INCH-POUND

MS27144D
12 July 2016
SUPERSEDING
MS27144C
17 June 2003

DETAIL SPECIFICATION SHEET

CONNECTOR, PLUG, ELECTRICAL, SOCKET CONTACT, NO. 14 AND 16 AWG, WATERPROOF

This specification 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.

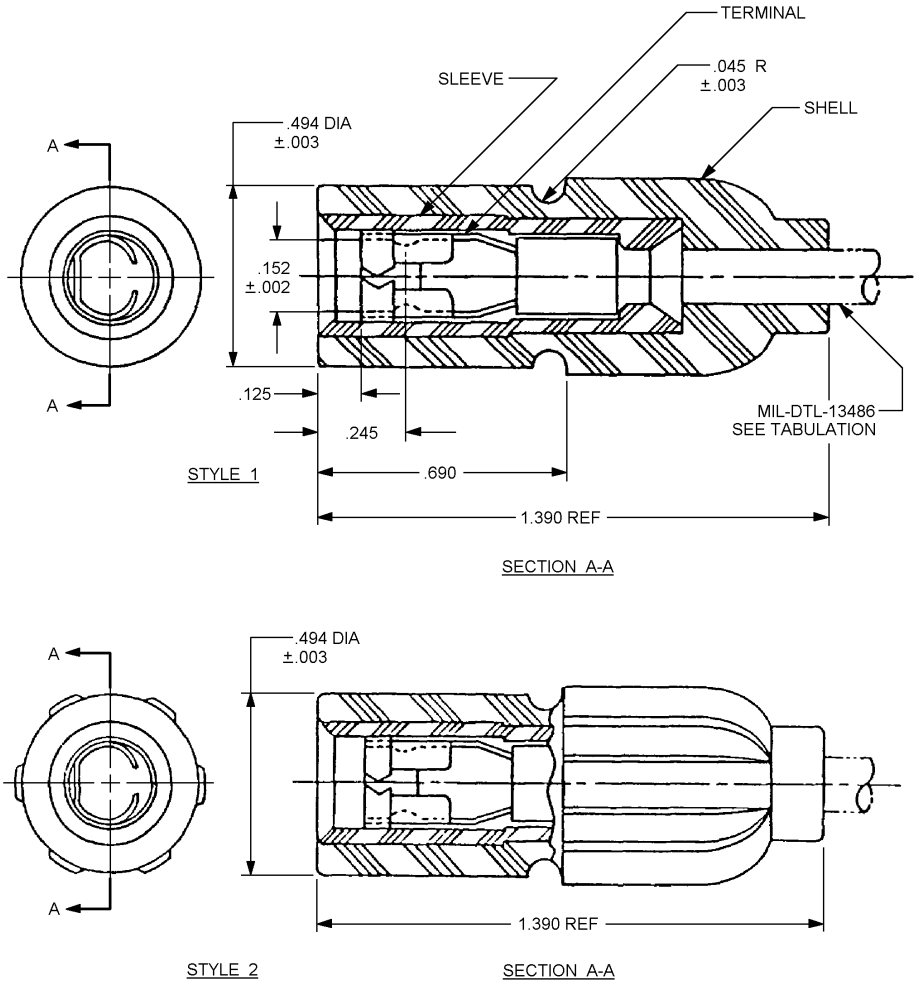

FIGURE 1. Configuration and dimensions.

AMSC N/A

FSC 5935

Inches	mm	Inches	mm
.002	0.05	.152	3.86
.003	0.07	.160	4.06
.010	0.25	.245	6.22
.015	0.38	.494	12.55
.045	1.10	.690	17.50
.125	3.18	1.390	35.30
.130	3.30		

MS dash no.	Reference drawing no. (assembly)	Style	Size	Wire gage	Shell drawing number	Terminal drawing number	Sleeve drawing number	Cable dia	Cable MIL-DTL-13486 PIN (see application note)
-1	8338560	1	1	14	8338561	8338564	8338562	.160±.010	M13486/1-5
-2	None	1	2	16	8724494	or		.135±.010	M13486/1-3
-3	7982398	2	1	14	7982401	7982997		.160±.010	M13486/1-5

FIGURE 1. Configuration and dimensions - Continued.

REQUIREMENTS:

Material:

Shell: Rubber in accordance with ASTM-D2000, M3BC610A14C12EO34F19.

Terminal: Brass composition, temper half hard minimum in accordance with ASTM-B36/B36M, ASTM-B121/B121M or ASTM-B124/B124M.

Terminal protective finish: Silver plate, grade D, class S, .0002-inch minimum thickness in accordance with ASTM-B700.

Mating connectors:

MS27144-1 (style 1, size 1) mates with connector MS33800 and MS27142, size 2.
MS27144-2 (style 1, size 2) mates with connector MS33800 and MS27142, size 3.
MS27144-3, (style 2, size 1) to be used only with ribbed receptacle MS33800, style II to denote polarity.
MS27144-1 and MS27144-2 may also be used with 3-way adapter, MS27147.

When connectors are coupled, the mated assembly shall meet the following requirements:

Voltage drop: The voltage drop shall not exceed 20 millivolts and shall meet the requirements outlined in MIL-STD-202-307.

Dielectric strength: The assembly shall withstand dielectric strength test of 1000 volts, and meet the requirements of MIL-STD-202-302.

Waterproof requirements: The assembly shall be waterproof. Refer to MIL-HDBK-1184, or equivalent, for guidance on waterproof testing.

Salt spray corrosion test: The assembly shall meet the requirements of salt spray corrosion test outlined in MIL-STD-202-101 (5% saline solution, 200 hours duration).

Pull test: Terminal number 8338564 to be crimped to cable. Terminal number 7982997 to be soldered to cable with solder composition SN-50 or SN-60, in accordance with J-STD-004, J-STD-005, and J-STD-006. The terminal shall withstand a pull test of 40 pounds (18 kilograms) for style 1 size 2, or 60 pounds (27 kilograms) for style 1 size 1, and style 2 size 1.

Separation force: The force required to uncouple the connectors shall not exceed 50 percent of the values expressed in the pull test above when tested at -55°C and at 85°C.

Part or Identifying Number (PIN): MS27144- (dash number as shown on figure 1).

Referenced drawings may be obtained from the U.S. Army Tank Automotive Command, Warren, MI, 48397-5000 (CAGE 19207).

APPLICATION NOTES:

(These application notes contain information of a general or explanatory nature and are provided for information only.)

Waterproof seal, cable selection and assembly: Recommend that only MIL-DTL-13486/1 cable be used for military applications in order to obtain a waterproof assembly. Other types of cable with smaller outer diameters have been found to be too small to provide a waterproof seal. In addition, to aid in assembling the cable to the connector, the user may apply isopropyl alcohol as an assembly lubricant.

Nomenclature: For this specification, connector nomenclature is based on the gender of the connector shell. Single wire connectors with socket contacts specified by this document are commonly referred to as “male connectors”. The associated MS27142 mating connectors with pin contacts are commonly referred to as “female connectors”.

Changes from previous issue. The margins of this specification 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 previous issue.

Referenced documents. This document references the following:

MIL-DTL-13486
MIL-DTL-13486/1
MS27142
MS27147
MS33800
MIL-STD-202-101
MIL-STD-202-302
MIL-STD-202-307
MIL-HDBK-1184
ASTM-B36/B36M
ASTM-B121/B121M
ASTM-B124/B124M
ASTM-B700
ASTM-D2000
J-STD-004
J-STD-005
J-STD-006
TACOM DWG 7982398
TACOM DWG 7982401
TACOM DWG 7982997
TACOM DWG 8338560
TACOM DWG 8338561
TACOM DWG 8338562
TACOM DWG 8338564
TACOM DWG 8724494

CONCLUDING MATERIAL

Custodians:
Army – AT
Air Force – 85
Navy – MC
DLA - CC

Review activities:
Army – CR, CR4
Air Force – 99

Preparing activity:
DLA - CC

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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.