

**REVISIONS**

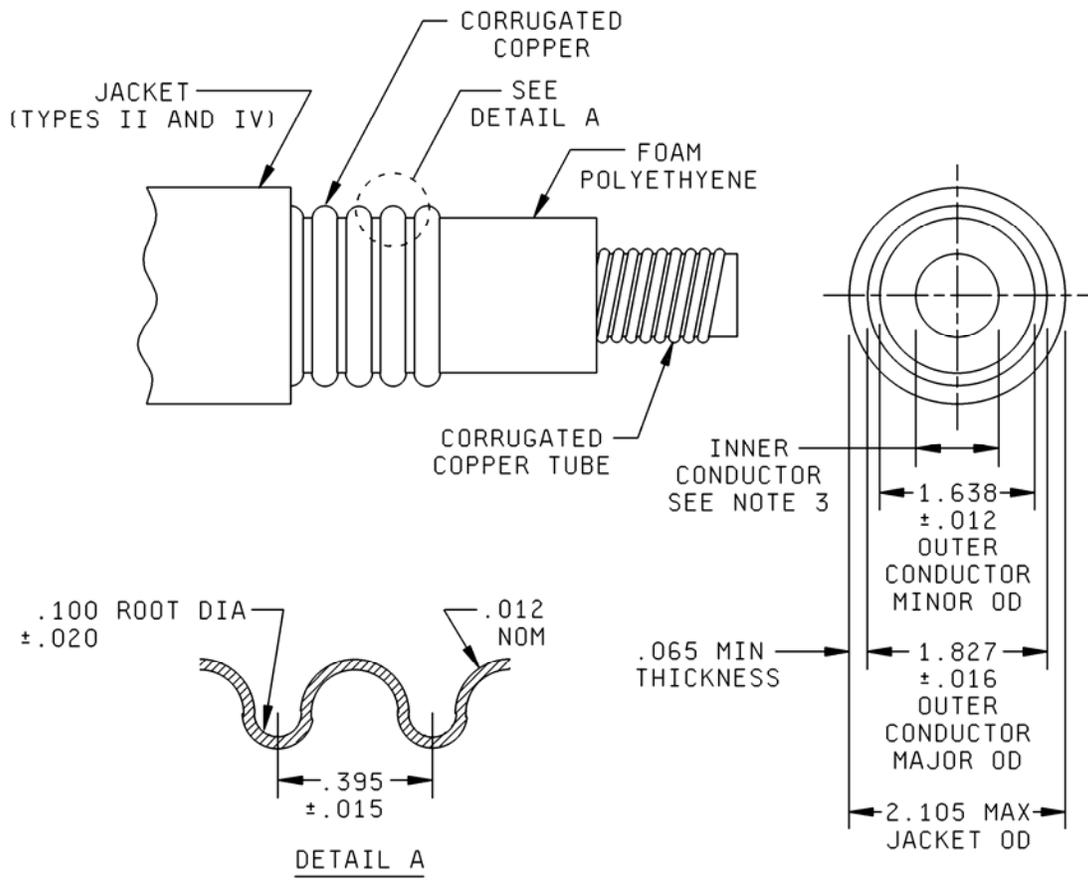
<b>LTR</b>	<b>DESCRIPTION</b>	<b>DATE</b>	<b>APPROVED</b>

Requirements of DSCC drawing 86045 shall apply

Prepared in accordance with ASME Y14.100

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<b>PMIC</b> N/A	<b>PREPARED BY</b> Ron Gary		<b>DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OHIO 43218-3990</b>															
Original date of drawing  14 June 2007	<b>CHECKED BY</b> Mary McWilliams		<b>TITLE</b>  <b>CABLES, RADIO FRQUENCY, COAXIAL, SEMIRIGID CORRUGATED OUTER CONDUCTOR, LOW LOSS DIELECTRIC, 1.625 INCH NOMINAL DIAMETER, 50 OHMS</b>															
	<b>APPROVED BY</b> Lee Surowiec																	
	<b>SIZE</b> <b>A</b>	<b>CAGE CODE</b> <b>037Z3</b>	<b>DWG. NO.</b> <b>07021</b>															
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Inches	mm	Inches	mm	Inches	mm
.004	0.10	.025	0.63	1.638	41.60
.008	0.20	.065	1.65	1.827	46.40
.010	0.25	.100	2.54	2.105	53.47
.015	0.38	.395	10.03		
.016	0.41	.400	10.16		
.019	0.48	.626	15.90		
.020	0.51	.693	17.60		

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Helically corrugated inner conductor with outside diameter of  $.693 \pm .008$  inch. Strip thickness of .010 inch nominal, minor diameter of  $.626 \pm .012$  inch, and pitch of  $.400 \pm .004$  inch.
4. The dielectric material shall be CELLFLEX® or equivalent. (CELLFLEX is a registered trade mark of Radio Frequency Systems (RFS)).

FIGURE 1. Cable configuration.

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ENGINEERING INFORMATION:

Weight: 0.80 lb/ft. maximum.

Minimum in-service bending diameter: 40 inches (1.02 meter).

Operating voltage: 5,600 V rms.

Average power rating: See figure 2.

Operating temperature: -50°C to +85°C.

REQUIREMENT

Design and construction: See figure 1.

Materials:

The jacket material shall be polyethylene, type II in accordance with MIL-DTL-28830 for Part or Identifying Number (PIN) 07021CS50PE or a non-halogenated fire-retardant compound, type IV in accordance with MIL-DTL-28830 for PIN: 07021CS50LS.

Flexibility and cold bend mandrel diameter (at -30°C):

40 inches (1.02 meter), maximum.

Test cable length: 30 feet (9.1 meters).

Impedance: 50 ±1 ohms.

Attenuation: See figure 2.

Velocity of propagation: 90 percent, nominal.

Capacitance: 22.5 pf/ft, maximum.

Voltage standing wave ratio (VSWR): 1.70, maximum.

VSWR frequency range: 100 MHz to 2.4 GHz.

Dielectric withstanding voltage: 14,000 V dc.

Jacket spark: 10,000 V rms.

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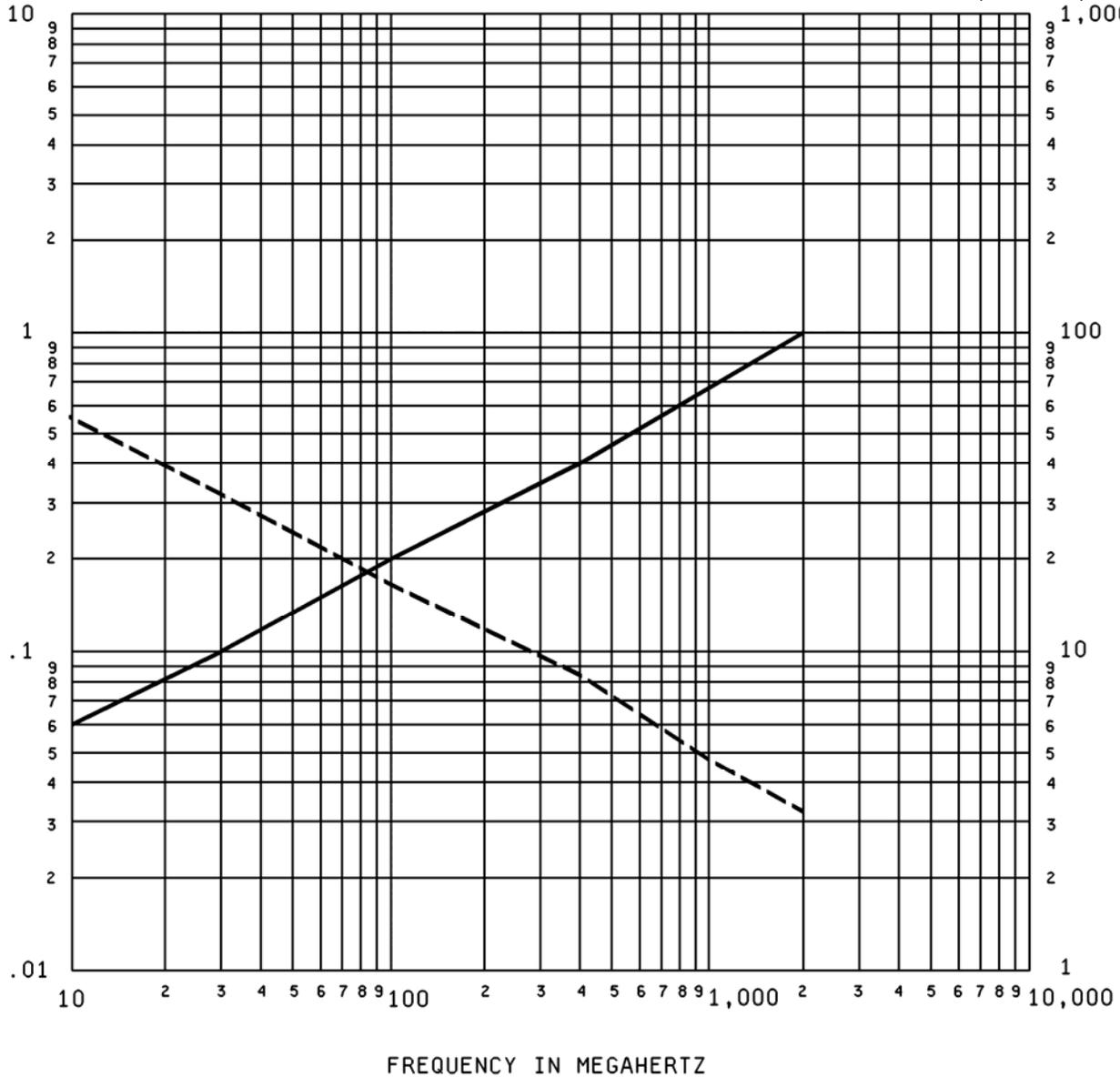
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ATTENUATION  
dB/100 Ft.

AVERAGE POWER  
(Kilowatts)



Standard conditions for average power and attenuation:

For average power: -----  
 VSWR: 1.0  
 Ambient temperature: 40°C  
 Inner conductor temperature: 100°C  
 For attenuation: \_\_\_\_\_  
 VSWR: 1.0  
 Ambient temperature: 24°C

Frequency (MHz)	Attenuation (dB)	Average Power (kW)
10	0.061	58.5
30	0.107	33.2
100	0.201	17.6
400	0.429	8.26
1,000	0.728	4.86
2,000	1.11	3.19

FIGURE 2. Attenuation and power.

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Acid gas generation (type IV only): 2.0 maximum.

Halogen content (type IV only): 0.2 maximum.

Smoke index (type IV only): 35 maximum.

Toxicity index (type IV only): 5 maximum.

Tensile strength and elongation:

Type II jacketing: 2,100 psi and 700 percent elongation, minimum.

Type IV jacketing: 1,200 psi and 115 percent elongation, minimum.

PIN: 07021CS50PE or 07021CS50LS.

Approved sources of supply are listed herein. Additional sources will be added as they become available. The vendors listed on the requirements drawing have agreed to this drawing and a certificate of compliance has been submitted to DSCC-VAI.

DSCC drawing PIN <u>1/</u>	Vendor CAGE number	Vendor reference PIN
07021CS50PE	16733	LCF158-50JM
07021CS50LS		-----

1/ Parts must be purchased to this DSCC PIN to assure that all performance requirements and tests are met.

Vendor CAGE  
number

16733

Vendor name and  
address

Radio Frequency Systems  
200 Pondview Drive  
Meridan, CT 06450

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