



DEFENSE LOGISTICS AGENCY

DEFENSE SUPPLY CENTER, COLUMBUS
POST OFFICE BOX 3990
COLUMBUS, OHIO 43216-5000

IN REPLY

REFER DSCC-VAI (Mr. Ron Gary/(614) 692-0568

May 21, 2004

MEMORANDUM FOR MILITARY/INDUSTRY DISTRIBUTION

SUBJECT: Initial Drafts of MIL-PRF-49142/3F through /12D; Connectors, Plugs and Receptacles, Electrical, Triaxial, Radio Frequency, Series TRB and TRT; Project Numbers 5935-4682-001 through -010.

The initial drafts for this subject documents will be available for viewing and downloading from the DSCC-VAI Web site within the next 5 working days:

<http://www.dsccl.dla.mil/Programs/MilSpec/initialdrafts.asp>

Changes to this document include new part number additions that allow for the use of Nickel plated adapter bodies, contact resistance values for the new plating and format up dates. However, the entire set of specification sheets are offered up for comment.

Concurrence or comments are required at this Center within 45 days from the date of this letter. Late comments will be held for the next coordination of this document. Comments from Military Departments must be identified as either "Essential" or "Suggested". Essential comments must be justified with supporting data. Military review activities should forward comments to their custodians, as applicable, in sufficient time to allow for consolidation of the Department reply.

Please forward your comments or concurrence electronically to the project officer listed below. This can be in the form of a return e-mail, with or without attached text files. If an electronic response is not possible, we will accept comments via letter, facsimilie, or phone call. Any further coordination concerning this document will be circulated only to firms and organizations that furnish comments or reply that they have an interest.

The point of contact for this document is Mr. Ron Gary. The preferred method of contact is via e-mail: Estel.Gary@dla.mil. Mr. Gary can also be reached at 614-692-0568/DSN 850-0568, or by facsimilie 614-692-6940.

Sincerely,

/signed/

RICHARD L. TAYLOR
Chief,
Interconnection Devices Team

Note: This draft dated 12 May 2004, prepared by the Defense Supply Center Columbus (DSCC-VAI) has not been approved and is subject to modification.
DO NOT USE PRIOR TO APPROVAL (Project 5935-4682-008)

INCH-POUND

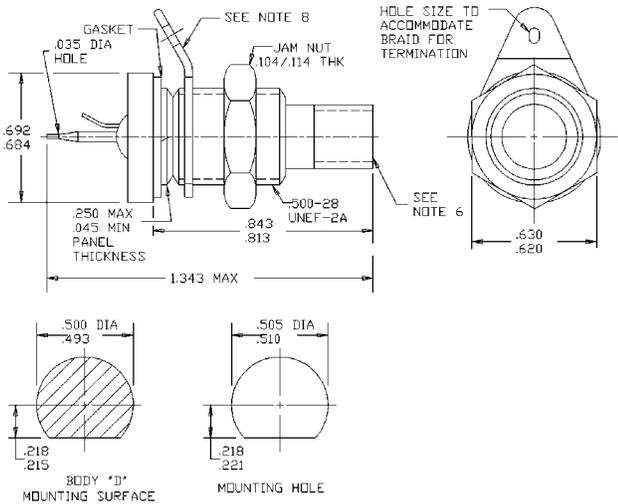
MIL-PRF-49142/10E
DRAFT
 SUPERSEDING
 MIL-PRF-49142/10D
 27 February 2002

PERFORMANCE SPECIFICATION SHEET

CONNECTORS, RECEPTACLE, ELECTRICAL, TRIAXIAL,
 RADIO FREQUENCY, UNCABLED (SERIES TRT, SOCKET CONTACT,
 JAMNUT MOUNTED, CLASS 2) HERMETIC AND NONHERMETIC

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 and MIL-PRF-49142.



Inches	mm	Inches	mm
.035	.88	.500	12.70
.045	1.14	.505	12.71
.104	2.64	.510	12.95
.114	2.90	.620	15.75
.215	5.46	.630	16.00
.218	5.54	.684	17.37
.221	5.61	.692	17.58
.250	6.35	.813	20.65
.493	12.52	.843	21.14
		1.343	34.11

- NOTES:
1. Dimensions are in inches.
 2. Metric equivalents are given for general information only.
 3. Wrench flats are to accommodate standard wrench openings in accordance with FED-STD-H28, appendix 10.
 4. All undimensioned pictorial representations are for reference purposes only.
 5. Panel thickness, .045 (1.14 mm) minimum, .250 (6.35 mm) maximum.
 6. Unless otherwise specified, all tolerances are ±.005 inch (0.13 mm).
 7. Interface as specified in MIL-STD-348, series TRT, socket contact.
 8. Only dash numbers-X003 and -X004 are supplied with braid termination lock washer rings. All previous dash numbers are supplied with standard lock washers (internal tooth .630 max d. x .022 thick).

FIGURE 1. General configuration.

MIL-PRF-49142/10E

ENGINEERING DATA:

Nominal impedance: Non-constant.

Frequency range: 0 to 500 MHz minimum.

Voltage rating: 400 V rms maximum working voltage at sea level. 100 V rms maximum working voltage at 70,000 feet.

Temperature range: -65°C to +165°C.

REQUIREMENTS:

Dimensions and configuration: See figure 1 and MIL-STD-348.

Force to engage and disengage:

Longitudinal force: Not applicable.

Torque: 2.5 inch-pounds maximum.

Coupling proof torque: Not applicable.

Inspection conditions: Coupling torque: 4-6 inch-pounds.

Mating characteristics: See figure 1 and MIL-STD-348 for dimensions.

Center contact (socket):

Oversize test pin: .040 inch diameter minimum (on closed entry contacts only).

Insertion depth: .125 inch minimum.

Number of insertions: 1

Insertion force test:

Steel test pin finish: 16 microinches.

Insertion force: 2 pounds, maximum.

Steel test pin diameter: .039 minimum.

Withdrawal force test:

Steel test pin diameter: .037 maximum.

Withdrawal force: 2 ounces minimum.

Test pin finish: 16 microinches.

Permeability: Applicable.

Hermetic seal: See table I.

Leakage: Not applicable.

Insulation resistance: 5,000 megohms.

Conductor retention: 6 pounds, minimum, axial force.

Dielectric withstanding voltage: At sea level, 1,200 V rms, between center conductor and intermediate conductor. 500 V rms, between intermediate conductor and outer conductor.

Salt spray (corrosion): Applicable.

Vibration: Applicable.

Shock: Applicable.

Thermal shock: Applicable.

Moisture resistance: Applicable.

MIL-PRF-49142/10E

Conductor resistance: In milliohms, maximum.

	<u>Connector type</u>	<u>Initial</u>	<u>After environment</u>
Center conductor:	All non-hermetic connectors	2.0	2.5
	All hermetic connectors	12.0	12.5
Intermediate conductor	All non-hermetic connectors	0.5	0.6
	All hermetic connectors	1.0	1.5
Outer conductor (Silver)	All non-hermetic connectors	0.2	0.3
	All hermetic connectors	0.5	0.6
Outer conductor (Nickel)	All non-hermetic connectors	0.4	0.6
	All hermetic connectors	1.0	1.2

Corona level:

Altitude: 70,000 feet.

Voltage: 200 V rms, minimum.

RF high potential withstanding voltage:

800 V rms, between center conductor and intermediate conductor.

200 V rms, between intermediate conductor and outer conductor at 5 to 7.5 MHz.

Leakage current: Not applicable.

Cable retention: Not applicable.

Coupling mechanism retention force: Not applicable.

Rise time degradation: Not applicable.

Connector durability: 500 cycles minimum at 12 cycles per minute, maximum.

Part or Identifying Number (PIN): M49142/10- (dash number from table I). **CAUTION: A NICKEL PLATED BODY COMBINATION IS AVAILABLE. THIS COMBINATION IS NOT FOR USE IN APPLICATIONS WHERE PASSIVE INTERMODULATION GENERATION (PIM) MAY BE A CONCERN.**

Retention of qualification: See table II.

TABLE I. Cross reference of PIN.

Dash number (X in the dash number allows material options, refer to the basic document)	Superseding PIN
-X001 -X003 Non-hermetic	---
-X002 -X004 Hermetic	---

TABLE II. Retention of qualification. 1/

Subgroup	/3 & /8		/4 & /10	/5 & /9		/6 & /11	
1	/3-X008	---	/4-X004	---	---	---	---
2	/3-X008	/8-X006	/4-X004	---	---	---	/11-X006
3	/3-X008	/8-X006	---	---	---	---	---
4	/3-X008	/8-X006	---	---	---	/6-X007	/11-X006
5	/3-X008	---	/4-X004	---	---	---	---
Units	15	9	9	0	0	3	6

1/ Retention of qualification of connectors allows for retention of connectors of the same body material and finish only. "X" Designates body material and finish.

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

Referenced documents:

MIL-PRF-49142
MIL-C-17
MIL-C-25520
MIL-STD-348

CONCLUDING MATERIAL

Custodians:

Army - CR
Navy - EC
Air Force - 11
NASA - NA
DLA - CC

Preparing activity:
DLA - CC

(Project 5935-4682-008)

Review activities:

Army - AR, AT, MI
Navy - AS, MC, OS, SH
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 www.dodssp.daps.mil.