

**REVISIONS**

<b>LTR</b>	<b>DESCRIPTION</b>	<b>DATE</b>	<b>APPROVED</b>
A	Adhesion, weight, operating voltage, DWV and corona requirement change	7 August 2007	Abdonasser Abdouni

Requirements of DSCC drawing 86045 shall apply

Prepared in accordance with ASME Y14.100

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<b>PMIC</b> S	<b>PREPARED BY</b> Ron Gary	<b>DEFENSE SUPPLY CENTER, COLUMBUS</b> <b>COLUMBUS, OHIO 43218-3990</b>
Original date of drawing  16 October 2006	<b>CHECKED BY</b> Mary McWilliams	<b>TITLE</b> CABLE, RADIO FREQUENCY, FLEXIBLE, COAXIAL, 50 OHMS, LOW LOSS, LOW SMOKE, NON-HALOGEN, FIRE RETARDANT
	<b>APPROVED BY</b> Richard Taylor	
	<b>SIZE</b> A	<b>CAGE CODE</b> 037Z3
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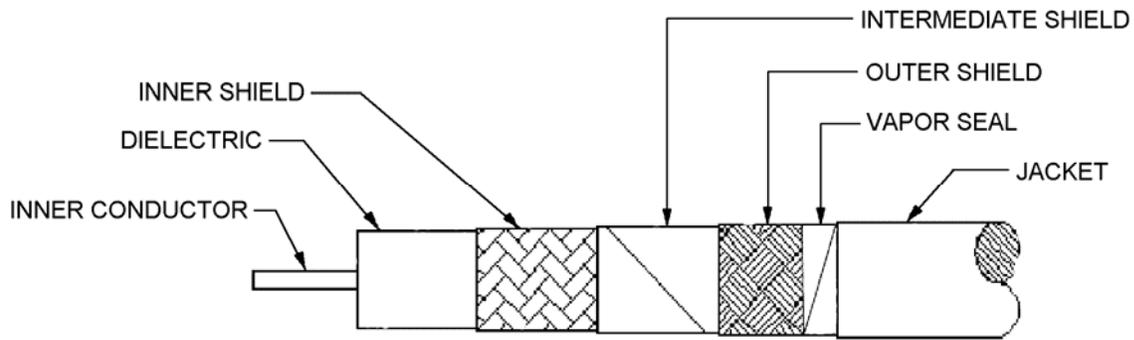


FIGURE 1. General configuration.

TABLE I. Description.

Components	Construction details
Inner conductor	Bare copper-clad aluminum. In accordance with ASTM B566. Diameter: 0.108 ±.001
Dielectric core	Cellular polyethylene. Diameter: 0.285 ±.005
Inner shield	Silver plated copper, flat braid. .045 x .0025 inch. Diameter: 0.297 nominal  Coverage: 97.2% Carriers: 24 Ends: 1 Picks/inch: 13.1
Intermediate shield	Spiral, laminated aluminum tape, 50 % overlap. Diameter: 0.302 nominal
Outer shield	Tinned copper braid, 34 gage. Diameter: 0.331 nominal  Coverage: 90.8% Carriers: 24 Ends: 7 Picks/inch: 10
Vapor seal	Spiral, laminated aluminum-adhesive tape. Diameter: 0.342 nominal
Jacket	Fire retardant, non-halogen, low smoke, polyethylene. Diameter: 0.405 ±.005

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**ENGINEERING INFORMATION:**

Continuous working voltage: 2,000 v rms, maximum.

Operating frequency: 10 GHz, maximum.

Velocity of propagation: 85 percent, nominal.

Power rating: See figure 2.

Operating temperature range: -30° to +85°C.

Inner conductor properties: DC resistance, maximum, at 20°C: 0.15 ohms per 100 feet, maximum.

**REQUIREMENTS:**

Dimensions, configuration and description: See figure 1 and table I.

Environmental and mechanical:

Visual and mechanical examination: Applicable.

Out-of-roundness: Not applicable.

Eccentricity: 10 percent, maximum.

Adhesion of conductors:

Inner conductor to core: 10 pounds, minimum; 50 pounds maximum.

Aging stability: +98° C.

Cold bend: -30° C.

Dimensional stability: +85° C.

Inner conductor from core: .063 inch (1.60 mm), maximum.

Inner conductor from jacket: .125 inch (3.27 mm), maximum.

Contamination: Not applicable.

Flame propagation: Applicable.

Acid gas generation: 2.0 percent, maximum.

Halogen content: 0.2 percent, maximum.

Immersion test:

Tensile strength, percent of unaged: Not applicable.

Elongation, percent of unaged: Not applicable.

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Smoke index: 25, maximum.

Toxicity index: 5, maximum.

Durometer hardness (type A) 80 minimum.

Weathering: Applicable.

Abrasion resistance: Not applicable.

Tear strength: Not applicable.

Heat distortion: Not applicable.

Physical tests on unaged jacket: Not applicable.

Physical tests on aged jacket: Not applicable

Weight: 0.105 pounds/ft, maximum.

Electrical:

Spark test: 3,000 V rms, minimum.

Voltage withstanding: 3,000 V rms, minimum.

Corona extinction voltage: 2,250 V rms, minimum.

Characteristic impedance: 50 ±2 ohms.

Attenuation: See figure 2.

Structural return loss: See figure 3.

Capacitance: 27 pF per feet, maximum.

Capacitance unbalance: Not applicable.

Transmission unbalance: Not applicable.

Mechanically induced noise: Not applicable.

Time delay: Not applicable.

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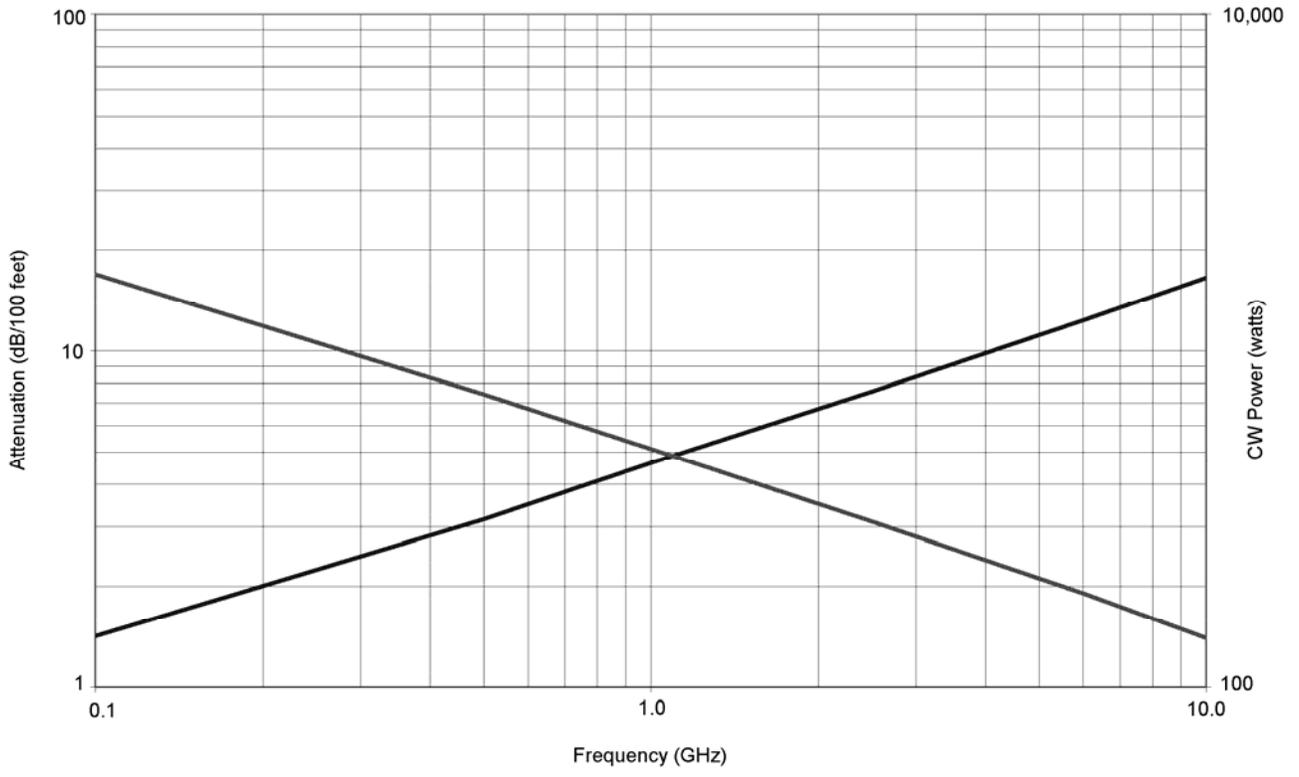
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	Frequency (GHz)	Loss (dB)	Power (Watts)
Maximum attenuation, ascending line (25° C at sea level)	0.1	1.5	1,690
	0.5	3.2	740
	1	4.6	510
Maximum power, descending line (25° C at sea level)	2.5	7.6	310
	6	12.3	190
	10	16.5	140

Tabulated values are for reference only. The values on the graph represent the requirements for attenuation. The data regarding power rating are for information only.

FIGURE 2. Power and attenuation.

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### Return Loss vs Frequency

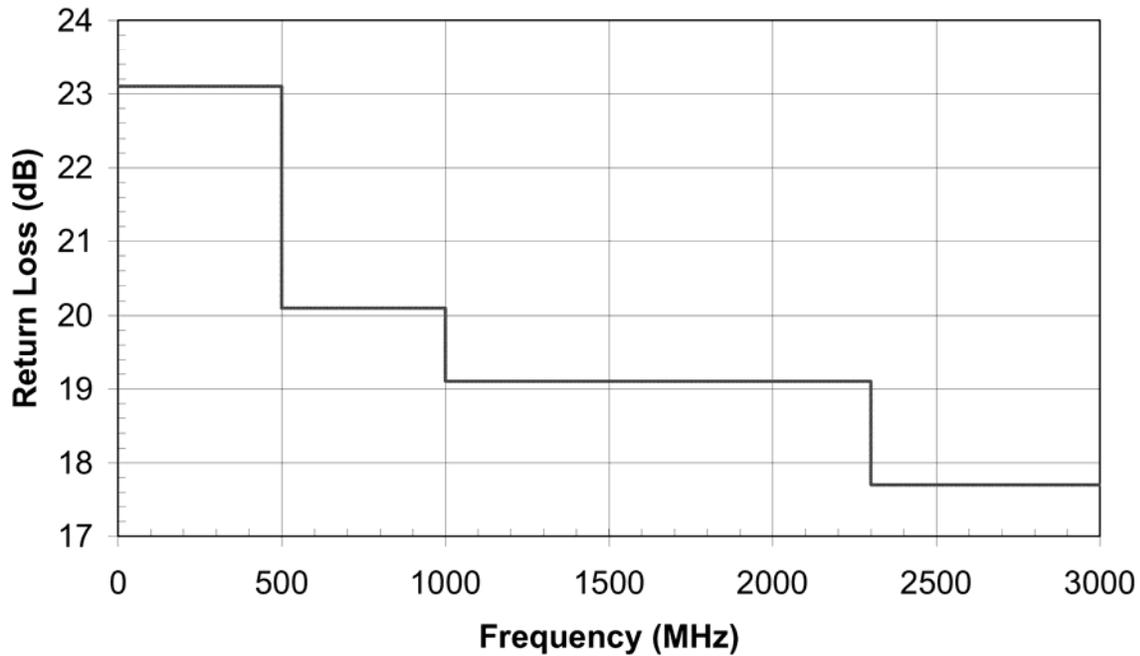


FIGURE 3. Structural return loss.

Part or Identifying Number (PIN): 07003CF50XX

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
07003CF50XX	68999	TCOM-400-FR

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

Vendor CAGE  
number

68999

Vendor name and  
address

Times Microwave  
P. O. Box 384  
358 Hall Avenue  
Wallingford, CT 06492

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