

INCH-POUND

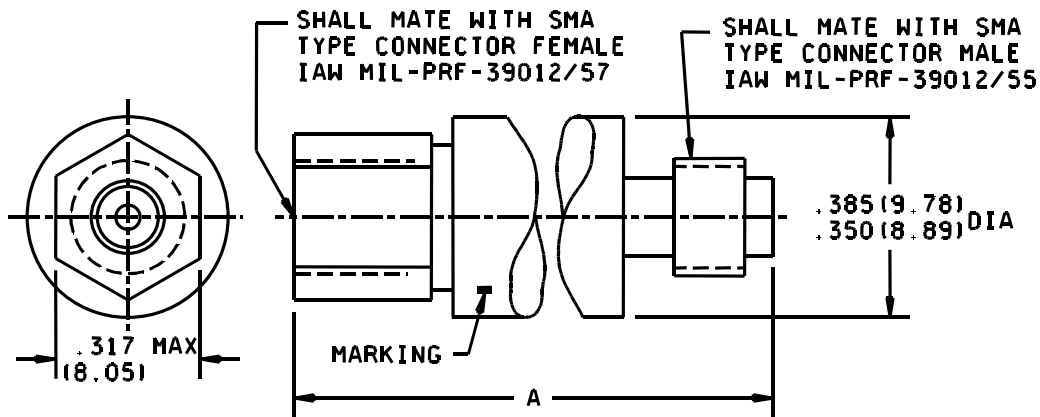
MIL-DTL-3933/14F
12 February 2014
SUPERSEDING
MIL-DTL-3933/14E
7 April 2011

DETAIL SPECIFICATION SHEET

ATTENUATORS, FIXED, SPACE LEVEL, NON SPACE LEVEL,
COAXIAL LINE (SMA CONNECTORS),
FREQUENCY RANGE: DC TO 12.4 GHz, CLASS IV, LOW POWER

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 and MIL-DTL-3933.



NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Metric equivalents are in parentheses.

FIGURE 1. Dimensions and configuration.

ENGINEERING DATA:

Operating frequency range: dc to 12.4 GHz.

Test frequency range for SWR and attenuation measurements, measured or recorded, when using Automatic Network Analyzer (ANA) or equivalent test equipment:

100 MHz (or lower) to 12.4 GHz.

Basic test frequency for sensitive measurements like connector repeatability, temperature sensitivity, power sensitivity and any other measurements where a 'delta' specification is imposed: 6.0 GHz

Operating temperature range: -55°C to +125°C.

Maximum weight: See table I.

REQUIREMENTS:

Dimensions and configuration: See figure 1 and table I.

Nominal impedance: 50 ohms.

Attenuation: See table I.

Stability and sensitivity:

Maximum change in attenuation after:	up to 10 dB, inclusive (dB)	over 10 dB (dB/dB)
Temperature change or thermal shock	0.5	0.05
Vibration or shock	0.5	0.05
Moisture resistance or salt spray	0.5	0.05
Peak power	0.5	0.05

Frequency sensitivity, maximum: 0.4 dB/dB/GHz.

Temperature sensitivity of attenuation, maximum: 0.0006 dB/dB/°C.

Power: See table I.

Power sensitivity for full input power, maximum: 0.005 dB/dB/Watt.

VSWR: See table I.

Connector repeatability, maximum variation in attenuation: 0.04 dB.

Part or Identifying Number (PIN): M3933/14- (and dash number from table I with three device level designators are space level (T), screened (S) and non-screened (N) options).

Supersession data: See table II.

TABLE I. Electrical characteristics.

Dash number		Attenuation dB		Maximum power input at 25°C		VSWR maximum <u>1/</u>			Weight (oz) max	Dimension A (inches) maximum
		Nominal	Deviation			dc to 4.0 GHz	4.0 to 8.0 GHz	8.0 to 12.4 GHz		
			DC to 12.4 GHz	AV (W) <u>3/</u> (continuously)	Peak <u>2/</u> (kW)					
01	N S T	3	±0.3	2	0.2	1.15:1	1.20:1	1.25:1	0.5	1.240 (31.50)
02	N S T	6	±0.3	2	0.2	1.15:1	1.20:1	1.25:1	0.5	1.240 (31.50)
03	N S T	10	±0.3	2	0.2	1.15:1	1.20:1	1.25:1	0.5	1.240 (31.50)
04	N S T	20	±0.5	2	0.2	1.15:1	1.20:1	1.25:1	0.5	1.240 (31.50)
05	N S T	15	±0.5	2	0.2	1.15:1	1.20:1	1.25:1	0.5	1.240 (31.50)
06	N S T	1	±0.3	2	0.2	1.15:1	1.20:1	1.25:1	0.5	1.240 (31.50)
07	N S T	2	±0.3	2	0.2	1.15:1	1.20:1	1.25:1	0.5	1.240 (31.50)
08	N S T	4	±0.3	2	0.2	1.15:1	1.20:1	1.25:1	0.5	1.240 (31.50)
09	N S T	5	±0.3	2	0.2	1.15:1	1.20:1	1.25:1	0.5	1.240 (31.50)
10	N S T	7	±0.4	2	0.2	1.15:1	1.20:1	1.25:1	0.5	1.240 (31.50)
11	N S T	8	±0.4	2	0.2	1.15:1	1.20:1	1.25:1	0.5	1.240 (31.50)
12	N S T	9	±0.4	2	0.2	1.15:1	1.20:1	1.25:1	0.5	1.240 (31.50)
13	4/ N S	30	±0.9	2	0.2	1.15:1	1.20:1	1.25:1	0.8	1.850 (46.99)

See footnotes at end of table I.

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TABLE I. Electrical characteristics - Continued.

Dash number	Attenuation dB		Maximum power input at 25°C		VSWR maximum <u>1/</u>			Weight (oz) max	Dimension A (inches) maximum
	Nominal	Deviation			dc to 4.0 GHz	4.0 to 8.0 GHz	8.0 to 12.4 GHz		
		DC to 12.4 GHz	AV (W) <u>3/</u> (continuously)	Peak <u>2/</u> (kW)					
14 <u>4/</u> N S	40	±0.9	2	0.2	1.15:1	1.20:1	1.25:1	0.8	1.850 (46.99)
15 N S T	60	±2.0	2	0.2	1.15:1	1.20:1	1.25:1	0.8	1.850 (46.99)
16 N S T	50	±2.0	2	0.2	1.15:1	1.20:1	1.25:1	0.8	1.850 (46.99)
17 N S T	28	±0.9	2	0.2	1.15:1	1.20:1	1.25:1	0.7	1.850 (46.99)
18 N S T	16	±0.5	2	0.2	1.15:1	1.20:1	1.25:1	0.5	1.240 (31.50)
19 N S T	14	±0.5	2	0.2	1.15:1	1.20:1	1.25:1	0.5	1.240 (31.50)
20 N S T	13	±0.5	2	0.2	1.15:1	1.20:1	1.25:1	0.5	1.240 (31.50)
21 N S T	12	±0.5	2	0.2	1.15:1	1.20:1	1.25:1	0.5	1.240 (31.50)
22 N S T	11	±0.5	2	0.2	1.15:1	1.20:1	1.25:1	0.5	1.240 (31.50)
23 N S T	1.5	±0.3	2	0.2	1.15:1	1.20:1	1.25:1	0.5	1.240 (31.50)
24 N S T	31	±0.9	2	0.2	1.15:1	1.20:1	1.25:1	0.8	1.850 (46.99)

1/ VSWR value is for both ends.2/ Peak power for a duty cycle of 5×10^{-4} , maximum pulse duration 5 microseconds.3/ Power input is derated linearly from +25°C to 0.5 watts at +125°C.4/ Canceled and replaced with DLA Land and Maritime drawing 13014.

TABLE II. Supersession data.

PIN M3933/14-	Supersedes M3933/15-
01	01
02	02
03	03
04	04
13 <u>1/</u>	05
14 <u>1/</u>	06
13 <u>1/</u>	07
14 <u>1/</u>	08

1/ Canceled and replaced with DLA Land and Maritime drawing 13014.

Referenced documents. In addition to MIL-DTL-3933 this specification sheet references the following documents:

MIL-PRF-39012/55

MIL-PRF-39012/57

DLA Land and Maritime drawing 13014

The margins of this specification sheet are marked with vertical lines to indicate where modifications from this revision 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.

Custodians:

Army - CR

Navy - EC

Air Force - 85

DLA - CC

Preparing activity:

DLA - CC

(Project 5985-2014-001)

Review activities:

Army - MI

Navy - AS, MC

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>.