	0.461 (11.71)
Interlayer	/	/	/
Outer Shield	TC	TC	TC
	0.320 (8.13)	0.405 (10.29)	0.490 (12.45)
Jacket	FEP	FEP	FEP
	0.370 (9.40)	0.465 (11.81)	0.565 (14.35)
Mechanical Specifications			
Bend Radius	For high power application, the minimum bend radius is recommended as 10 times of cable diameter.		
Weight	0.104 lb/ft	0.168 lb/ft	0.210 lb/ft
Operating Temperature Range	-55/+150°C	-55/+150°C	-55/+150°C
Electrical Specifications			
Impedance	50 ohms	50 ohms	50 ohms
Shielding Effectiveness	90 dB	90 dB	90 dB
Dielectric Constant	1.73	1.73	1.73
Velocity of Propagation	76%	76%	76%
Capacitance	26.7pF/ft	26.7pF/ft	26.7pF/ft
DC Voltage (kV)	5	7	8
Attenuation: dB/100ft (100m) (+25°C Ambient)			
13.56 MHz	0.48 (1.57)	0.37 (1.22)	0.30 (0.99)
50 MHz	0.92 (3.02)	0.72 (2.35)	0.58 (1.91)
100 MHz	1.31 (4.30)	1.02 (3.30)	0.83 (2.70)
1000 MHz	4.23 (13.87)	3.32 (10.89)	2.72 (8.92)
1500 MHz	5.23 (17.15)	4.11 (13.48)	3.38 (11.09)
2000 MHz	6.10 (20.00)	4.80 (15.74)	3.90 (12.79)
2500 MHz	6.80 (22.30)	5.40 (17.71)	4.40 (14.43)
3000 MHz	7.50 (24.60)	5.90 (19.35)	4.90 (16.07)
K1	0.12914	0.10026	0.08139
K2	0.00015	0.00015	0.00015
Power (kW) (+25°C Ambient; Sea Level)			
13.56 MHz	15.54	23.62	32.60
50 MHz	8.07	12.24	16.88
100 MHz	5.69	8.62	11.88
1000 MHz	1.76	2.65	3.63
1500 MHz	1.43	2.15	2.93
2000 MHz	1.23	1.85	2.51
2500 MHz	1.10	1.64	2.23
3000 MHz	1.00	1.49	2.02

* BCCAI = Bare Copper Clad Aluminum

LMR-FR Cables

Cable Feature:

Flexibility	Fair
Cost	Low
Attenuation	Low
Power Handling	Medium
Temperature	Medium
Connector Availability	Very Good



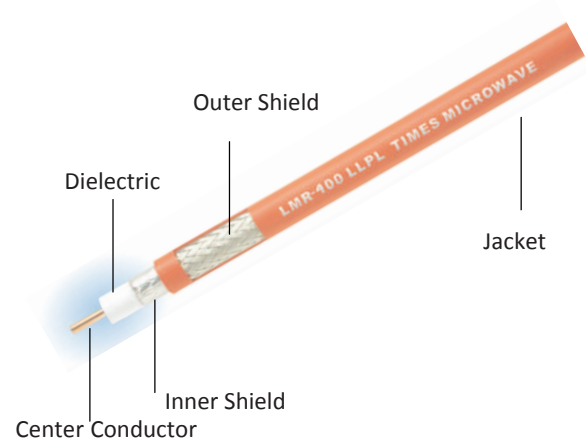
	LMR-400-FR	LMR-500-FR	LMR-600-FR	LMR-900-FR	LMR-1200-FR
AA Drawing Number	AA-8120	AA-8121	AA-8122	AA-8123	AA-8124
Part Number	54030	54031	54032	54033	54034
Physical Specifications					
Description	in (mm)	in (mm)	in (mm)	in (mm)	in (mm)
Center Conductor	Solid BCCAl	Solid BCCAl	Solid BCCAl	BC Tube	BC Tube
	0.108 (2.74)	0.142 (3.61)	0.176 (4.47)	0.262 (6.65)	0.349 (8.86)
Dielectric	Foam PE	Foam PE	Foam PE	Foam PE	Foam PE
	0.285 (7.24)	0.370 (9.40)	0.455 (11.56)	0.680 (17.27)	0.920 (23.37)
Inner Shield	MT	MT	MT	MT	MT
	0.291 (7.39)	0.376 (9.55)	0.461 (11.71)	0.686 (17.42)	0.926 (23.52)
Interlayer	/	/	/	/	/
Outer Shield	TC	TC	TC	TC	TC
	0.320 (8.13)	0.405 (10.29)	0.490 (12.45)	0.732 (18.59)	0.972 (24.69)
Jacket	FRPE	FRPE	FRPE	FRPE	FRPE
	0.405 (10.29)	0.500 (12.70)	0.590 (14.99)	0.870 (22.10)	1.200 (30.48)
Mechanical Specifications					
Bend Radius	For high power application, the minimum bend radius is recommended as 10 times of cable diameter.				
Weight	0.068 lb/ft	0.097 lb/ft	0.131 lb/ft	0.266 lb/ft	0.448 lb/ft
Operating Temperature Range	-40/+85°C	-40/+85°C	-40/+85°C	-40/+85°C	-40/+85°C
Electrical Specifications					
Impedance	50 ohms	50 ohms	50 ohms	50 ohms	50 ohms
Shielding Effectiveness	90 dB	90 dB	90 dB	90 dB	90 dB
Dielectric Constant	1.38	1.35	1.32	1.32	1.29
Velocity of Propagation	85%	86%	87%	87%	88%
Capacitance	23.9pF/ft	23.6pF/ft	23.4pF/ft	23.4pF/ft	23.1pF/ft
DC Voltage (kV)	5	7	8	5	6
Attenuation: dB/100ft (100m) (+25°C Ambient)					
13.56 MHz	0.45 (1.49)	0.36 (1.18)	0.28 (0.92)	0.19 (0.63)	0.14 (0.46)
50 MHz	0.88 (2.88)	0.70 (2.28)	0.55 (1.80)	0.37 (1.23)	0.27 (0.89)
100 MHz	1.25 (4.10)	0.99 (3.25)	0.78 (2.56)	0.53 (1.75)	0.39 (1.28)
1000 MHz	4.13 (13.54)	3.31 (10.87)	2.65 (8.69)	1.80 (5.89)	1.34 (4.40)
1500 MHz	5.13 (16.82)	4.13 (13.55)	3.32 (10.88)	2.25 (7.37)	1.69 (5.54)
2000 MHz	6.00 (19.60)	4.80 (15.90)	3.90 (12.80)	2.60 (8.60)	2.00 (6.50)
2500 MHz	6.80 (22.20)	5.50 (18.00)	4.40 (14.50)	3.00 (9.80)	2.30 (7.40)
3000 MHz	7.50 (24.50)	6.10 (19.90)	4.90 (16.10)	3.30 (10.90)	2.50 (8.30)
K1	0.12229	0.09659	0.07555	0.05177	0.03737
K2	0.00026	0.00026	0.00026	0.00016	0.00016
Power (kW) (+25°C Ambient; Sea Level)					
13.56 MHz	8.37	13.60	18.43	64.15	88.48
50 MHz	4.33	7.02	9.49	33.07	45.44
100 MHz	3.04	4.93	6.65	23.18	31.75
1000 MHz	0.92	1.48	1.97	6.90	9.23
1500 MHz	0.75	1.19	1.57	5.52	7.34
2000 MHz	0.64	1.01	1.34	4.71	6.22
2500 MHz	0.57	0.90	1.18	4.15	5.47
3000 MHz	0.51	0.81	1.06	3.74	4.91

* BCCAl = Bare Copper Clad Aluminum

LMR-LLPL Cables

Cable Feature:

Flexibility	Fair/Good
Cost	Medium
Attenuation	Low
Power Handling	Medium/High
Temperature	Medium
Connector Availability	Very Good



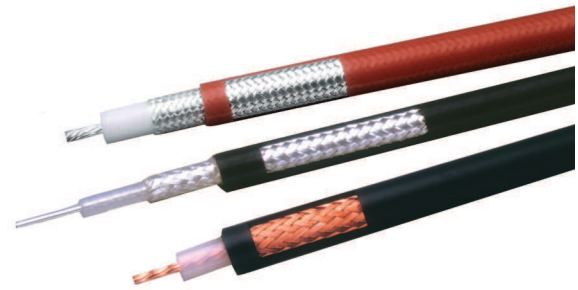
	LMR-400-LLPL	LMR-500-LLPL	LMR-600-LLPL	LMR-900-LLPL	LMR-1200-LLPL
AA Drawing Number	AA-8317	AA-8278	AA-8279	AA-8280	AA-8281
Part Number	54070	54060	54061	54062	54063
Physical Specifications					
Description	in (mm)	in (mm)	in (mm)	in (mm)	in (mm)
Center Conductor	Solid BCCAl	Solid BCCAl	Solid BCCAl	BC Tube	BC Tube
	0.095 (2.41)	0.123 (3.12)	0.150 (3.81)	0.227 (5.77)	0.310 (7.87)
Dielectric	PTFE	PTFE	PTFE	PTFE	PTFE
	0.285 (7.24)	0.370 (9.40)	0.455 (11.56)	0.680 (17.27)	0.920 (23.37)
Inner Shield	MT	MT	MT	MT	MT
	0.291 (7.39)	0.376 (9.55)	0.461 (11.71)	0.686 (17.42)	0.926 (23.52)
Interlayer	/	/	/	/	/
Outer Shield	TC	TC	TC	TC	TC
	0.320 (8.13)	0.405 (10.29)	0.490 (12.45)	0.732 (18.59)	0.972 (24.69)
Jacket	FRPVC	FRPVC	FRPVC	FRPVC	FRPVC
	0.405 (10.28)	0.500 (12.70)	0.590 (14.99)	0.870 (22.10)	1.200 (30.48)
Mechanical Specifications					
Bend Radius	For high power application, the minimum bend radius is recommended as 10 times of cable diameter.				
Weight	0.114 lb/ft	0.194 lb/ft	0.240 lb/ft	0.542 lb/ft	0.700 lb/ft
Operating Temperature Range	-5/+75°C	-5/+75°C	-5/+75°C	-5/+75°C	-5/+75°C
Electrical Specifications					
Impedance	50 ohms	50 ohms	50 ohms	50 ohms	50 ohms
Shielding Effectiveness	90 dB	90 dB	90 dB	90 dB	90 dB
Dielectric Constant	1.73	1.73	1.73	1.73	1.73
Velocity of Propagation	76%	76%	76%	76%	76%
Capacitance	26.7pF/ft	26.7pF/ft	26.7pF/ft	26.7pF/ft	26.7pF/ft
DC Voltage (kV)	5	7	8	5	9
Attenuation: dB/100ft (100m) (+25°C Ambient)					
13.56 MHz	0.48 (1.57)	0.37 (1.22)	0.30 (0.99)	0.21 (0.69)	0.16 (0.52)
50 MHz	0.92 (3.02)	0.72 (2.35)	0.58 (1.91)	0.41 (1.36)	0.30 (1.00)
100 MHz	1.31 (4.30)	1.02 (3.30)	0.83 (2.70)	0.59 (1.90)	0.44 (1.40)
1000 MHz	4.23 (13.87)	3.32 (10.89)	2.72 (8.90)	1.99 (6.50)	1.50 (4.90)
1500 MHz	5.23 (17.15)	4.11 (13.48)	3.38 (11.01)	2.49 (8.20)	1.89 (6.20)
2000 MHz	6.10 (20.01)	4.80 (15.74)	3.90 (12.79)	2.90 (9.60)	2.20 (7.30)
2500 MHz	6.80 (22.30)	5.40 (17.71)	4.40 (14.43)	3.30 (10.82)	2.50 (8.30)
3000 MHz	7.50 (24.60)	5.90 (19.35)	4.90 (16.07)	3.70 (12.14)	2.80 (9.30)
K1	0.12914	0.10026	0.08139	0.05722	0.04172
K2	0.00015	0.00015	0.00015	0.00018	0.00018
Power (kW) (+25°C Ambient; Sea Level)					
13.56 MHz	6.09	9.23	12.79	20.00	35.00
50 MHz	3.16	4.78	6.62	10.20	18.00
100 MHz	2.23	3.37	4.66	7.10	12.60
1000 MHz	0.69	1.04	1.42	2.10	3.60
1500 MHz	0.56	0.84	1.15	1.70	2.90
2000 MHz	0.48	0.72	0.98	1.44	2.45
2500 MHz	0.43	0.64	0.87	1.27	2.15
3000 MHz	0.39	0.58	0.79	1.14	1.93

* BCCAl = Bare Copper Clad Aluminum

RG Cables

Cable Feature:

Flexibility	Good/Very Good
Cost	Medium/Low
Attenuation	Medium
Power Handling	Medium/High
Temperature	Medium
Connector Availability	Medium



	RG-393	RG-217	RG-177	RG-218	RG-220
AA Drawing Number	AA-3420	AA-3410	AA-3404	AA-3411	AA-6002
Part Number	51509	41511	41506	41512	41579
Physical Specifications					
Description	in (mm)	in (mm)	in (mm)	in (mm)	in (mm)
Center Conductor	SC	BC	BC	BC	BC
	0.094 (2.39)	0.106 (2.69)	0.195 (4.95)	0.195 (4.95)	0.260 (6.60)
Dielectric	PTFE	PE	PE	PE	PE
	0.285 (7.24)	0.370 (9.40)	0.680 (17.27)	0.680 (17.27)	0.910 (23.11)
Inner Shield	SC	BC	SC	BC	BC
	0.295 (7.49)	0.403 (10.24)	0.709 (18.01)	0.726 (18.44)	0.956 (24.28)
Interlayer	/	/	/	/	/
Outer Shield	SC	BC	SC	/	/
	0.330 (8.38)	0.436 (11.07)	0.738 (18.75)		
Jacket	FEP	PVC	PVC	PVC	PVC
	0.390 (9.91)	0.545 (13.84)	0.895 (22.73)	0.870 (22.10)	1.120 (28.45)
Mechanical Specifications					
Bend Radius	For high power application, the minimum bend radius is recommended as 10 times of cable diameter.				
Weight	0.175 lb/ft	0.230 lb/ft	0.470 lb/ft	0.460 lb/ft	0.820 lb/ft
Operating Temperature Range	-55/+200°C	-40/+80°C	-40/+80°C	-40/+80°C	-40/+80°C
Electrical Specifications					
Impedance	50 ohms	50 ohms	50 ohms	50 ohms	50 ohms
Shielding Effectiveness	60 dB	60 dB	60 dB	40 dB	40 dB
Dielectric Constant	1.98	2.30	2.30	2.30	2.30
Velocity of Propagation	71.0%	65.9%	65.9%	65.9%	65.9%
Capacitance	28.6pF/ft	30.8pF/ft	30.8pF/ft	30.8pF/ft	30.8pF/ft
DC Voltage (kV)	1.9	5.8	8.0	8.0	10.5
Attenuation: dB/100ft (100m) (+25°C Ambient)					
13.56 MHz	0.72 (2.36)	0.48 (1.59)	0.29 (0.95)	0.27 (0.89)	0.20 (0.66)
50 MHz	1.41 (4.63)	0.96 (3.15)	0.59 (1.92)	0.55 (1.81)	0.42 (1.37)
100 MHz	2.03 (6.66)	1.40 (4.60)	0.87 (2.80)	0.82 (2.70)	0.63 (2.10)
1000 MHz	7.20 (23.75)	5.28 (17.32)	3.60 (11.81)	3.44 (11.28)	2.84 (9.30)
1500 MHz	9.20 (30.18)	6.81 (22.34)	4.76 (15.61)	4.56 (14.96)	3.83 (12.56)
2000 MHz	10.90 (35.90)	8.20 (26.90)	5.80 (19.02)	5.60 (18.37)	4.80 (15.74)
2500 MHz	12.60 (41.20)	9.50 (31.16)	6.90 (22.63)	6.60 (21.65)	5.70 (18.70)
3000 MHz	14.10 (46.10)	10.7 (35.10)	7.80 (25.58)	7.60 (24.93)	6.50 (21.32)
K1	0.19200	0.12700	0.07400	0.06900	0.05000
K2	0.00117	0.00126	0.00126	0.00126	0.00126
Power (kW) (+25°C Ambient; Sea Level)					
13.56 MHz	15.02	14.88	35.28	38.29	62.02
50 MHz	7.68	7.51	17.43	18.85	29.97
100 MHz	5.34	5.17	11.80	12.73	19.94
1000 MHz	1.51	1.37	2.85	3.03	4.41
1500 MHz	1.20	1.07	2.16	2.29	3.28
2000 MHz	1.01	0.89	1.76	1.87	2.64
2500 MHz	0.88	0.77	1.50	1.59	2.22
3000 MHz	0.79	0.68	1.31	1.38	1.93

* SC = Silver Plated Copper
* BC = Bare Copper

Some Other Cables I

	HFlex-142	AA-11406	QEAM-810	HP-1200-PUR
AA Drawing Number	AA-9406	AA-11406	AA-8848	AA-11470
Part Number	51929	510-0063	51816	54365
Physical Specifications				
Description	in (mm)	in (mm)	in (mm)	in (mm)
Center Conductor	SC	SC	SC	BC Tube
	0.038 (0.01)	0.097 (2.46)	0.228 (5.79)	0.308 (7.82)
Dielectric	PTFE	PTFE	PTFE	PTFE
	0.105 (2.67)	0.285 (7.24)	0.620 (15.75)	0.920 (23.37)
Inner Shield	SC	SC	FSC	MT
	0.123 (3.12)	0.306 (7.77)	0.630 (16.00)	0.932 (23.67)
Interlayer	/	/	MT	/
			0.636 (16.15)	
Outer Shield	SC	SC	TC	TC
	0.141 (3.58)	0.328 (8.33)	0.665 (16.89)	0.980 (24.89)
Jacket	FEP	PUR	PUR	PUR
	0.170 (4.32)	0.400 (10.16)	0.810 (20.57)	1.200 (30.48)
Mechanical Specifications				
Bend Radius	For high power application, the minimum bend radius is recommended as 10 times of cable diameter.			
Weight	0.030 lb/ft	0.135 lb/ft	0.400 lb/ft	0.950 lb/ft
Operating Temperature Range	-55/+200°C	-55/+105°C	-55/+80°C	-40/+105°C
Electrical Specifications				
Impedance	50 ohms	50 ohms	50 ohms	50 ohms
Shielding Effectiveness	60 dB	60 dB	100 dB	90 dB
Dielectric Constant	1.73	1.73	1.56	1.73
Velocity of Propagation	76.0%	76.0%	80.0%	76.0%
Capacitance	26.8pF/ft	26.9pF/ft	25.4pF/ft	26.7pF/ft
DC Voltage (kV)	2.0	5.0	9.2	12.5
Attenuation: dB/100ft (100m) (+25°C Ambient)				
13.56 MHz	1.62 (5.31)	0.71 (2.33)	0.27 (0.89)	0.16 (0.51)
50 MHz	3.11 (10.20)	1.40 (4.59)	0.53 (1.73)	0.30 (0.98)
100 MHz	4.40 (14.43)	1.95 (6.40)	0.75 (2.46)	0.44 (1.43)
1000 MHz	14.10 (46.25)	6.24 (20.47)	2.50 (8.20)	1.50 (4.92)
1500 MHz	17.20 (56.42)	7.70 (25.26)	3.05 (10.00)	1.89 (6.20)
2000 MHz	20.00 (65.60)	8.90 (29.19)	3.60 (11.81)	2.23 (7.31)
2500 MHz	22.40 (73.47)	10.00 (32.81)	4.00 (13.12)	2.54 (8.33)
3000 MHz	25.40 (83.31)	10.99 (36.06)	4.40 (14.43)	2.83 (9.28)
K1	0.43808	0.19313	0.07344	0.04172
K2	0.00018	0.00014	0.00014	0.00018
Power (kW) (+25°C Ambient; Sea Level)				
13.56 MHz	4.40	12.25	29.80	119.30
50 MHz	2.29	6.37	15.42	61.79
100 MHz	1.62	4.50	10.85	42.82
1000 MHz	0.51	1.41	3.31	12.44
1500 MHz	0.42	1.14	2.67	9.90
2000 MHz	0.36	0.99	2.29	8.39
2500 MHz	0.33	0.88	2.03	7.37
3000 MHz	0.30	0.81	1.84	6.61

* SC = Silver Plated Copper
* BCCAl = Bare Copper Clad Aluminum
* RSC = Rope Stranded Silver Plated Copper
* FSC = Silver Plated Copper Flat Strip Braid
* TC = Tinned Copper

Some Other Cables II

	AA-9593	AA-11222	AA-11223	AA-9193	AA-8980	LMR-1700-DB-TPV
AA Drawing Number	AA-9593	AA-11222	AA-11223	AA-9193	AA-8980	AA-11629
Part Number	51956	510-0042	510-0043	51887	51839	54376
Physical Specifications						
Description	in (mm)	in (mm)	in (mm)	in (mm)	in (mm)	in (mm)
Center Conductor	BCCAl	RSC	RSC	RSC	BC	BC Tube
	0.150 (3.81)	0.160 (4.06)	0.160 (4.06)	0.160 (4.06)	0.150 (3.81)	0.516 (13.11)
Dielectric	PTFE	PTFE	PTFE	PTFE	PTFE	Foam PE
	0.455 (11.45)	0.455 (11.56)	0.455 (11.56)	0.455 (11.56)	0.455 (11.56)	1.35 (34.29)
Inner Shield	FSC	FSC	SC	SC	SC	APA
	0.465 (11.81)	0.465 (11.81)	0.478 (12.14)	0.478 (12.14)	0.465 (11.81)	1.356 (34.44)
Interlayer	MT	MT	/	/	APT	/
	0.469 (11.91)	0.469 (11.91)			0.469 (11.91)	
Outer Shield	TC	TC	SC	SC	TC	TC
	0.508 (12.90)	0.508 (12.90)	0.501 (12.73)	0.501 (12.73)	0.508 (12.90)	1.402 (35.61)
Jacket	PUR	PUR	PUR	FEP	FEP	TPV
	0.560 (14.22)	0.560 (14.22)	0.560 (14.22)	0.555 (14.10)	0.560 (14.22)	1.600 (40.64)
Mechanical Specifications						
Bend Radius	For high power application, the minimum bend radius is recommended as 10 times of cable diameter.					
Weight	0.220 lb/ft	0.300 lb/ft	0.285 lb/ft	0.260 lb/ft	0.235 lb/ft	0.68 lb/ft
Operating Temperature Range	-55/+90°C	-55/+105°C	-55/+105°C	-55/+200°C	-55/+200°C	-50/+105°C
Electrical Specifications						
Impedance	50 ohms	50 ohms	50 ohms	50 ohms	50 ohms	50 ohms
Shielding Effectiveness	100 dB	100 dB	60 dB	60 dB	100 dB	90 dB
Dielectric Constant	1.73	1.73	1.73	1.73	1.73	1.26
Velocity of Propagation	76.0%	76.0%	76.0%	76.0%	76.0%	89%
Capacitance	26.7pF/ft	26.7pF/ft	26.7pF/ft	26.7pF/ft	26.7pF/ft	22.8pF/ft
DC Voltage (kV)	7.5	8.0	8.0	8.0	6.0	9.0
Attenuation: dB/100ft (100m) (+25°C Ambient)						
13.56 MHz	0.32 (1.05)	0.38 (1.25)	0.46 (1.51)	0.46 (1.51)	0.32 (1.05)	0.10 (0.33)
50 MHz	0.62 (2.03)	0.89 (2.92)	0.89 (2.92)	0.89 (2.92)	0.63 (2.05)	0.20 (0.66)
100 MHz	0.89 (2.92)	1.05 (3.44)	1.26 (4.13)	1.26 (4.13)	0.89 (2.92)	0.29 (0.94)
1000 MHz	2.90 (9.51)	3.40 (11.15)	4.11 (13.48)	4.11 (13.48)	2.93 (9.61)	1.00 (3.28)
1500 MHz	3.60 (11.81)	4.20 (13.78)	5.10 (16.73)	5.10 (16.73)	3.63 (11.91)	1.26 (4.14)
2000 MHz	4.30 (14.10)	4.90 (16.07)	5.90 (19.35)	5.90 (19.35)	4.30 (14.10)	1.50 (4.92)
2500 MHz	4.80 (15.74)	5.60 (18.37)	6.70 (21.98)	6.70 (21.98)	4.79 (15.71)	1.71 (5.61)
3000 MHz	5.30 (17.38)	6.10 (20.01)	7.40 (24.27)	7.40 (24.27)	5.31 (17.42)	1.91 (6.27)
K1	0.08695	0.10188	0.12431	0.12431	0.08695	0.02717
K2	0.00018	0.00018	0.00018	0.00018	0.00018	0.00014
Power (kW) (+25°C Ambient; Sea Level)						
13.56 MHz	26.60	30.02	24.63	34.63	43.25	224.86
50 MHz	13.76	15.55	12.77	17.95	22.37	115.13
100 MHz	9.68	10.94	9.00	12.65	15.73	80.25
1000 MHz	2.94	3.34	2.77	3.89	4.77	22.95
1500 MHz	2.37	2.70	2.24	2.82	3.85	18.17
2000 MHz	1.38	2.31	1.92	2.70	3.29	15.35
2500 MHz	1.79	2.05	1.71	2.41	2.92	13.43
3000 MHz	1.63	1.86	1.55	2.18	2.64	12.03

* SC = Silver Plated Copper
* RSC = Rope Stranded Silver Plated Copper
* BCCAl = Bare Copper Clad Aluminum
* FSC = Silver Plated Copper Flat Strip Braid
* TC = Tinned Copper

Connectors

We offer a broad range of high power connectors. Below are some of them for reference.
Please consult our factory for more details.

Cable Category	Series	Stock Code	Part Number	Cable Attachment
HP-218	158EIA	3190-2473	EZ-218-158EIA-CL	C-S-C
	716M	3190-2000	TC-218-716MC	Clamp
	78EIA	3190-2005	TC-218-78EIA	Clamp
	LCM	3190-1447	TC-218-LCM	Clamp
	LCMRA	3190-2587	TC-218-LCM-RA-CL	C-S-C
	NM	3190-2001	TC-218-NMC	Clamp
	SCM	3190-2003	TC-218-SCMC	Clamp
	CM	3190-2002	TC-218-CMC	Clamp
	1330M	3190-2004	TC-218-1330MC	Clamp
HP-226	716M	3190-2624	TC-226-716M-CL	C-S-C
	716MRA	3190-2625	TC-226-716M-RA-CL	C-S-C
	LCM	3190-2665	TC-226-LCM-CL	C-S-C
	LCMRA	3190-2666	TC-226-LCM-RA-CL	C-S-C
	NM	3190-2514	TC-500-NMH-X	Crimp
	NMRA	3190-2513	TC-500-NMH-RA-X	Crimp
RG-393	716M	3190-2597	TC-400-716M-X	Crimp
		3190-2692	TC-393-716M-CL	C-S-C
	716MRA	3190-2598	TC-400-716M-RA	Crimp
		3190-2693	TC-393-716M-RA-CL	C-S-C
	HNM	3190-2663	TC-393-HNM-CL	C-S-C
	HNMRA	3190-2559	TC-393-HNM-RA-CL	C-S-C
	LCM	3190-1412	TC-393-LCM	Clamp
		3190-2565	TC-393-LCM-CL	C-S-C
	LCMRA	3190-2561	TC-393-LCM-RA-CL	C-S-C
	NFBH	3190-1094	TC-393-NF-BH	Crimp
		3190-1401	TC-393T-NF-BH	Crimp
	NFPM	3190-1398	TC-393T-NF-PM	Crimp
	NM	3190-2626	TC-400-NMH-X	Crimp
		3190-2745	TC-393-NM-CL	C-S-C
	NMRA	3190-2293	TC-400-NMH-RA-D	Crimp
		3190-2754	TC-393-NM-RA-CL	C-S-C
	SCM	3190-2569	TC-393-SCM-CL	C-S-C
	SCMRA	3190-2570	TC-393-SCM-RA-CL	C-S-C
	CM	3190-922	TC-393T-CM	Crimp
	QDSM	3190-620	TC-400-QDSM	Clamp
SFT-320	HNM	3190-2563	TC-320T-HNM-CL	C-S-C
	LCM	3190-2664	TC-320T-LCM-CL	C-S-C
LMR-500-LLPL	NM	3190-2578	TC-500-NM-PL-CL	C-S-C
	NMRA	3190-2579	TC-500-NM-RA-PL-CL	C-S-C
SFT-500	716M	3190-2730	TC-500T-716MC	Clamp
	716MRA	3190-2729	TC-500T-716MC-RA	Clamp
	HNM	3190-2732	TC-500T-HNMC	Clamp
	HNMRA	3190-2731	TC-500T-HNMC-RA	Clamp

Connectors

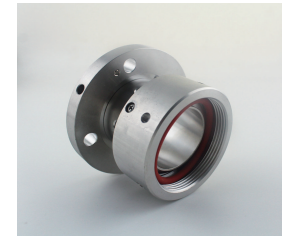
We offer a broad range of high power connectors. Below are some of them for reference.
Please consult our factory for more details.

Cable Category	Series	Stock Code	Part Number	Cable Attachment
SFT-600	158EIA	3190-2485	EZ-600T-158EIA-CL	C-S-C
	716M	3190-2636	TC-600T-716MC	Clamp
		3190-2595	TC-600T-716M-CL	C-S-C
	716MRA	3190-2637	TC-600T-716MC-RA	Clamp
		3190-2594	TC-600T-716M-RA-CL	C-S-C
	78EIA	3190-2755	EZ-600T-78EIA-CL	C-S-C
	HNM	3190-2564	TC-600T-HNM-CL	C-S-C
	HNMRA	3190-2560	TC-600T-HNM-RA-CL	C-S-C
	LCM	3190-1406	TC-600-LCM	Clamp
		3190-2566	TC-600T-LCM-CL	C-S-C
	LCMRA	3190-2562	TC-600T-LCM-RA-CL	C-S-C
	NM	3190-2628	TC-600-NMH-X	Crimp
		3190-2583	TC-600T-NM-CL	C-S-C
	NMRA	3190-2427	TC-600-NMH-RA-D	Crimp
		3190-2757	TC-600T-NM-RA-CL	C-S-C
	NF	3190-965	TC-600-NF-PL	Crimp
	QDLCM	3190-2383	TC-600T-QDLCM-CL	C-S-C
	QDSM	3190-825	TC-600-QDSM	Clamp
QEAM-810	LCM	3190-2631	LC Male for QEAM-810	C-S-C
LMR-900	716M	3190-1641	EZ-900-716MC-2	Clamp
	716MRA	3190-2691	EZ-900-716MC-RA	Clamp
	78EIA	3190-1282	EZ-900-78EIA	Clamp
	NM	3190-1262	EZ-900-NMC-2	Clamp
	NF	3190-1263	EZ-900-NFC-2	Clamp
	78EIARA	3190-1450	EZ-900-78EIA-RA	Clamp
	716F	3190-1550	EZ-900-716FC-2	Clamp
LMR-900-LLPL	716M	3190-1549	EZ-900-716MC-PL-2	Clamp
LMR-1200	716M	3190-2781	EZ-1200-716MC-2	Clamp
	78EIA	3190-2780	EZ-1200-78EIA-2	Clamp
	NM	3190-2783	EZ-1200-NMC-2	Clamp
	NF	3190-2785	EZ-1200-NFC-2	Clamp
	78EIARA	3190-2782	EZ-1200-78EIA-RA-2	Clamp
	716F	3190-2784	EZ-1200-716FC-2	Clamp
HP-1200	158EIA	3190-2724	EZ-HP1200-158EIA	Clamp
	318EIA	3190-2915	EZ-HP1200-318EIA	Clamp
	158EIA	3190-6069	Threaded 1-5/8” EIA Female for HP-1200-PUR	Clamp
LMR-1700-DB-TPV	LCM	3190-6230	EZ-1700-LCMC-2	Clamp
	HNM	3190-6231	EZ-1700-HNMC-2	Clamp
Receptacle	QDSF	3191-296	QDSF-PM w/threaded pin	
	QDLCF	3191-274	QDLCF-RA-PM w/threaded pin	
		3191-293	QDLCF-PM(1.25SQ) w/threaded pin	
		3191-294	QDLCF-RA-PM w/spring pin	
		3191-295	QDLCF-PM w/spring pin	
		3191-297	QDLCF-PM(2SQ) w/threaded pin	
		3191-300	QDLCF-PM w/solder cup pim	
Adapter	HNF-HNF	3191-360	HN Female to HN Female	
	716M-716F	3191-361	7-16 DIN Male to n Female	
	QDLCF-LCM	3191-302	QDLC Female to LC male	
	QDLCM-LCF	3191-303	QDLC Male to LC Female	
	158EIA	3190-6001	Threaded 1-5/8” EIA Male to 1-5/8” EIA	

* “C-S-C” = Clam Shell Clamp

Threaded EIA connectors

EIA Flange connectors are rugged and are often the optimal choice when working with very high power levels. If there is a disadvantage to the EIA flange, it's the large outer diameter of the flange which may result in a routing challenge when installing a finished assembly. In the case of the 1 5/8" EIA, we've addressed this issue by developing both a threaded 1 5/8" connector as well as a separate 1 5/8" flange adapter. The combined assembly will handle all of the power of the typical 1 5/8" connector and will allow the assembly to be routed through a bulkhead hole/knockout having a diameter which is only a fraction of that required by the standard 1 5/8" connector. This new 1 5/8" EIA connector combination is currently available for our HP-1200-PUR cable.



3190-6001
Adaptor Threaded 1-5/8" EIA
Male to 1-5/8" EIA



3190-6069
Connector Threaded 1-5/8" EIA
Female for HP-1200-PUR

Quick Disconnect - QDLC & QDS

Times Mirowave Systems provides a few types of quick disconnect connectors including QDLC and QDS.

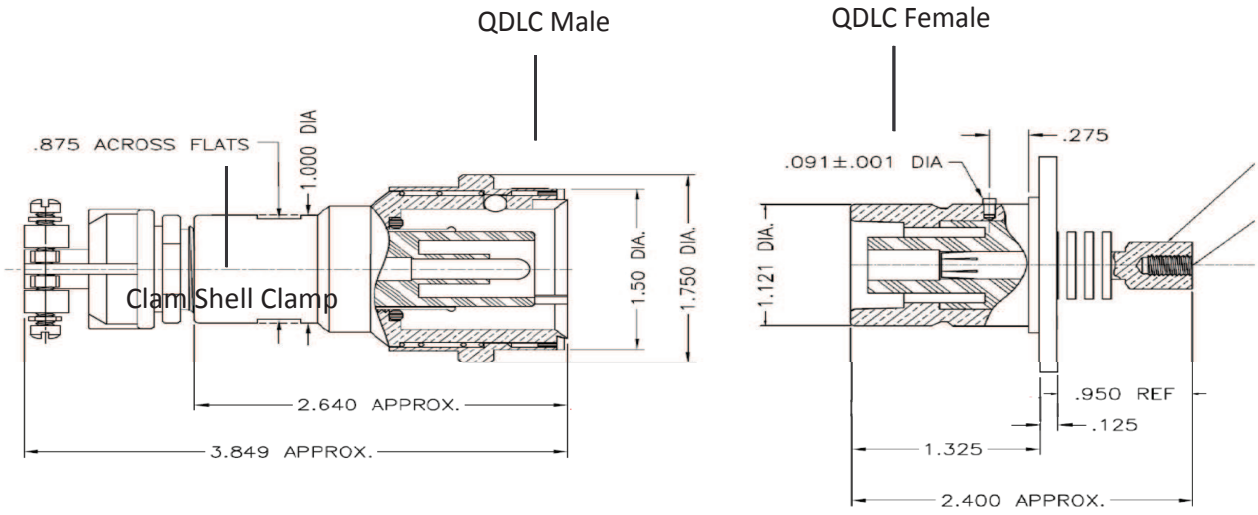
The interface is a proprietary Times developed specifically for high power applications. Based on LC interface, it includes an overlapping dielectric and a quick disconnect mechanism to allow quick installation and removal. We also supply mating female connectors.



TC-400-QDSM



TC-600-QDSM-RA

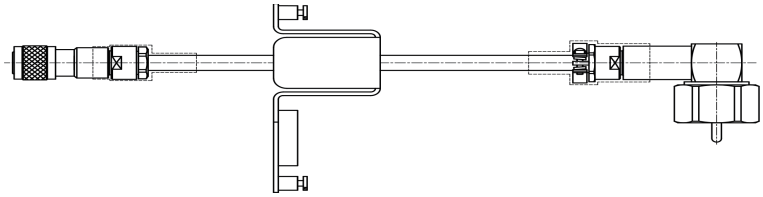


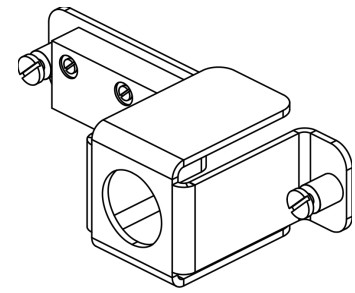
Clam Shell Clamp Strain Relief

Many high power applications in semi-conductor and flat panel manufacturing require periodically moving cables for maintenance and cleaning operations. This places a great deal of strain on the cable to connector interface. The use of a secondary clam-shell style clamp to secure the connector to the cable is an effective way to provide strain relief and prevent cable to connector failures. Although there may be some distortion of the cable shape, at frequencies below 100 MHz or so, this does not cause a performance issue.

Custom Interlock Bracket

Times Microwave Systems offers the customized brackets to allow mounting of interlock switches.





Selection of RF Coaxial Cable by Power Handling

Electrical losses in a coaxial cable result in the generation of heat in the center and outer conductors, as well as in the dielectric core. The power handling capability of a cable is related to the ability of the cable to dissipate this heat. The ultimate limiting factor in power handling is the maximum allowable operating temperature of the materials used in the cable, especially the dielectric. This is because most of the heat is generated at the center conductor of the cable. In general, the power handling capability of a given cable is inversely proportional to its attenuation, and directly related to its size. The other factor is the heat transfer properties of the cable, especially the dielectric.

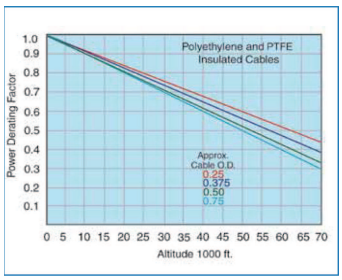
Cable power ratings must be derated by correction factors for the ambient temperature, altitude and VSWR encountered in a particular application. High ambient temperature and high altitude reduce the power rating of a cable by impeding heat transfer out of the cable, VSWR reduces power rating by causing localized hot spots in the cable.

To select the cable construction for a particular requirement, determine the average input power at the highest frequency from system requirements. Then determine the effective average input power as follows:

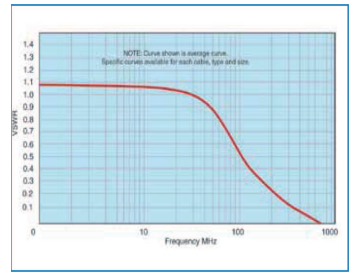
$$\text{Effective Power} = \frac{\text{Average Power x (VSWR correction)}}{\text{(Temp.correction) x (Alt.correction)}}$$

Temperature and altitude corrections are shown as:

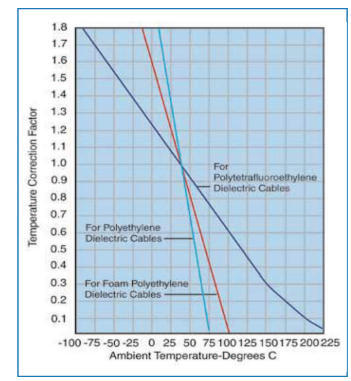
Power Altitude Correction Factor:



VSWR
Correction Factor Multiplier K



Power Temperature Correction Factor:



$$\text{VSWR correction factor} = \frac{1}{1/2\,(\text{VSWR} + \frac{1}{\text{VSWR}}) + 1/2\,k\,(\text{VSWR} - \frac{1}{\text{VSWR}})}$$

Where k, is shown in the second Figure. Select a cable from the Attenuation and Power charts rated at this effective power level. Note that the peak power handling capability of a cable is related to the maximum operating voltage rating.

MISSION

TIMES MICROWAVE SYSTEMS designs and manufactures high performance RF and microwave transmission lines. These products consist of coaxial cables, connectors, accessories and cable assemblies.
We are committed to understanding the needs and requirements of our customers and providing highly engineered, cost effective products.
TIMES MICROWAVE SYSTEMS is dedicated to total customer satisfaction and superior results for our shareholders in all we do.

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