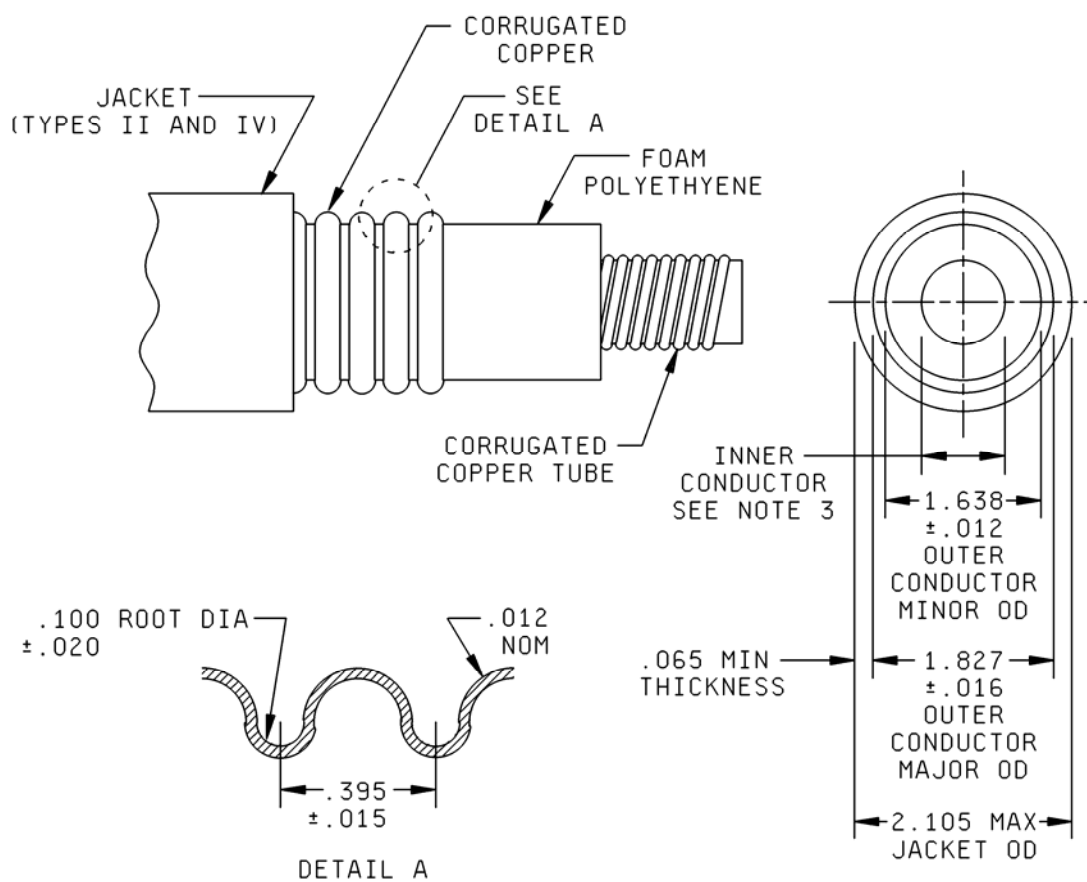


| REVISIONS                                       |             |                               |                    |   |   |   |        |  |                                                                                                                                                        |    |  |  |          |  |  |  |  |  |
|-------------------------------------------------|-------------|-------------------------------|--------------------|---|---|---|--------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------|----|--|--|----------|--|--|--|--|--|
| LTR                                             | DESCRIPTION |                               |                    |   |   |   |        |  | DATE                                                                                                                                                   |    |  |  | APPROVED |  |  |  |  |  |
|                                                 |             |                               |                    |   |   |   |        |  |                                                                                                                                                        |    |  |  |          |  |  |  |  |  |
|                                                 |             |                               |                    |   |   |   |        |  |                                                                                                                                                        |    |  |  |          |  |  |  |  |  |
|                                                 |             |                               |                    |   |   |   |        |  |                                                                                                                                                        |    |  |  |          |  |  |  |  |  |
|                                                 |             |                               |                    |   |   |   |        |  |                                                                                                                                                        |    |  |  |          |  |  |  |  |  |
| Requirements of DSCC drawing 86045 shall apply  |             |                               |                    |   |   |   |        |  |                                                                                                                                                        |    |  |  |          |  |  |  |  |  |
| Prepared in accordance with ASME Y14.100        |             |                               |                    |   |   |   |        |  |                                                                                                                                                        |    |  |  |          |  |  |  |  |  |
| REV                                             |             |                               |                    |   |   |   |        |  |                                                                                                                                                        |    |  |  |          |  |  |  |  |  |
| PAGE                                            |             |                               |                    |   |   |   |        |  |                                                                                                                                                        |    |  |  |          |  |  |  |  |  |
| REV STATUS<br>OF PAGES                          | REV         |                               |                    |   |   |   |        |  |                                                                                                                                                        |    |  |  |          |  |  |  |  |  |
|                                                 | PAGE        | 1                             | 2                  | 3 | 4 | 5 |        |  |                                                                                                                                                        |    |  |  |          |  |  |  |  |  |
| PMIC<br>N/A                                     |             | PREPARED BY<br>Ron Gary       |                    |   |   |   |        |  | DEFENSE SUPPLY CENTER, COLUMBUS<br>COLUMBUS, OHIO 43218-3990                                                                                           |    |  |  |          |  |  |  |  |  |
| Original date of<br>drawing<br><br>14 June 2007 |             | CHECKED BY<br>Mary McWilliams |                    |   |   |   |        |  | TITLE<br><br>CABLES, RADIO FRQUENCY, COAXIAL, SEMIRIGID<br>CORRUGATED OUTER CONDUCTOR, LOW LOSS<br>DIELECTRIC, 1.625 INCH NOMINAL DIAMETER,<br>50 OHMS |    |  |  |          |  |  |  |  |  |
|                                                 |             | APPROVED BY<br>Lee Surowiec   |                    |   |   |   |        |  |                                                                                                                                                        |    |  |  |          |  |  |  |  |  |
|                                                 |             | SIZE<br><br>A                 | CAGE CODE<br>037Z3 |   |   |   |        |  | DWG. NO. 07021                                                                                                                                         |    |  |  |          |  |  |  |  |  |
| REV                                             |             |                               |                    |   |   |   | PAGE 1 |  |                                                                                                                                                        | OF |  |  | 5        |  |  |  |  |  |



| 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.

|                                                            |                  |                           |                         |
|------------------------------------------------------------|------------------|---------------------------|-------------------------|
| DEFENSE SUPPLY CENTER, COLUMBUS<br>COLUMBUS, OH 43218-3990 | SIZE<br><b>A</b> | CAGE CODE<br><b>037Z3</b> | DWG NO.<br><b>07021</b> |
|                                                            |                  | REV                       | PAGE <b>2</b>           |

#### 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 polyethelyene, 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  $\pm$ 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.

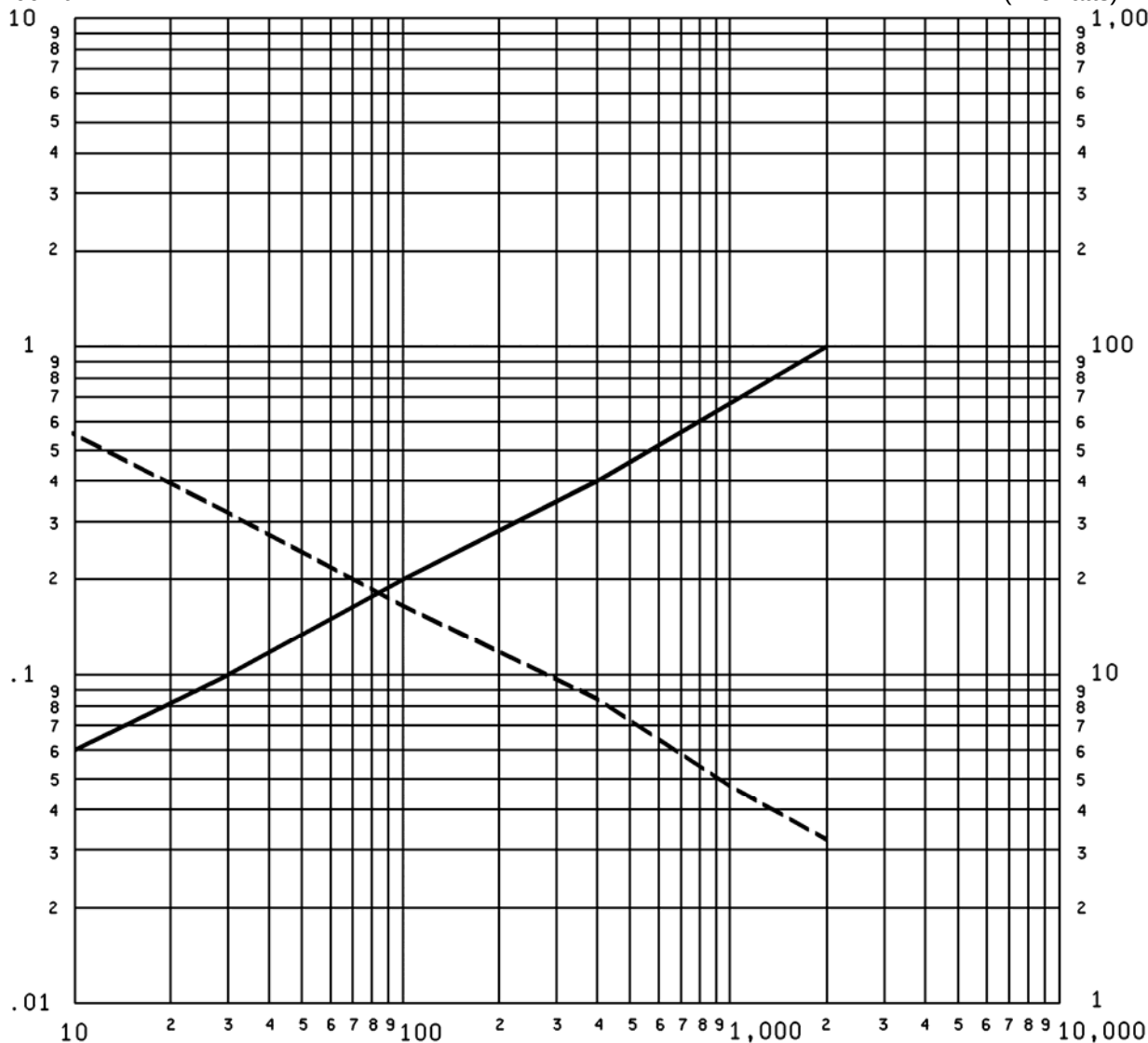
Dielectric withstanding voltage: 14,000 V dc.

Jacket spark: 10,000 V rms.

|                                                            |                  |                           |                         |
|------------------------------------------------------------|------------------|---------------------------|-------------------------|
| DEFENSE SUPPLY CENTER, COLUMBUS<br>COLUMBUS, OH 43218-3990 | SIZE<br><b>A</b> | CAGE CODE<br><b>037Z3</b> | DWG NO.<br><b>07021</b> |
|                                                            |                  | REV                       | PAGE <b>3</b>           |

ATTENUATION  
dB/100 Ft.

AVERAGE POWER  
(Kilowatts)



FREQUENCY IN MEGAHERTZ

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.

DEFENSE SUPPLY CENTER, COLUMBUS  
COLUMBUS, OH 43218-3990

SIZE

**A**

CAGE CODE

**037Z3**

REV

DWG NO.

**07021**

PAGE

**4**

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<br>PIN <u>1/</u> | Vendor CAGE<br>number | Vendor reference<br>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

**DEFENSE SUPPLY CENTER, COLUMBUS**  
**COLUMBUS, OH 43218-3990**

SIZE  
**A**

CAGE CODE

**037Z3**

REV

DWG NO.

**07021**

PAGE

**5**