

INCH-POUND

MS27146D  
 20 March 2018  
 SUPERSEDING  
 MS27146C  
 17 June 2003

## DETAIL SPECIFICATION SHEET

CONNECTOR, RECEPTACLE, ELECTRICAL,  
 DOUBLE CONTACT, 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.

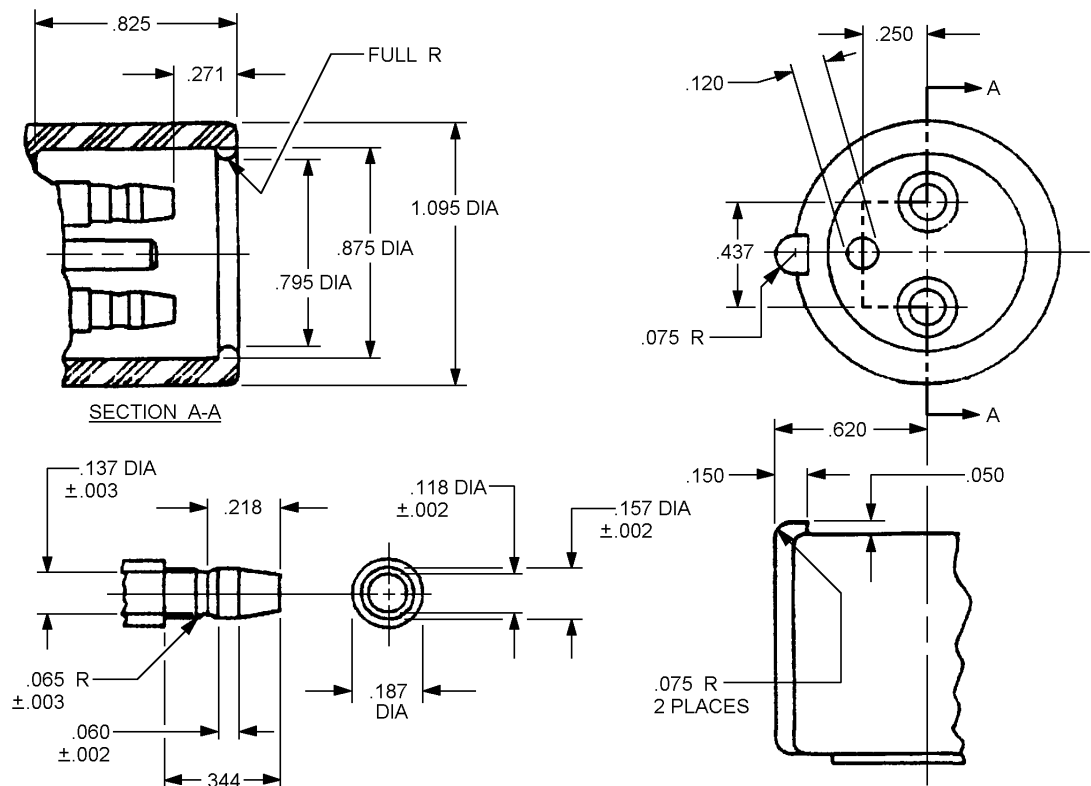


FIGURE 1. Configuration and dimensions.

Comments, suggestions, or questions on this document should be addressed to  
 DLA Land and Maritime - VAI, P.O. Box 3990, Columbus OH 43218-3990 or emailed to  
[CircularConnector@dla.mil](mailto:CircularConnector@dla.mil). Since contact information can change, you may want to verify the  
 currency of this address information using the ASSIST Online database at <https://assist.dla.mil>.



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Inches	mm	Inches	mm	Inches	mm
.002	0.051	.137	3.48	.437	11.10
.043	0.76	.150	3.81	.620	15.75
.050	1.27	.157	3.99	.795	20.19
.060	1.52	.187	4.75	.825	20.96
.065	1.65	.218	5.08	.875	11.23
.075	1.90	.250	6.35	1.095	27.81
.118	3.00	.271	6.89		
.120	3.05	.344	8.74		

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 connector: See MS27145.

When connectors are coupled, the following requirements shall apply:

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 outlined in 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).

Part or Identifying Number (PIN): MS27146-1.

Engineering parts list may be obtained from the U.S. Army Tank Automotive Command, Warren, MI 48397-5000.

## 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, assembly lubricants such as isopropyl alcohol or SAE-AS8660, as referenced in Army Pamphlet AMCP 706-360.

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Nomenclature: For this specification, connector nomenclature is based on the gender of the connector shell. Single wire connectors with pin contacts specified by this document are commonly referred to as "female connectors". The associated MS27145 mating connectors with pin contacts are commonly referred to as "male 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-13486/1  
MS27145  
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  
SAE-AS8660  
AMCP 706-360

## CONCLUDING MATERIAL

## Custodians:

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

## Preparing activity:

DLA - CC

(Project 5935-2018-051)

## Review activities:

Army – AR, CR, CR4, GL  
Navy – YD  
Air Force – 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>.