

METRIC

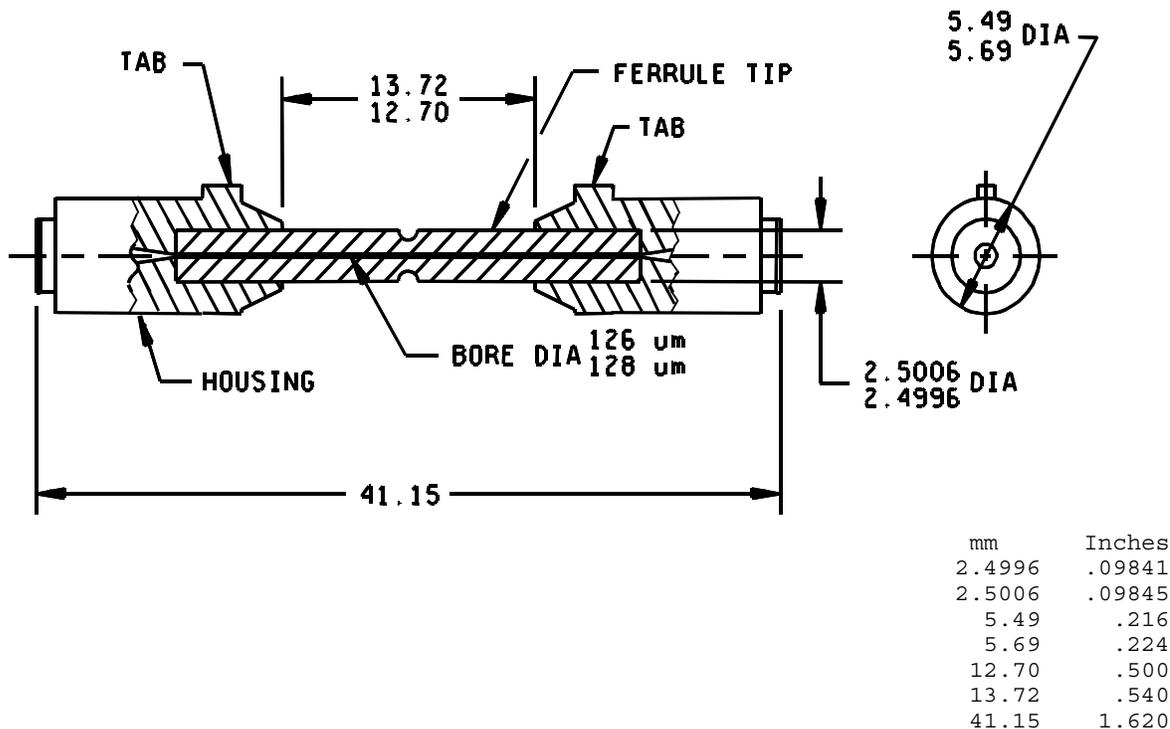
MIL-PRF-24623/4C
24 May 2001
SUPERSEDING
MIL-S-24623/4B
21 June 1995
MIL-S-24623/4A
10 June 1991

PERFORMANCE SPECIFICATION SHEET

SPLICE, FIBER OPTIC, HOUSING, ROTARY MECHANICAL, FIBER

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

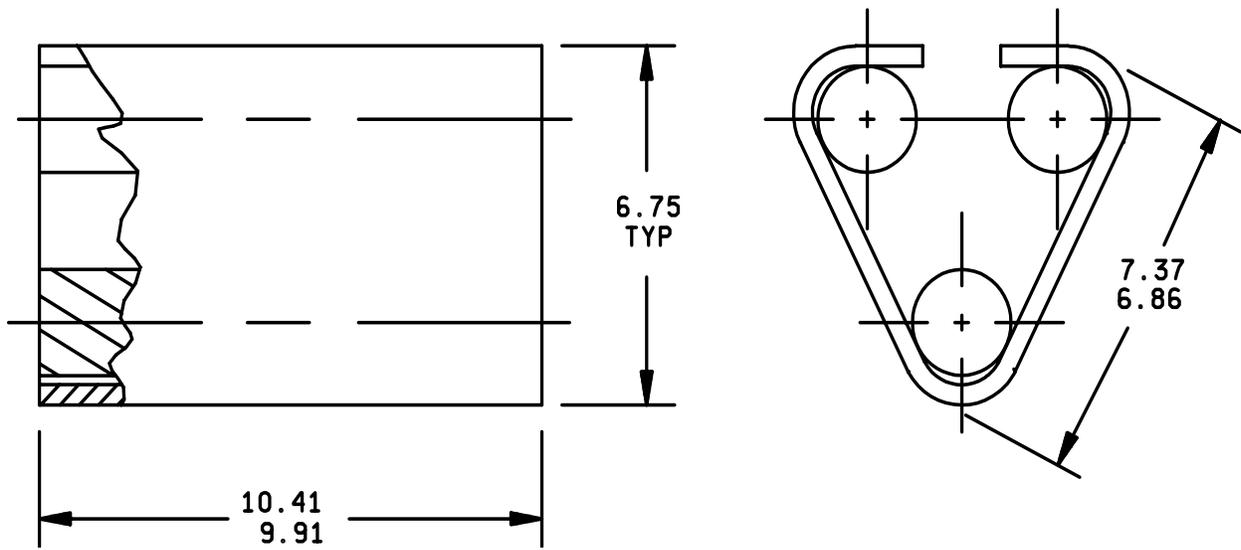
The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation: MIL-PRF-24623.



NOTES:

1. All dimensions are in millimeters.
2. Inch equivalents are given for general information only.
3. Splice housing design not shown. Splice housing must fit into splice cavities within items M24623/04-03 and M24623/04-04.

FIGURE 1. Rotary splice ferrule - M24623/04-04 (included within M24623/04-01).

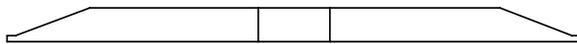
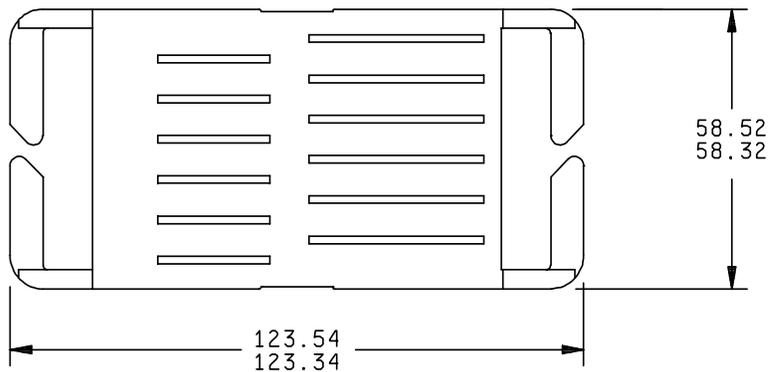


mm	Inches
6.75	.266
6.86	.270
7.37	.290
9.91	.390
10.41	.410

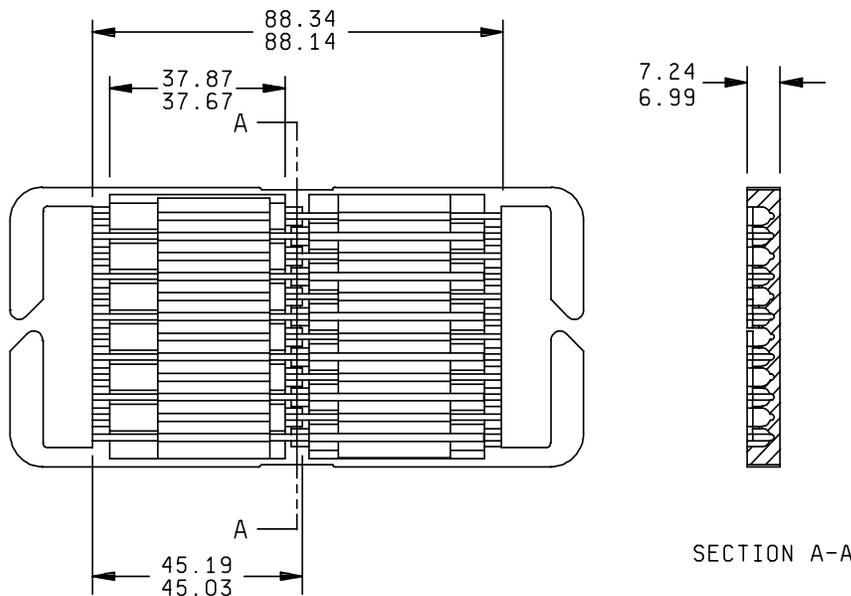
NOTES:

1. All dimensions are in millimeters.
2. Inch equivalents are given for general information only.

FIGURE 2. Rotary splice triangular sleeve - M24623/04-05 (included within M24623/04-01).



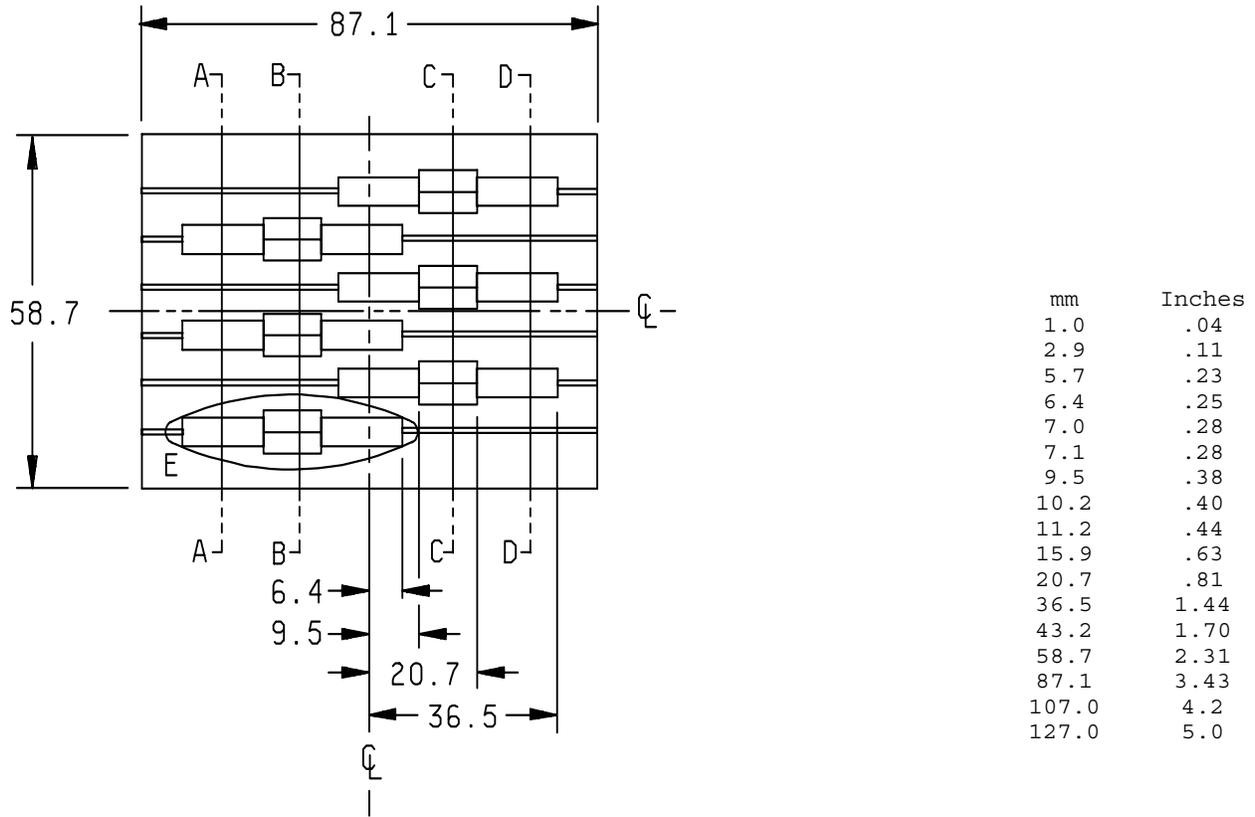
mm	Inches
6.99	.275
7.24	.285
37.67	1.483
37.87	1.490
45.03	1.773
45.19	1.779
58.32	2.296
58.52	2.304
88.14	3.470
88.34	3.478
123.34	4.856
123.54	4.864



NOTES:

1. All dimensions are in millimeters.
2. Inch equivalents are given for general information only.

FIGURE 3. Rotary splice tray (non shock hardened) - M24623/04-02.

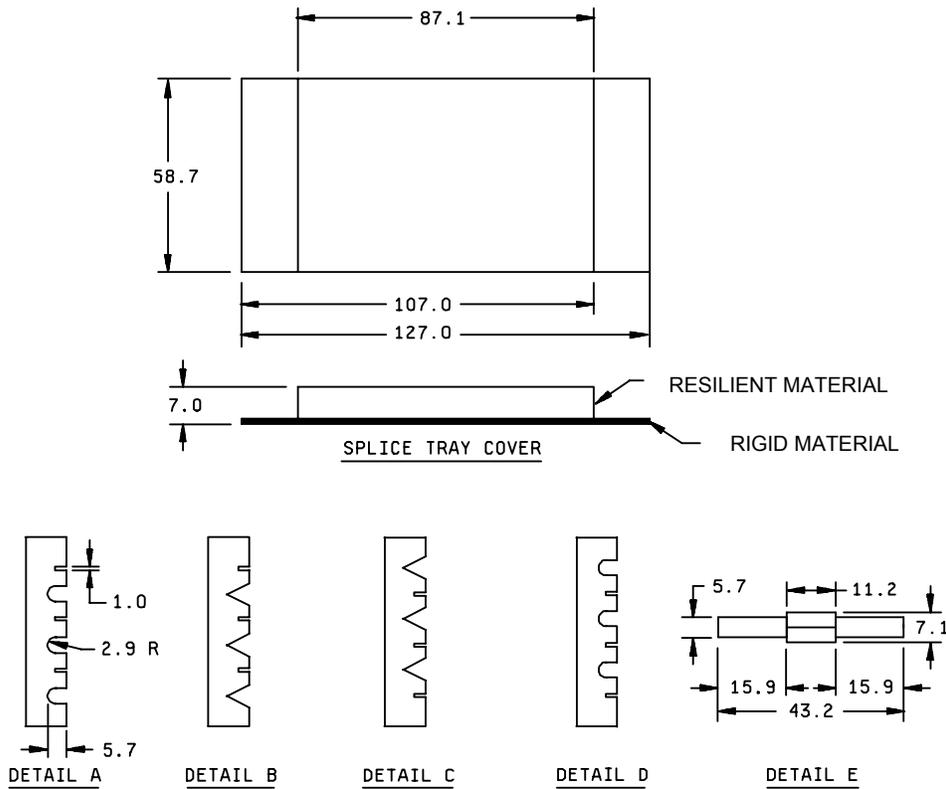


SPLICE TRAY BODY

NOTES:

1. All dimensions are in millimeters.
2. Inch equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ± 1.0 (.04) for 1 place decimals.

FIGURE 4. Rotary splice tray (shock hardened) - M24623/04-03.



NOTES:

1. All dimensions are in millimeters.
2. Inch equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ± 1.0 (.04) for 1 place decimals.

FIGURE 4. Rotary splice tray (shock hardened) - M24623/04-03 - Continued.

REQUIREMENTS:

Design and construction: See figures 1, 2, 3, and 4.

Fiber style: Both single-mode and multimode.

Splice type: Fiber splice.

Weight: Rotary splice (with triangular sleeve): ≤ 3 grams.

Rotary splice tray: \leq (Less than or equal) to 14 grams.

Ferrule material: Metallic materials are prohibited.

Exterior parts: Metallic exterior parts of the assembled splice shall have a passivated finish compatible with external coatings or platings of the type and color specified.

Nuclear radiation: Not applicable.

Freezing water: Not applicable.

Fluid immersion: Not applicable.

Sand and dust: Not applicable.

Crosstalk: Not applicable.

Salt spray: Not applicable.

Water pressure: Not applicable.

Twist: Not applicable.

Cable seal flexing: Not applicable.

Axial compression loading: Not applicable.

Cable pull out: Not applicable.

Crush: Not applicable.

Flammability: Not applicable.

Temperature range: 1.

Qualification:

M24623/04-01, -04 and -05 - The following tests apply: Visual and mechanical inspections, weight, size, workmanship, identification marking, insertion loss, return loss, ambient light susceptibility, impact, temperature cycling, thermal shock, fiber pull out, temperature/humidity cycling, fungus, life aging, mechanical shock, and vibration.

M24623/04-02 - The following tests shall apply: Visual and mechanical inspections, weight, size, workmanship, identification marking, temperature cycling, thermal shock, fungus, mechanical shock, and vibration. For the thermal shock, temperature cycling, mechanical shock, and vibration tests, the sample shall be tested using two splices in accordance with figure 1. When samples are tested using splices, one splice shall be placed in an edge location and one splice shall be placed in a random location in each test sample. During the mechanical shock test the optical splice may have discontinuities greater than 0.3 dB. Only three test samples are required for qualification testing (two samples through all of the required tests except for fungus and one sample for the fungus test).

M24623/04-03 - The following tests apply: Visual and mechanical inspections, weight, size, workmanship, identification marking, temperature cycling, thermal shock, fungus, mechanical shock, and vibration. For the thermal shock, temperature cycling, mechanical shock, and vibration tests, the sample shall be tested using two splices in accordance with figure 1. When samples are tested using splices, one splice shall be placed in an edge location and one splice shall be placed in a random location in each test sample. Only three test samples are required for qualification testing (two samples through all of the required tests except for fungus and one sample for the fungus test).

Conformance (groups A, B, and C):

M24623/04-01, -04 and -05 - Group B testing shall not be performed. The following tests apply in groups A and C: Visual and mechanical inspections, size, workmanship, identification marking, insertion loss, return loss, impact, temperature cycling, thermal shock, fiber pull out, temperature/humidity cycling, life aging, and mechanical shock. For the size inspections of group A only the

ferrule external diameter and the housing-to-housing separation dimensions shall be tested.

M24623/04-02 - Group B testing shall not be performed. The following tests apply in groups A and C: Visual and mechanical inspections, size, workmanship, identification marking, temperature cycling, and mechanical shock. For the size inspections of group A, the inspection may be conducted on a sampled basis. For the temperature cycling and mechanical shock tests, the sample shall be tested using two splices in accordance with figure 1. When samples are tested using splices, one splice shall be placed in an edge location and one splice shall be placed in a random location in each test sample. During the mechanical shock test the optical splice may have discontinuities greater than 0.3 dB.

M24623/04-03 - The following tests apply: Visual and mechanical inspections, size, workmanship, identification marking, temperature cycling, and mechanical shock. For the size inspections of group A, the inspection may be conducted on a sampled basis. For the temperature cycling and mechanical shock tests, the sample shall be tested using two splices in accordance with figure 1. When samples are tested using splices, one splice shall be placed in an edge location and one splice shall be placed in a random location in each test sample.

Recommended tools: See MIL-STD-2042 and NAVSEA drawing 6872812.

Recommended adhesive: MIL-PRF-24793.

Recommended index matching material: MIL-PRF-24794.

Part or Identifying Number (PIN):

M24623/04-01 Rotary splice ferrule (see figure 1) and triangular sleeve (see figure 2).

M24623/04-02 Rotary splice tray (non shock hardened) (see figure 3).

M24623/04-03 Rotary splice tray (shock hardened) (see figure 4).

M24623/04-04 Rotary splice ferrule (see figure 1).

M24623/04-05 Triangular sleeve. (see figure 2)

TABLE I. Supersession data.

PIN	Superseding
M24623/04-01 <u>2</u> /	M24623/04-01* <u>1</u> /
M24623/04-02	M24623/04-02
M24623/04-03	None
M24623/04-04 <u>2</u> /	None
M24623/04-05 <u>2</u> /	None

1/ * is any letter from A to L.

2/ For replacement purposes, the Government will stock and issue M24623/04-01.

Intended use: The splices and shock hardened splice tray are intended for use in all applications inside protective enclosures. The non-hardened splice tray is intended for use in protective enclosures that will not be exposed to shock or in shock isolated protective enclosures.

Revision letters are not used to denote changes due to the extensiveness of the changes.

Custodians:

Army - CR
Navy - SH
Air Force - 11
NASA - NA

Preparing activity:

Navy - SH

Agent:

DLA - CC

Review activities:

Army - MI, AR
Navy - AS, EC, CG, MC
Air Force - 19, 80, 99
DLA - CC

(Project 6060-0122-01)