CABLE ASSEMBLIES

Low loss Flexible cable 10.3/50 S+F
(AEP-400FR alternative to LMR-400FR®)



P/N: ST291 .327

APPLICATION NOTE

AEP-400FR cable is an alternative solution to 50 Ohms LMR-400FR® cable offering the same performance and similar construction with cost advantage.

REGULATIONS

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

CONNECTORS COMPATIBLE WITH AEP-400FR (and to LMR® 400FR)

SMA Series

P/N	Interface	Model
R124 080 030	Straight plug	Crimp type

TNC Series

P/N	Interface	Model
R143 089 117	Straight plug	Crimp type

N Series

P/N	Interface	Model
R161 088 180	Straight plug	Crimp type
R161 184 080	R/A plug	Crimp type
R161 331 060	Straight bh jack	Crimp type

QN Series

P/N	Interface	Model
R164 080 020	Straight plug	Crimp type
R164 185 007	R/A plug	Crimp type
R164 241 020	Straight bh jack	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 BCCAl(1)	2.74	0.108
Dielectric	Foam PE(2)	7.24	0.285
Inner shield	Aluminum Tape	7.39	0.291
Outer shield	Tinned Copper braid	8.13	0.32
Outer jacket	Black LSZH	10.29	0.405

ELECTRICAL CHARACTERISTICS

Characteristic impedance	50 ohms	
Cut-off frequency	16 GHz	
Dielectric constant	1.38	
Screening effectiveness	> 90 dB	
Velocity of propagation	85 %	
Capacitance	78.4 pF / m	23.9 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	4.6 ohms / km	1.39 ohms / 1000 ft
Outer conductor DC resistance	5.4 ohms / km	1.65 ohms / 1000 ft
Voltage withstand	2500 Volts DC	
Jacket spark	8000 Volts RMS	
Peak power	16kW	
Phase stability over temp	< 25 ppm / deg C	

MECHANICAL CHARACTERISTICS

Maximum weight	0.10 kg / m	0.068 lb / ft
Min. bend radius: installation	25.4 mm	1.00 inch
Min. bend radius: repeated	101.6 mm	4.0 inch
Bending moment	0.68 N-m	0.5 ft-lb
Tensile strength	72.6 kg	160 lb
Flat plate crush	0.71 kg / mm	40 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	2.2	0.7	3.33
50	2.9	0.9	2.57
150	5.0	1.5	1.47
220	6.1	1.9	1.20
450	8.9	2.7	0.83
900	12.8	3.9	0.58
1500	16.8	5.1	0.44
1800	18.6	5.7	0.40
2000	19.6	6.0	0.37
2500	22.2	6.8	0.33
5800	35.5	10.8	0.21

(*) = 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)