

MIL-DTL-3970/16D
1 June 2018
SUPERSEDING
MIL-DTL-3970/16C
28 April 2008

WAVEGUIDE ASSEMBLIES, RIGID, 90-DEGREE H-PLANE MITERED CORNER

Inactive for new design
after 18 September 1998.

FLANGE 1

A

B

C

D

E

WAVEGUIDE

FLANGE 2

90°

$\perp$ C TOL F

$\perp$ A B TOL G

-C-

-B-

-A-

FLANGE OUTLINE VARIES WITH PIN

FSC 5985



TABLE I. Dash number, electrical and physical characteristics, and dimensions.

Dash no.	Wave- guide M85/	Flange		Frequency range TE ₁₀ mode	Insertion loss max	VSWR max	Pressur- ization lb/in ² gauge	Dimensions <u>1/</u> <u>2/</u> <u>3/</u>						
		1	2					A	B	C	Pin dia B	E	F	G
		M3922/												
001	1-043	56-001	61-002	GHz 2.60 - 3.95	dB .05	1.09	15	4.225 (107.32) ±.020 (±0.51)	2.625 (66.68) ±.015 (±0.38)	.278 (7.06) ±.005 (±0.13)	.394 (10.01) ±.005 (±0.13)	4.384 (111.35) ±.020 (±0.51)	.060 (1.52)	.012 (0.30)
002	1-055	57-002	62-002	3.95 - 5.85	.05	1.08	30	2.924 (74.57) ±.020 (±0.51)	1.875 (47.63) ±.015 (±0.38)	.184 (4.67) ±.005 (±0.13)	.260 (6.60) ±.005 (±0.13)	2.898 (73.61) ±.020 (±0.51)	.041 (1.04)	.008 (0.20)
003	1-067	55-001	60-001	5.85 - 8.20	.05	1.08	30	2.139 (54.33) ±.015 (±0.38)	1.375 (34.93) ±.010 (±0.25)	.136 (3.45) ±.003 (±0.08)	.190 (4.83) ±.003 (±0.08)	2.141 (54.38) ±.015 (±0.38)	.032 (0.81)	.006 (0.15)
004	1-073	53-002	59-007	7.05 - 10.0	.06	1.08	30	1.869 (47.47) ±.015 (±0.38)	1.250 (31.75) ±.010 (±0.25)	.110 (2.79) ±.002 (±0.05)	.156 (3.96) ±.002 (±0.05)	1.760 (44.70) ±.015 (±0.38)	.024 (0.61)	.005 (0.13)
005	1-079	53-001	59-006	8.20 - 12.40	.06	1.10	30	1.370 (34.80) ±.010 (±0.25)	0.875 (22.23) ±.010 (±0.25)	.088 (2.24) ±.002 (±0.05)	.125 (3.18) ±.002 (±0.05)	1.410 (35.81) ±.010 (±0.25)	.019 (0.48)	.004 (0.10)
006	1-102	54-001	59-003	18.0 - 26.50	.11	1.06	30	.775 (19.69) ±.010 (±0.25)	.550 (13.97) ±.010 (±0.25)	.040 (1.02) ±.002 (±0.05)	.0580 (1.47) ±.0005 (±0.01)	.672 (17.07) ±.010 (±0.25)	.011 (0.28)	.002 (0.05)
007	1-106	54-001	59-003	18.0 - 26.50	.11	1.06	30	.775 (19.69) ±.010 (±0.25)	.550 (13.97) ±.010 (±0.25)	.040 (1.02) ±.002 (±0.05)	.0580 (1.47) ±.0005 (±0.01)	.672 (17.07) ±.010 (±0.25)	.011 (0.28)	.002 (0.05)
008	1-077	53-003	59-008	8.20 - 12.40	.06	1.10	30	1.370 (34.80) ±.010 (±0.25)	.875 (22.23) ±.010 (±0.25)	.088 (2.24) ±.002 (±0.05)	.125 (3.18) ±.002 (±0.05)	1.410 (35.81) ±.010 (±0.25)	.019 (0.48)	.004 (0.10)

See footnotes at end of table I.

MIL-DTL-3970/16D

TABLE I. Dash number, electrical and physical characteristics, and dimensions - Continued.

Dash no.	Wave-guide M85/	Flange		Frequency range TE ₁₀ mode	Insertion loss max	VSWR max	Pressur-ization lb/in ² gauge	Dimensions <u>1/</u> <u>2/</u> <u>3/</u>						
		1	2					A	B	C	Pin dia B	E	F	G
		M3922/												
009	1-071	53-004	59-009	GHz 7.05 - 10.0	dB .06	1.08	30	1.869 (47.47) ±.015 (±0.38)	1.250 (31.75) ±.010 (±0.25)	.110 (2.79) ±.002 (±0.05)	.156 (3.96) ±.002 (±0.05)	1.760 (44.70) ±.015 (±0.38)	.024 (0.61)	.005 (0.13)
010	1-041	56-002	61-001	2.60 - 3.95	.05	1.09	15	4.225 (107.32) ±.020 (±0.51)	2.626 (66.68) ±.015 (±0.38)	.278 (7.60) ±.005 (±0.13)	.394 (10.01) ±.005 (±0.13)	4.384 (111.35) ±.020 (±0.51)	.060 (1.52)	.012 (0.30)
011	1-089	53-005	59-001	12.4 - 18.0	.07	1.10	30	1.091 (27.71) ±.010 (±0.25)	.750 (19.05) ±.010 (±0.25)	.060 (1.52) ±.002 (±0.05)	.087 (2.21) ±.001 (±0.03)	.978 (24.84) ±.010 (±0.25)	.015 (0.38)	.003 (0.08)
012	1-053	57-001	62-001	3.95 - 5.85	.05	1.08	30	2.924 (74.57) ±.020 (±0.51)	1.875 (47.63) ±.015 (±0.38)	.184 (4.67) ±.005 (±0.13)	.260 (6.60) ±.005 (±0.13)	2.898 (73.61) ±.020 (±0.51)	.041 (1.04)	.008 (0.20)
013	3-006	54-003	59-005	26.5 - 40.0	.15	1.12	30	.645 (16.38) ±.010 (±0.25)	.500 (12.70) ±.010 (±0.25)	.027 (0.69) ±.002 (±0.05)	.0390 (0.99) ±.0005 (±0.01)	.459 (11.66) ±.010 (±0.25)	.009 (0.23)	.001 (0.03)
014	1-065	55-002	60-002	5.85 - 8.20	.05	1.08	30	2.139 (54.33) ±.015 (±0.38)	1.375 (34.93) ±.010 (±0.25)	.136 (3.45) ±.003 (±0.08)	.190 (4.83) ±.003 (±0.08)	2.141 (54.38) ±.015 (±0.38)	.032 (0.81)	.006 (0.15)
015	1-093	53-005	59-001	12.4 - 18.0	.07	1.10	30	1.091 (27.71) ±.010 (±0.25)	.750 (19.05) ±.010 (±0.25)	.060 (1.52) ±.002 (±0.05)	.087 (2.21) ±.001 (±0.03)	.978 (24.84) ±.010 (±0.25)	.015 (0.38)	.003 (0.08)
016	1-103	54-002	59-004	18.0 - 26.5	.11	1.06	30	.775 (19.69) ±.010 (±0.25)	.550 (13.97) ±.010 (±0.25)	.040 (1.02) ±.002 (±0.05)	.0580 (1.47) ±.0005 (±0.01)	.672 (17.07) ±.010 (±0.25)	.011 (0.28)	.002 (0.05)

1/ Dimensions are in inches.2/ Metric equivalents (to the nearest .01 mm) are given for general information only and are based upon 1 inch = 25.4 mm.3/ Metric equivalents are in parentheses.

MIL-DTL-3970/16D

REQUIREMENTS:

Dimensions and configuration: See figure 1 and table I.

Electrical characteristics: See table I.

Part or Identifying Number (PIN): M3970/16-(dash number from table I).

Cross reference: See table II.

TABLE II. Cross reference.

PIN M3970/16-	Type designation	PIN M3970/16-	Type designation
001	UG-844/U	009	UG-852/U
002	UG-845/U	010	UG-853/U
003	UG-846/U	011	UG-854/U
004	UG-847/U	012	UG-855/U
005	UG-848/U	013	UG-856/U
006	UG-849/U	014	UG-857/U
007	UG-850/U	015	UG-858/U
008	UG-851/U	016	UG-859/U

Referenced documents. This specification sheet references only MIL-DTL-3970

The margins of this specification sheet are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

Custodians:

Army - CR
Navy - EC
Air Force - 85
DLA - CC

Preparing activity:

DLA - CC

(Project 5985-2018-009)

Review activities:

Army - AR, MI
Navy - AS, CG, MC, OS
Air Force - 19, 99

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil>.