CABLE ASSEMBLIES

Flexible low loss cable 6.1/50 S+F
(AEP-240FR alternative to LMR-240FR®)



P/N: ST291 327 030

APPLICATION NOTE

AEP-240FR cable is an alternative solution to 50 Ohms LMR-240FR® cable offering the same performance and similar construction with cost advantage.

REGULATIONS

RoHS compliant
UL/NEC: CMR
UL/CSA: FT4

CONNECTORS COMPATIBLE WITH AEP-240FR (and to LMR® 240FR)

QMA Series

P/N	Interface	Model
R123 076 310	Straight plug	Crimp type
R123 177 100	R/a plug	Crimp type
R123 314 010	Straight bh jack	Crimp type
R123W 076 310	Wp straight plug	Crimp type
R123W 177 110	Wp r/a plug	Crimp type

SMA Series

P/N	Interface	Model
R124 076 430	Straight plug	Crimp type
R124 175 310	R/A plug	Crimp type

TNC Series

P/N	Interface	Model
R143 084 161	Straight plug	Crimp type

N Series

P/N	Interface	Model
R161 075 030	Straight plug	Crimp type
R161 183 310	R/A plug	Crimp type
R161 329 140	Straight bh jack	Crimp type

QN Series

P/N	Interface	Model
R164 075 010	Straight plug	Crimp type

7/16 Series

P/N	Interface	Model
R185 085 007	Straight plug	Crimp type
R185 320 020	Straight BH jack	Crimp type

(1) BC = Bare Copper
(2) PE = PolyEt hylene

CONSTRUCTION / DIMENSIONS

	Material	mm	Inches
Center conductor	Solid BC (1)	1.42	0.056
Dielectric	Foam PE(2)	3.81	0.15
Inner shield	Aluminum Tape	3.94	0.155
Outer shield	Tinned Copper braid	4.52	0.178
Outer jacket	Black LSZH	6.1	0.24

ELECTRICAL CHARACTERISTICS

Characteristic impedance	50 ohms	
Operating frequency range	DC - 6 GHz	
Dielectric constant	1.42	
Screening effectiveness	> 90 dB	
Velocity of propagation	84 %	
Capacitance	79.4 pF / m	24.2 pF / ft
Inductance	0.20 uH / m	0.060 uH / ft
Time delay	3.97 nS / m	1.21 nS / ft
Inner conductor dc resistance	10.5 ohms / km	3.2 ohms / 1000 ft
Outer conductor dc resistance	12.8 ohms / km	3.89 ohms / 1000 ft
Voltage withstand	1500 Volts DC	
Jacket spark	5000 Volts RMS	
Peak power	5.6kW	
Phase stability over temp	< 25 ppm / deg C	

MECHANICAL CHARACTERISTICS

Maximum weight	0.05 kg / m	0.034 lb / ft
Min. bend radius: installation	19.1 mm	0.75 inch
Min. bend radius: repeated	63.5 mm	2.5 inch
Bending moment	0.34 N-m	0.25 ft-lb
Tensile strength	36.3 kg	80 lb
Flat plate crush	0.36 kg / mm	20 lb / inch

ENVIRONMENTAL CHARACTERISTICS

Installation temperature range	-40 / +85 °C	-40 / +185 °F
Storage temperature range	-70 / +85 °C	-94 / +185 °F
Operating temperature range	-40 / +85 °C	-40 / +185 °F

FREQUENCY / ATTENUATION (typ.) / AVG POWER (*)

MHz	DB / 100 m	DB / 100 ft	kW
30	4.4	1.3	1.49
50	5.7	1.7	1.15
150	9.9	3.0	0.66
220	12.0	3.7	0.54
450	17.3	5.3	0.38
900	24.8	7.6	0.26
1500	32.4	9.9	0.20
1800	35.6	10.9	0.18
2000	37.7	11.5	0.17
2500	42.4	12.9	0.15
5800	66.8	20.4	0.10

(*) = Avg power calculated at sea level / 40°C and VSWR 1:0
(Cable-assembly power ratings may be limited by the connector type. Please contact us for specific needs)