

INCH-POUND  
MIL-DTL-287/5H  
18 November 2013  
SUPERSEDING  
MIL-DTL-287/5G  
14 April 2009

DETAIL SPECIFICATION SHEET

WAVEGUIDE ASSEMBLIES, EXTRA-FLEXIBLE,  
TWISTABLE, CLASS 3

This specification is approved for use by all Departments and  
Agencies of the Department of Defense.

The requirements for acquiring the waveguide assemblies described  
herein shall consist of this specification sheet and MIL-DTL-287.

REQUIREMENTS: See table I.

Part or Identifying Number (PIN): See table I.

First article approval by similarity: First article approval obtained for one waveguide assembly shall, with  
acquiring activity approval, enable first article approval for other waveguide assemblies as specified in table  
II.

Cross reference information: See table III.

Substitution data: See table IV.

TABLE I. Extra-flexible, twistable waveguide assemblies.

| Group No. | 1/ PIN M287/5 - | TE <sub>10</sub> mode frequency range (GHz) | Minimum centerline bending radius (inch) |         | Repeated twist (degrees/ft) |                          | Insertion loss (db/ft) | Axial twist (degs/ft) | Pressurization (lb/in <sup>2</sup> ) gage | 2/ VSWR (max) at |      |      |      |
|-----------|-----------------|---------------------------------------------|------------------------------------------|---------|-----------------------------|--------------------------|------------------------|-----------------------|-------------------------------------------|------------------|------|------|------|
|           |                 |                                             | E plane                                  | H plane | 400 cycles                  | 1x10 <sup>6</sup> cycles |                        |                       |                                           | 12"              | 24"  | 36"  | >36" |
| I         | 01-XXXX         | 1.12 - 1.70                                 | 13.02                                    | 27.07   | 27.0                        | 6.0                      | 0.025                  | 54                    | 2                                         | 1.05             | 1.06 | 1.07 | 1.10 |
|           | 02-XXXX         | 1.12 - 1.70                                 | 13.02                                    | 27.07   | 27.0                        | 6.0                      | 0.025                  | 54                    | 2                                         | 1.05             | 1.06 | 1.07 | 1.10 |
|           | 60-XXXX         | 1.12 - 1.70                                 | 13.02                                    | 27.07   | 27.0                        | 6.0                      | 0.025                  | 54                    | 2                                         | 1.05             | 1.06 | 1.07 | 1.10 |
| I         | 03-XXXX         | 1.70 - 2.60                                 | 9.51                                     | 14.00   | 30.0                        | 9.0                      | 0.035                  | 60                    | 20                                        | 1.06             | 1.07 | 1.08 | 1.10 |
|           | 04-XXXX         | 1.70 - 2.60                                 | 9.51                                     | 14.00   | 30.0                        | 9.0                      | 0.035                  | 60                    | 20                                        | 1.06             | 1.07 | 1.08 | 1.10 |
|           | 61-XXXX         | 1.70 - 2.60                                 | 9.51                                     | 14.00   | 30.0                        | 9.0                      | 0.035                  | 60                    | 20                                        | 1.06             | 1.07 | 1.08 | 1.10 |
| I         | 05-XXXX         | 2.20 - 3.30                                 | 6.00                                     | 8.00    | 35.0                        | 10.5                     | 0.05                   | 70                    | 30                                        | 1.06             | 1.07 | 1.08 | 1.10 |
|           | 06-XXXX         | 2.20 - 3.30                                 | 6.00                                     | 8.00    | 35.0                        | 10.5                     | 0.05                   | 70                    | 30                                        | 1.06             | 1.07 | 1.08 | 1.10 |
|           | 62-XXXX         | 2.20 - 3.30                                 | 6.00                                     | 8.00    | 35.0                        | 10.5                     | 0.05                   | 70                    | 30                                        | 1.06             | 1.07 | 1.08 | 1.10 |
| I         | 07-XXXX         | 2.60 - 3.95                                 | 4.50                                     | 6.38    | 42.0                        | 12.6                     | 0.06                   | 84                    | 30                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 08-XXXX         | 2.60 - 3.95                                 | 4.50                                     | 6.38    | 42.0                        | 12.6                     | 0.06                   | 84                    | 30                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 09-XXXX         | 2.60 - 3.95                                 | 4.50                                     | 6.38    | 42.0                        | 12.6                     | 0.06                   | 84                    | 30                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 10-XXXX         | 2.60 - 3.95                                 | 4.50                                     | 6.38    | 42.0                        | 12.6                     | 0.06                   | 84                    | 30                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 11-XXXX         | 2.60 - 3.95                                 | 4.50                                     | 6.38    | 42.0                        | 12.6                     | 0.06                   | 84                    | 30                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 12-XXXX         | 2.60 - 3.95                                 | 4.50                                     | 6.38    | 42.0                        | 12.6                     | 0.06                   | 84                    | 30                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 13-XXXX         | 2.60 - 3.95                                 | 4.50                                     | 6.38    | 42.0                        | 12.6                     | 0.06                   | 84                    | 30                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 14-XXXX         | 2.60 - 3.95                                 | 4.50                                     | 6.38    | 42.0                        | 12.6                     | 0.06                   | 84                    | 30                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 15-XXXX         | 2.60 - 3.95                                 | 4.50                                     | 6.38    | 42.0                        | 12.6                     | 0.06                   | 84                    | 30                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 63-XXXX         | 2.60 - 3.95                                 | 4.50                                     | 6.38    | 42.0                        | 12.6                     | 0.06                   | 84                    | 30                                        | 1.08             | 1.09 | 1.10 | 1.12 |
| II        | 16-XXXX         | 3.95 - 5.85                                 | 3.00                                     | 4.75    | 67.5                        | 20.25                    | 0.07                   | 135                   | 45                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 17-XXXX         | 3.95 - 5.85                                 | 3.00                                     | 4.75    | 67.5                        | 20.25                    | 0.07                   | 135                   | 45                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 18-XXXX         | 3.95 - 5.85                                 | 3.00                                     | 4.75    | 67.5                        | 20.25                    | 0.07                   | 135                   | 45                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 19-XXXX         | 3.95 - 5.85                                 | 3.00                                     | 4.75    | 67.5                        | 20.25                    | 0.07                   | 135                   | 45                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 20-XXXX         | 3.95 - 5.85                                 | 3.00                                     | 4.75    | 67.5                        | 20.25                    | 0.07                   | 135                   | 45                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 21-XXXX         | 3.95 - 5.85                                 | 3.00                                     | 4.75    | 67.5                        | 20.25                    | 0.07                   | 135                   | 45                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 22-XXXX         | 3.95 - 5.85                                 | 3.00                                     | 4.75    | 67.5                        | 20.25                    | 0.07                   | 135                   | 45                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 23-XXXX         | 3.95 - 5.85                                 | 3.00                                     | 4.75    | 67.5                        | 20.25                    | 0.07                   | 135                   | 45                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 64-XXXX         | 3.95 - 5.85                                 | 3.00                                     | 4.75    | 67.5                        | 20.25                    | 0.07                   | 135                   | 45                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 65-XXXX         | 3.95 - 5.85                                 | 3.00                                     | 4.75    | 67.5                        | 20.25                    | 0.07                   | 135                   | 45                                        | 1.08             | 1.09 | 1.10 | 1.12 |
| II        | 24-XXXX         | 5.85 - 8.20                                 | 2.50                                     | 4.75    | 70                          | 21                       | 0.08                   | 140                   | 45                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 25-XXXX         | 5.85 - 8.20                                 | 2.50                                     | 4.75    | 70                          | 21                       | 0.08                   | 140                   | 45                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 26-XXXX         | 5.85 - 8.20                                 | 2.50                                     | 4.75    | 70                          | 21                       | 0.08                   | 140                   | 45                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 27-XXXX         | 5.85 - 8.20                                 | 2.50                                     | 4.75    | 70                          | 21                       | 0.08                   | 140                   | 45                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 28-XXXX         | 5.85 - 8.20                                 | 2.50                                     | 4.75    | 70                          | 21                       | 0.08                   | 140                   | 45                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 29-XXXX         | 5.85 - 8.20                                 | 2.50                                     | 4.75    | 70                          | 21                       | 0.08                   | 140                   | 45                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 30-XXXX         | 5.85 - 8.20                                 | 2.50                                     | 4.75    | 70                          | 21                       | 0.08                   | 140                   | 45                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 31-XXXX         | 5.85 - 8.20                                 | 2.50                                     | 4.75    | 70                          | 21                       | 0.08                   | 140                   | 45                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 65-XXXX         | 5.85 - 8.20                                 | 2.50                                     | 4.75    | 70                          | 21                       | 0.08                   | 140                   | 45                                        | 1.08             | 1.09 | 1.10 | 1.12 |
|           | 66-XXXX         | 5.85 - 8.20                                 | 2.50                                     | 4.75    | 70                          | 21                       | 0.08                   | 140                   | 45                                        | 1.08             | 1.09 | 1.10 | 1.12 |
| II        | 32-XXXX         | 7.05 - 10.0                                 | 2.00                                     | 4.00    | 90                          | 27                       | 0.08                   | 180                   | 45                                        | 1.12             | 1.14 | 1.15 | 1.18 |
|           | 33-XXXX         | 7.05 - 10.0                                 | 2.00                                     | 4.00    | 90                          | 27                       | 0.08                   | 180                   | 45                                        | 1.12             | 1.14 | 1.15 | 1.18 |
|           | 34-XXXX         | 7.05 - 10.0                                 | 2.00                                     | 4.00    | 90                          | 27                       | 0.08                   | 180                   | 45                                        | 1.12             | 1.14 | 1.15 | 1.18 |
|           | 35-XXXX         | 7.05 - 10.0                                 | 2.00                                     | 4.00    | 90                          | 27                       | 0.08                   | 180                   | 45                                        | 1.12             | 1.14 | 1.15 | 1.18 |
|           | 36-XXXX         | 7.05 - 10.0                                 | 2.00                                     | 4.00    | 90                          | 27                       | 0.08                   | 180                   | 45                                        | 1.12             | 1.14 | 1.15 | 1.18 |
|           | 37-XXXX         | 7.05 - 10.0                                 | 2.00                                     | 4.00    | 90                          | 27                       | 0.08                   | 180                   | 45                                        | 1.12             | 1.14 | 1.15 | 1.18 |
|           | 38-XXXX         | 7.05 - 10.0                                 | 2.00                                     | 4.00    | 90                          | 27                       | 0.08                   | 180                   | 45                                        | 1.12             | 1.14 | 1.15 | 1.18 |
|           | 39-XXXX         | 7.05 - 10.0                                 | 2.00                                     | 4.00    | 90                          | 27                       | 0.08                   | 180                   | 45                                        | 1.12             | 1.14 | 1.15 | 1.18 |
|           | 66-XXXX         | 7.05 - 10.0                                 | 2.00                                     | 4.00    | 90                          | 27                       | 0.08                   | 180                   | 45                                        | 1.12             | 1.14 | 1.15 | 1.18 |
|           | 67-XXXX         | 7.05 - 10.0                                 | 2.00                                     | 4.00    | 90                          | 27                       | 0.08                   | 180                   | 45                                        | 1.12             | 1.14 | 1.15 | 1.18 |
| II        | 40-XXXX         | 8.2 - 12.4                                  | 1.38                                     | 2.25    | 120                         | 36                       | 0.13                   | 240                   | 60                                        | 1.14             | 1.15 | 1.16 | 1.19 |
|           | 41-XXXX         | 8.2 - 12.4                                  | 1.38                                     | 2.25    | 120                         | 36                       | 0.13                   | 240                   | 60                                        | 1.14             | 1.15 | 1.16 | 1.19 |
|           | 42-XXXX         | 8.2 - 12.4                                  | 1.38                                     | 2.25    | 120                         | 36                       | 0.13                   | 240                   | 60                                        | 1.14             | 1.15 | 1.16 | 1.19 |
|           | 43-XXXX         | 8.2 - 12.4                                  | 1.38                                     | 2.25    | 120                         | 36                       | 0.13                   | 240                   | 60                                        | 1.14             | 1.15 | 1.16 | 1.19 |
|           | 44-XXXX         | 8.2 - 12.4                                  | 1.38                                     | 2.25    | 120                         | 36                       | 0.13                   | 240                   | 60                                        | 1.14             | 1.15 | 1.16 | 1.19 |
|           | 45-XXXX         | 8.2 - 12.4                                  | 1.38                                     | 2.25    | 120                         | 36                       | 0.13                   | 240                   | 60                                        | 1.14             | 1.15 | 1.16 | 1.19 |
|           | 46-XXXX         | 8.2 - 12.4                                  | 1.38                                     | 2.25    | 120                         | 36                       | 0.13                   | 240                   | 60                                        | 1.14             | 1.15 | 1.16 | 1.19 |
|           | 47-XXXX         | 8.2 - 12.4                                  | 1.38                                     | 2.25    | 120                         | 36                       | 0.13                   | 240                   | 60                                        | 1.14             | 1.15 | 1.16 | 1.19 |
|           | 67-XXXX         | 8.2 - 12.4                                  | 1.38                                     | 2.25    | 120                         | 36                       | 0.13                   | 240                   | 60                                        | 1.14             | 1.15 | 1.16 | 1.19 |
|           | 68-XXXX         | 8.2 - 12.4                                  | 1.38                                     | 2.25    | 120                         | 36                       | 0.13                   | 240                   | 60                                        | 1.14             | 1.15 | 1.16 | 1.19 |
| III       | 48-XXXX         | 12.4 - 18.0                                 | 1.25                                     | 1.75    | 120                         | 36                       | 0.30                   | 250                   | 60                                        | 1.13             | 1.15 | 1.19 | 1.24 |
|           | 49-XXXX         | 12.4 - 18.0                                 | 1.25                                     | 1.75    | 120                         | 36                       | 0.30                   | 250                   | 60                                        | 1.13             | 1.15 | 1.19 | 1.24 |
|           | 50-XXXX         | 12.4 - 18.0                                 | 1.25                                     | 1.75    | 120                         | 36                       | 0.30                   | 250                   | 60                                        | 1.13             | 1.15 | 1.19 | 1.24 |
|           | 51-XXXX         | 12.4 - 18.0                                 | 1.25                                     | 1.75    | 120                         | 36                       | 0.30                   | 250                   | 60                                        | 1.13             | 1.15 | 1.19 | 1.24 |
|           | 52-XXXX         | 12.4 - 18.0                                 | 1.25                                     | 1.75    | 120                         | 36                       | 0.30                   | 250                   | 60                                        | 1.13             | 1.15 | 1.19 | 1.24 |
|           | 53-XXXX         | 12.4 - 18.0                                 | 1.25                                     | 1.75    | 120                         | 36                       | 0.30                   | 250                   | 60                                        | 1.13             | 1.15 | 1.19 | 1.24 |
|           | 68-XXXX         | 12.4 - 18.0                                 | 1.25                                     | 1.75    | 120                         | 36                       | 0.30                   | 250                   | 60                                        | 1.13             | 1.15 | 1.19 | 1.24 |
|           | 69-XXXX         | 12.4 - 18.0                                 | 1.25                                     | 1.75    | 120                         | 36                       | 0.30                   | 250                   | 60                                        | 1.13             | 1.15 | 1.19 | 1.24 |
| III       | 54-XXXX         | 18.0 - 26.5                                 | 1.12                                     | 1.25    | 132                         | 30                       | 0.35                   | 264                   | 60                                        | 1.14             | 1.16 | 1.20 | 1.25 |
|           | 55-XXXX         | 18.0 - 26.5                                 | 1.12                                     | 1.25    | 132                         | 30                       | 0.35                   | 264                   | 60                                        | 1.14             | 1.16 | 1.20 | 1.25 |
|           | 56-XXXX         | 18.0 - 26.5                                 | 1.12                                     | 1.25    | 132                         | 30                       | 0.35                   | 264                   | 60                                        | 1.14             | 1.16 | 1.20 | 1.25 |
|           | 57-XXXX         | 18.0 - 26.5                                 | 1.12                                     | 1.25    | 132                         | 30                       | 0.35                   | 264                   | 60                                        | 1.14             | 1.16 | 1.20 | 1.25 |
|           | 58-XXXX         | 18.0 - 26.5                                 | 1.12                                     | 1.25    | 132                         | 30                       | 0.35                   | 264                   | 60                                        | 1.14             | 1.16 | 1.20 | 1.25 |
|           | 59-XXXX         | 18.0 - 26.5                                 | 1.12                                     | 1.25    | 132                         | 30                       | 0.35                   | 264                   | 60                                        | 1.14             | 1.16 | 1.20 | 1.25 |
|           | 69-XXXX         | 18.0 - 26.5                                 | 1.12                                     | 1.25    | 132                         | 30                       | 0.35                   | 264                   | 60                                        | 1.14             | 1.16 | 1.20 | 1.25 |
|           | 70-XXXX         | 18.0 - 26.5                                 | 1.12                                     | 1.25    | 132                         | 30                       | 0.35                   | 264                   | 60                                        | 1.14             | 1.16 | 1.20 | 1.25 |

See footnotes at end of table I.

TABLE I. Extra-flexible, twistable waveguide assemblies - Continued.

| Flexure<br>(degrees/ft)<br>1x10 <sup>5</sup> cycles |         | Jacket<br>material | Retention force<br>(lb) | Operating<br>temp range<br>-55°C to | Mates with<br>standard rigid<br>waveguide M85/1- | Flanges               |                       |                |
|-----------------------------------------------------|---------|--------------------|-------------------------|-------------------------------------|--------------------------------------------------|-----------------------|-----------------------|----------------|
| E plane                                             | H plane |                    |                         |                                     |                                                  | Flange 1<br>M3922/( ) | Flange 2<br>M3922/( ) | Material<br>3/ |
| 7.2                                                 | 3.6     | Neoprene           | N/A                     | +100°C                              | 017                                              | 58-007 (contact)      | 58-007 (contact)      | Cu             |
| 7.2                                                 | 3.6     | Neoprene           | N/A                     | +100°C                              | 018                                              | 58-008 (contact)      | 58-008 (contact)      | Al             |
| 4/                                                  | 4/      | Neoprene           | N/A                     | +100°C                              | 017                                              | 58-007 (contact)      | 58-007 (contact)      | Cu             |
| 8.6                                                 | 4.3     | Neoprene           | N/A                     | +100°C                              | 031                                              | 58-009 (contact)      | 58-009 (contact)      | Cu             |
| 8.6                                                 | 4.3     | Neoprene           | N/A                     | +100°C                              | 029                                              | 58-010 (contact)      | 58-010 (contact)      | Al             |
| 4/                                                  | 4/      | Neoprene           | N/A                     | +100°C                              | 031                                              | 58-009 (contact)      | 58-009 (contact)      | Cu             |
| 10.50                                               | 5.28    | Neoprene           | N/A                     | +100°C                              | 037                                              | 58-011 (contact)      | 58-011 (contact)      | Cu             |
| 10.50                                               | 5.28    | Neoprene           | N/A                     | +100°C                              | 035                                              | 58-012 (contact)      | 58-012 (contact)      | Al             |
| 4/                                                  | 4/      | Neoprene           | N/A                     | +100°C                              | 037                                              | 58-011 (contact)      | 58-011 (contact)      | Cu             |
| 11.5                                                | 7.5     | Neoprene           | N/A                     | +100°C                              | 043                                              | 64-001 (contact)      | 64-001 (contact)      | Cu             |
| 11.5                                                | 7.5     | Neoprene           | N/A                     | +100°C                              | 041                                              | 64-002 (contact)      | 64-002 (contact)      | Al             |
| 11.5                                                | 7.5     | Neoprene           | N/A                     | +100°C                              | 043                                              | 56-001 (cover)        | 56-001 (cover)        | Cu             |
| 11.5                                                | 7.5     | Neoprene           | N/A                     | +100°C                              | 041                                              | 56-002 (cover)        | 56-002 (cover)        | Al             |
| 11.5                                                | 7.5     | Neoprene           | N/A                     | +100°C                              | 043                                              | 61-002 (choke)        | 56-001 (cover)        | Cu             |
| 11.5                                                | 7.5     | Neoprene           | N/A                     | +100°C                              | 041                                              | 61-001 (choke)        | 56-002 (cover)        | Al             |
| 11.5                                                | 7.5     | Neoprene           | N/A                     | +100°C                              | 043                                              | 61-002 (choke)        | 61-002 (choke)        | Cu             |
| 11.5                                                | 7.5     | Neoprene           | N/A                     | +100°C                              | 041                                              | 61-001 (choke)        | 61-001 (choke)        | Al             |
| 11.5                                                | 7.5     | Plastic            | N/A                     | +65°C                               | 041                                              | 52-032 (contact)      | 52-032 (contact)      | Al             |
| 4/                                                  | 4/      | Neoprene           | N/A                     | +100°C                              | 043                                              | 58-011 (contact)      | 58-011 (contact)      | Cu             |
| 19.0                                                | 9.5     | Neoprene           | N/A                     | +100°C                              | 055                                              | 63-001 (contact)      | 63-001 (contact)      | Cu             |
| 19.0                                                | 9.5     | Neoprene           | N/A                     | +100°C                              | 053                                              | 63-005 (contact)      | 63-005 (contact)      | Al             |
| 19.0                                                | 9.5     | Neoprene           | N/A                     | +100°C                              | 055                                              | 57-002 (cover)        | 57-002 (cover)        | Cu             |
| 19.0                                                | 9.5     | Neoprene           | N/A                     | +100°C                              | 053                                              | 57-001 (cover)        | 57-001 (cover)        | Al             |
| 19.0                                                | 9.5     | Neoprene           | N/A                     | +100°C                              | 055                                              | 62-002 (choke)        | 57-002 (cover)        | Cu             |
| 19.0                                                | 9.5     | Neoprene           | N/A                     | +100°C                              | 053                                              | 62-001 (choke)        | 57-001 (cover)        | Al             |
| 19.0                                                | 9.5     | Neoprene           | N/A                     | +100°C                              | 055                                              | 62-002 (choke)        | 62-002 (choke)        | Cu             |
| 19.0                                                | 9.5     | Neoprene           | N/A                     | +100°C                              | 053                                              | 62-001 (choke)        | 62-001 (choke)        | Al             |
| 4/                                                  | 4/      | Neoprene           | N/A                     | +100°C                              | 055                                              | 63-001 (contact)      | 63-001 (contact)      | Cu             |
| 26.50                                               | 13.25   | Neoprene           | N/A                     | +100°C                              | 067                                              | 63-002 (contact)      | 63-002 (contact)      | Cu             |
| 26.50                                               | 13.25   | Neoprene           | N/A                     | +100°C                              | 065                                              | 63-006 (contact)      | 63-006 (contact)      | Al             |
| 26.50                                               | 13.25   | Neoprene           | N/A                     | +100°C                              | 067                                              | 55-001 (cover)        | 55-001 (cover)        | Cu             |
| 26.50                                               | 13.25   | Neoprene           | N/A                     | +100°C                              | 065                                              | 55-002 (cover)        | 55-002 (cover)        | Al             |
| 26.50                                               | 13.25   | Neoprene           | N/A                     | +100°C                              | 067                                              | 60-001 (choke)        | 55-001 (cover)        | Cu             |
| 26.50                                               | 13.25   | Neoprene           | N/A                     | +100°C                              | 065                                              | 60-002 (choke)        | 55-002 (cover)        | Al             |
| 26.50                                               | 13.25   | Neoprene           | N/A                     | +100°C                              | 067                                              | 60-001 (choke)        | 60-001 (choke)        | Cu             |
| 26.50                                               | 13.25   | Neoprene           | N/A                     | +100°C                              | 065                                              | 60-002 (choke)        | 60-002 (choke)        | Al             |
| 4/                                                  | 4/      | Neoprene           | N/A                     | +100°C                              | 067                                              | 63-002 (contact)      | 63-002 (contact)      | Cu             |
| 28.8                                                | 14.4    | Neoprene           | N/A                     | +100°C                              | 073                                              | 63-003 (contact)      | 63-003 (contact)      | Cu             |
| 28.8                                                | 14.4    | Neoprene           | N/A                     | +100°C                              | 071                                              | 63-007 (contact)      | 63-007 (contact)      | Al             |
| 28.8                                                | 14.4    | Neoprene           | N/A                     | +100°C                              | 073                                              | 53-002 (cover)        | 53-002 (cover)        | Cu             |
| 28.8                                                | 14.4    | Neoprene           | N/A                     | +100°C                              | 071                                              | 53-004 (cover)        | 53-004 (cover)        | Al             |
| 28.8                                                | 14.4    | Neoprene           | N/A                     | +100°C                              | 073                                              | 59-007 (choke)        | 53-002 (cover)        | Cu             |
| 28.8                                                | 14.4    | Neoprene           | N/A                     | +100°C                              | 071                                              | 59-009 (choke)        | 53-004 (cover)        | Al             |
| 28.8                                                | 14.4    | Neoprene           | N/A                     | +100°C                              | 073                                              | 59-007 (choke)        | 59-007 (choke)        | Cu             |
| 28.8                                                | 14.4    | Neoprene           | N/A                     | +100°C                              | 071                                              | 59-009 (choke)        | 59-009 (choke)        | Al             |
| 4/                                                  | 4/      | Neoprene           | N/A                     | +100°C                              | 073                                              | 63-003 (contact)      | 63-003 (contact)      | Cu             |
| 34.25                                               | 17.12   | Neoprene           | N/A                     | +100°C                              | 079                                              | 63-004 (contact)      | 63-004 (contact)      | Cu             |
| 34.25                                               | 17.12   | Neoprene           | N/A                     | +100°C                              | 077                                              | 63-008 (contact)      | 63-008 (contact)      | Al             |
| 34.25                                               | 17.12   | Neoprene           | N/A                     | +100°C                              | 079                                              | 53-001 (cover)        | 53-001 (cover)        | Cu             |
| 34.25                                               | 17.12   | Neoprene           | N/A                     | +100°C                              | 077                                              | 53-003 (cover)        | 53-003 (cover)        | Al             |
| 34.25                                               | 17.12   | Neoprene           | N/A                     | +100°C                              | 079                                              | 59-006 (choke)        | 53-001 (cover)        | Cu             |
| 34.25                                               | 17.12   | Neoprene           | N/A                     | +100°C                              | 077                                              | 59-008 (choke)        | 53-003 (cover)        | Al             |
| 34.25                                               | 17.12   | Neoprene           | N/A                     | +100°C                              | 079                                              | 59-006 (choke)        | 59-006 (choke)        | Cu             |
| 34.25                                               | 17.12   | Neoprene           | N/A                     | +100°C                              | 077                                              | 59-008 (choke)        | 59-008 (choke)        | Al             |
| 4/                                                  | 4/      | Neoprene           | N/A                     | +100°C                              | 079                                              | 63-004 (contact)      | 63-004 (contact)      | Cu             |
| 53.0                                                | 26.5    | Neoprene           | N/A                     | +100°C                              | 089                                              | 53-005 (cover)        | 53-005 (cover)        | Cu             |
| 53.0                                                | 26.5    | Neoprene           | N/A                     | +100°C                              | 090                                              | 53-006 (cover)        | 53-006 (cover)        | Al             |
| 53.0                                                | 26.5    | Neoprene           | N/A                     | +100°C                              | 089                                              | 59-001 (choke)        | 53-005 (cover)        | Cu             |
| 53.0                                                | 26.5    | Neoprene           | N/A                     | +100°C                              | 090                                              | 59-002 (choke)        | 53-006 (cover)        | Al             |
| 53.0                                                | 26.5    | Neoprene           | N/A                     | +100°C                              | 089                                              | 59-001 (choke)        | 59-001 (choke)        | Cu             |
| 53.0                                                | 26.5    | Neoprene           | N/A                     | +100°C                              | 090                                              | 59-002 (choke)        | 59-002 (choke)        | Al             |
| 4/                                                  | 4/      | Neoprene           | N/A                     | +100°C                              | 089                                              | 53-005 (cover)        | 53-005 (cover)        | Cu             |
| 69.0                                                | 34.5    | Neoprene           | N/A                     | +100°C                              | 102                                              | 54-001 (cover)        | 54-001 (cover)        | Cu             |
| 69.0                                                | 34.5    | Neoprene           | N/A                     | +100°C                              | 103                                              | 54-002 (cover)        | 54-002 (cover)        | Al             |
| 69.0                                                | 34.5    | Neoprene           | N/A                     | +100°C                              | 102                                              | 59-003 (choke)        | 54-001 (cover)        | Cu             |
| 69.0                                                | 34.5    | Neoprene           | N/A                     | +100°C                              | 103                                              | 59-004 (choke)        | 54-002 (cover)        | Al             |
| 69.0                                                | 34.5    | Neoprene           | N/A                     | +100°C                              | 102                                              | 59-003 (choke)        | 59-003 (choke)        | Cu             |
| 69.0                                                | 34.5    | Neoprene           | N/A                     | +100°C                              | 103                                              | 59-004 (choke)        | 59-004 (choke)        | Al             |
| 4/                                                  | 4/      | Neoprene           | N/A                     | +100°C                              | 102                                              | 54-001 (cover)        | 54-001 (cover)        | Cu             |

See footnotes at end of table I.

- 1/ The complete part number shall be the number shown and a four-digit number indicating the nominal relaxed length in inches.
- 2/ The VSWR value for any length between the lengths specified shall be the next higher value (e.g. for a 15 inch length M287/5-01, the VSWR would be 1.06:1).
- 3/ Cu = copper alloy, Al = aluminum alloy.
- 4/ The assemblies are constructed from beryllium copper and the flexure cycle is  $10^6$  rather than  $10^5$ . All other characteristics are as listed.

Table II. Grouping for first article approval.

| Group number | First article dash number | Dash numbers of assemblies receiving first article approval, with procuring activity approval |
|--------------|---------------------------|-----------------------------------------------------------------------------------------------|
| I            | 04                        | 01, 02, 03, and 05 through 15                                                                 |
| I            | 61                        | 60, 62, and 63                                                                                |
| II           | 25                        | 16 through 24 and 26 through 47                                                               |
| II           | 65                        | 64, 66, and 67                                                                                |
| III          | 48                        | 49 through 53                                                                                 |
| III          | 55                        | 54, 56 through 59                                                                             |
| III          | 69                        | 68                                                                                            |

Table III. Cross reference (type designation to part number).

| Type designation | Part number M287/5- ( ) | Type designation | Part number M287/5- ( ) |
|------------------|-------------------------|------------------|-------------------------|
| FG650CEEB        | 01                      | FG042CCCB        | 56                      |
| FG430CEEB        | 03                      | FG284CCCA        | 12                      |
| FG340CEEB        | 05                      | FG187CCCA        | 21                      |
| FG284CEEB        | 07                      | FG137CCCA        | 29                      |
| FG187CEEB        | 16                      | FG112CCCA        | 37                      |
| FG137CEEB        | 24                      | FG090CCCA        | 45                      |
| FG112CEEB        | 32                      | FG062CCCA        | 51                      |
| FG090CEEB        | 40                      | FG042CCCA        | 57                      |
| FG650CEEA        | 02                      | FG284CDDB        | 09                      |
| FG430CEEA        | 04                      | FG187CDDB        | 18                      |
| FG340CEEA        | 06                      | FG137CDDB        | 26                      |
| FG284CEEA        | 08                      | FG112CDDB        | 34                      |
| FG187CEEA        | 17                      | FG090CDDB        | 42                      |
| FG137CEEA        | 25                      | FG062CDDB        | 48                      |
| FG112CEEA        | 33                      | FG042CDDB        | 54                      |
| FG090CEEA        | 41                      | FG284CDDA        | 10                      |
| FG284CCCB        | 11                      | FG187CDDA        | 19                      |
| FG187CCCB        | 20                      | FG137CDDA        | 27                      |
| FG137CCCB        | 28                      | FG112CDDA        | 35                      |
| FG112CCCB        | 36                      | FG090CDDA        | 43                      |
| FG090CCCB        | 44                      | FG062CDDA        | 49                      |
| FG062CCCB        | 50                      | FG042CDDA        | 55                      |

Table IV. Substitution data. 1/

| Dash number | Manufacturer's code (CAGE) | Manufacturer's part number |
|-------------|----------------------------|----------------------------|
| 01          | 2AAJ0                      | AT2B650                    |
| 01          | 06351                      | TFT-1020000                |
| 01          | 54647                      | MTE360500                  |
| 02          | 2AAJ0                      | AT6B650                    |
| 02          | 06351                      | TFT-102001                 |
| 02          | 54647                      | MTE3605                    |
| 03          | 2AAJ0                      | AT2B430                    |
| 03          | 06351                      | TFT-94000                  |
| 03          | 54647                      | MTE3605                    |
| 04          | 2AAJ0                      | AT6B430                    |
| 04          | 06351                      | TFT-94001                  |
| 04          | 54647                      | MTE3605                    |
| 05          | 2AAJ0                      | AT2B340                    |
| 05          | 06351                      | TFT-89000                  |
| 05          | 54647                      | MTE3605                    |
| 06          | 2AAJ0                      | AT6B340                    |
| 06          | 06351                      | TFT-89001                  |
| 06          | 54647                      | MTE3605                    |
| 07          | 2AAJ0                      | AT12B284                   |
| 07          | 06351                      | TFT-86055                  |
| 07          | 54647                      | MTE3605                    |
| 08          | 2AAJ0                      | AT16B284                   |
| 08          | 06351                      | TFT-86056                  |
| 08          | 54647                      | MTE3605                    |
| 09          | 2AAJ0                      | AT2B284                    |
| 09          | 06351                      | TFT-86059                  |
| 09          | 54647                      | MTE3605                    |
| 10          | 2AAJ0                      | AT6B284                    |
| 10          | 06351                      | TFT-86060                  |
| 10          | 54647                      | MTE3605                    |
| 11          | 2AAJ0                      | AT3B284                    |
| 11          | 06351                      | TFT-86057                  |
| 11          | 54647                      | MTE3605                    |
| 12          | 2AAJ0                      | AT7B284                    |
| 12          | 06351                      | TFT-786058                 |
| 12          | 54647                      | MTE3605                    |
| 13          | 2AAJ0                      | AT4B284                    |
| 13          | 54647                      | MTE3605                    |
| 14          | 2AAJ0                      | AT8B284                    |
| 14          | 54647                      | MTE3605                    |
| 15          | 54647                      | MTE3605                    |
| 16          | 2AAJ0                      | AT12B187                   |
| 16          | 06351                      | TFT-78044                  |
| 16          | 54647                      | MTE3605                    |
| 17          | 2AAJ0                      | AT16B187                   |
| 17          | 06351                      | TFT-78045                  |
| 17          | 54647                      | MTE3605                    |
| 18          | 2AAJ0                      | AT2B187                    |
| 18          | 06351                      | TFT-78048                  |
| 18          | 54647                      | MTE3605                    |
| 19          | 2AAJ0                      | AT6B187                    |
| 19          | 06351                      | TFT-78049                  |
| 19          | 54647                      | MTE3605                    |
| 20          | 2AAJ0                      | AT3B187                    |
| 20          | 06351                      | TFT-78046                  |
| 20          | 54647                      | MTE3605                    |
| 21          | 2AAJ0                      | AT7B187                    |
| 21          | 06351                      | TFT-78047                  |
| 21          | 54647                      | MTE3605                    |
| 22          | 2AAJ0                      | AT4B187                    |
| 22          | 54647                      | MTE3605                    |
| 23          | 2AAJ0                      | AT8B187                    |
| 23          | 54647                      | MTE3605                    |

See footnote at end of table IV.

Table IV. Substitution data. 1/ - Continued.

| Dash number | Manufacturer's code (CAGE) | Manufacturer's part number |
|-------------|----------------------------|----------------------------|
| 24          | 2AAJ0                      | AT12B137                   |
| 24          | 06351                      | TFT-72081                  |
| 24          | 54647                      | MTE3605                    |
| 25          | 2AAJ0                      | AT16B137                   |
| 25          | 06351                      | TFT-72082                  |
| 25          | 54647                      | MTE3605                    |
| 26          | 2AAJ0                      | AT2B137                    |
| 26          | 06351                      | TFT-72085                  |
| 26          | 54647                      | MTE3605                    |
| 27          | 2AAJ0                      | AT6B137                    |
| 27          | 06351                      | TFT-72086                  |
| 27          | 54647                      | MTE3605                    |
| 28          | 2AAJ0                      | AT3B137                    |
| 28          | 06351                      | TFT-72083                  |
| 28          | 54647                      | MTE3605                    |
| 29          | 2AAJ0                      | AT7B137                    |
| 29          | 06351                      | TFT-72084                  |
| 29          | 54647                      | MTE3605                    |
| 30          | 2AAJ0                      | AT4B137                    |
| 30          | 54647                      | MTE3605                    |
| 31          | 2AAJ0                      | AT8B137                    |
| 31          | 54647                      | MTE3605                    |
| 32          | 2AAJ0                      | AT12B112                   |
| 32          | 06351                      | TFT-68065                  |
| 32          | 54647                      | MTE3605                    |
| 33          | 2AAJ0                      | AT16B112                   |
| 33          | 06351                      | TFT-68066                  |
| 33          | 54647                      | MTE3605                    |
| 34          | 2AAJ0                      | AT2B112                    |
| 34          | 06351                      | TFT-68011                  |
| 34          | 54647                      | MTE3605                    |
| 35          | 2AAJ0                      | AT6B112                    |
| 35          | 06351                      | TFT-68068                  |
| 35          | 54647                      | MTE3605                    |
| 36          | 2AAJ0                      | AT3B112                    |
| 36          | 06351                      | TFT-68014                  |
| 36          | 54647                      | MTE3605                    |
| 37          | 2AAJ0                      | AT7B112                    |
| 37          | 06351                      | TFT-68067                  |
| 37          | 54647                      | MTE3605                    |
| 38          | 2AAJ0                      | AT4B112                    |
| 38          | 54647                      | MTE3605                    |
| 39          | 2AAJ0                      | AT8B112                    |
| 39          | 54647                      | MTE3605                    |
| 40          | 2AAJ0                      | AT12B090                   |
| 40          | 06351                      | TFT-64139                  |
| 40          | 54647                      | MTE3605                    |
| 41          | 2AAJ0                      | AT16B090                   |
| 41          | 06351                      | TFT-64140                  |
| 41          | 54647                      | MTE3605                    |
| 42          | 2AAJ0                      | AT2B090                    |
| 42          | 06351                      | TFT-64141                  |
| 42          | 54647                      | MTE3605                    |
| 43          | 2AAJ0                      | AT6B090                    |
| 43          | 06351                      | TFT-64104                  |
| 43          | 54647                      | MTE3605                    |
| 44          | 2AAJ0                      | AT3B090                    |
| 44          | 06351                      | TFT-64094                  |
| 44          | 54647                      | MTE3605                    |

See footnote at end of table IV.

Table IV. Substitution data. 1/ - Continued.

| Dash number | Manufacturer's code (CAGE) | Manufacturer's part number |
|-------------|----------------------------|----------------------------|
| 45          | 2AAJ0                      | AT7B090                    |
| 45          | 06351                      | TFT-64061                  |
| 45          | 54647                      | MTE3605                    |
| 46          | 54647                      | MTE3605                    |
| 47          | 54647                      | MTE3605                    |
| 48          | 2AAJ0                      | AT2B062                    |
| 48          | 06351                      | TFT-57036                  |
| 48          | 54647                      | MTE3605                    |
| 49          | 2AAJ0                      | AT6B062                    |
| 49          | 06351                      | TFT-57041                  |
| 49          | 54647                      | MTE3605                    |
| 50          | 2AAJ0                      | AT3B062                    |
| 50          | 06351                      | TFT-57050                  |
| 50          | 54647                      | MTE3605                    |
| 51          | 2AAJ0                      | AT7B062                    |
| 51          | 06351                      | TFT-57040                  |
| 51          | 54647                      | MTE3605                    |
| 52          | 2AAJ0                      | AT4B062                    |
| 52          | 54647                      | MTE3605                    |
| 53          | 2AAJ0                      | AT8B062                    |
| 53          | 54647                      | MTE3605                    |
| 54          | 54647                      | MTE3605                    |
| 55          | 54647                      | MTE3605                    |
| 56          | 54647                      | MTE3605                    |
| 57          | 54647                      | MTE3605                    |
| 58          | 54647                      | MTE3605                    |
| 59          | 54647                      | MTE3605                    |

1/ Assemblies covered by this specification sheet are substitutable for the manufacturer's part numbers shown. This information in no way implies that the manufacturer's part is substitutable for the military part.

CAGE code: 2AAJ0- Airtron Division  
Litton Systems Incorporated  
200 East Hanover Avenue  
Morris Plains, NJ 07950-2442

06351 - Microwave Engineering Corporation  
1551 Osgood Street  
North Andover, MA 01845-1012  
<http://www.microwaveeng.com>

54647 - Microtech, Inc.  
1425 Highland Ave.  
Cheshire, CT 06410-1216  
USA  
<http://www.microtech-inc.com>

Referenced documents. This document only references MIL-DTL-287.

Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Custodians:

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

Preparing activity:

DLA - CC  
  
(Project 5985-2013-051)

Review activities:

Army - AR, AV, 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/>.