INCH-POUND

MIL-DTL-32139/2A
w/AMENDMENT 2
30 May 2013
SUPERSEDING
MIL-DTL-32139/2A
w/AMENDMENT 1
4 August 2008

DETAIL SPECIFICATION SHEET

CONNECTORS, ELECTRICAL, RECTANGULAR, NANOMINIATURE, SINGLE ROW, RECEPTACLE, POLARIZED SHELL, SOCKET CONTACTS, CRIMP TYPE

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-32139.

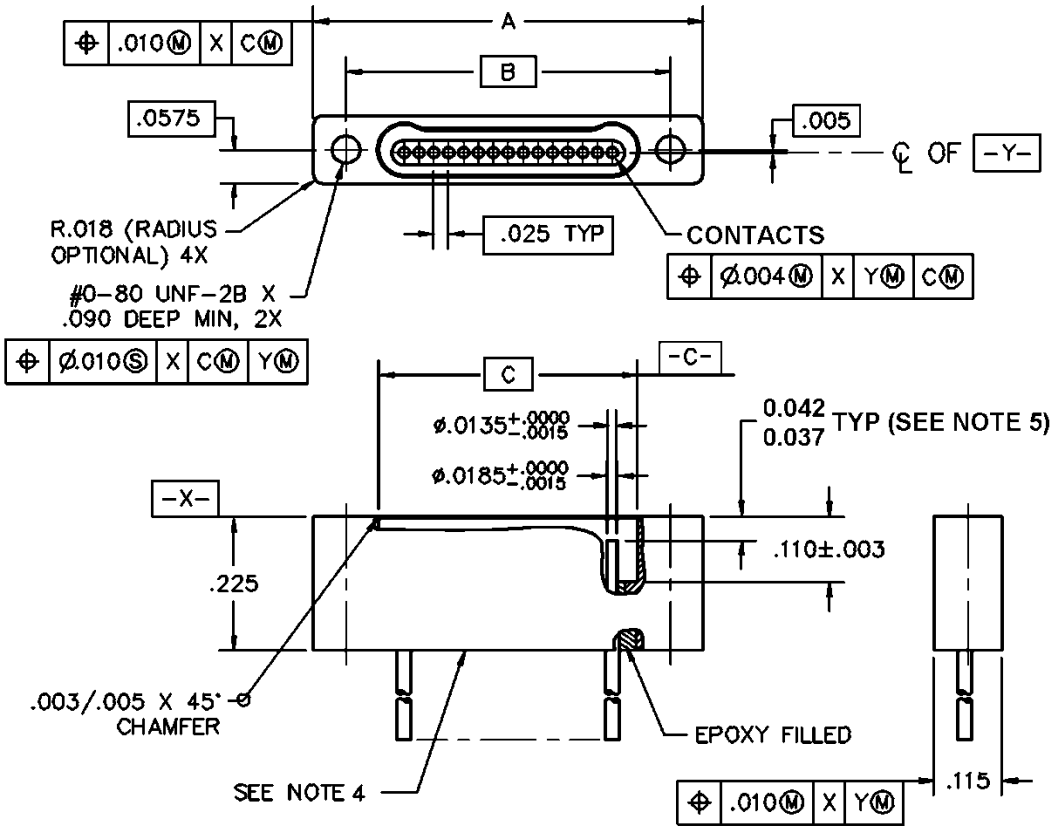


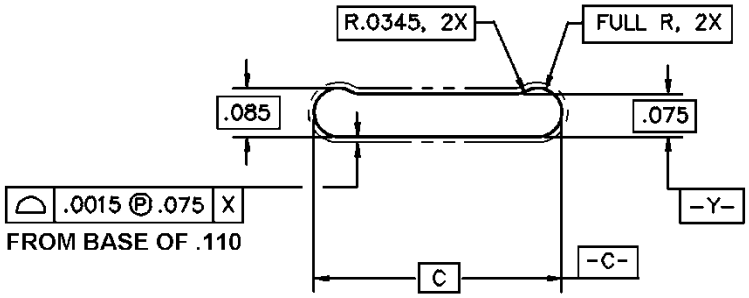
FIGURE 1. Nano connector dimensions and configurations.

Insert arrangement	A	B BSC	C BSC
9	.500 (12.70)	.395 (10.03)	.285 (7.24)
15	.650 (16.51)	.545 (13.84)	.435 (11.05)
21	.800 (20.32)	.695 (17.65)	.585 (14.86)
25	.900 (22.86)	.795 (20.19)	.685 (17.40)
31	1.050 (26.67)	.945 (24.00)	.835 (21.21)
37	1.200 (30.48)	1.095 (27.81)	.985 (24.02)
51	1.550 (39.37)	1.445 (36.70)	1.335 (33.91)

Inches	mm	Inches	mm
.0015	0.038	.025	0.64
.003	0.08	.037	0.94
.004	0.10	.042	1.07
.005	0.13	.0575	1.46
.010	0.25	.090	2.29
.0135	0.34	.110	2.80
.018	0.46	.115	2.92
.0185	0.47	.225	5.72

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified tolerances are ±.005 inch (0.13 mm) angular tolerance ±2°.
4. Surface from which the lead length is measured.
5. Shell shall be flush to insulator within ±.004 inch (0.10 mm).
6. 30 AWG wire is the largest wire size that can be used in the connector assembly.

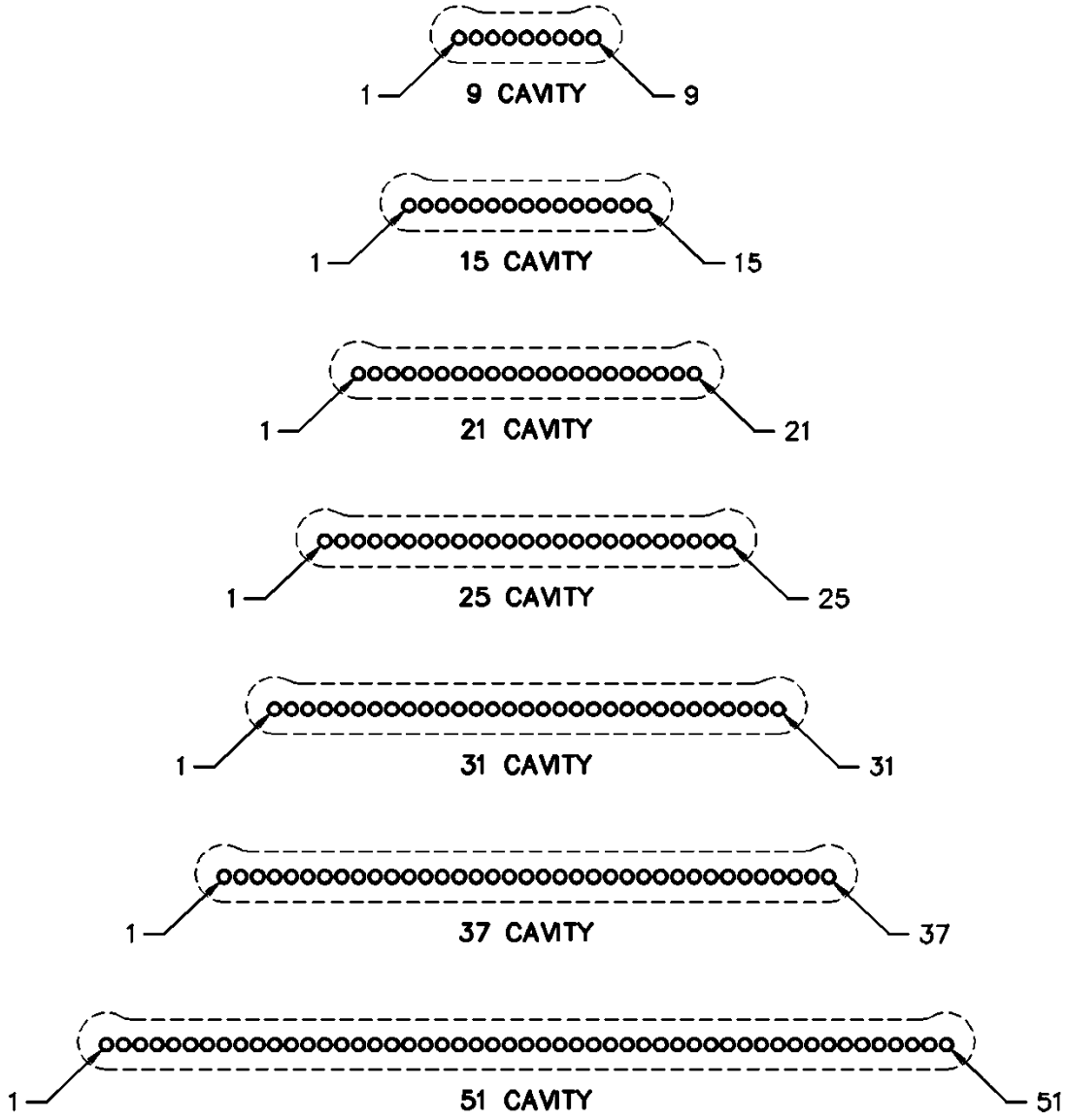
FIGURE 1. Nano connector dimensions and configurations - Continued.



Inches	mm
.0015	0.038
.0345	0.876
.075	1.905
.085	2.159
.110	2.79

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified tolerances are ±.005 inch (0.13 mm).

FIGURE 2. Nano connector interface.



NOTES:
1. Engaging face of insert shown.
2. Cavity identification numbers are for reference only and do not appear on the part.

FIGURE 3. Nano connector insert arrangement.

REQUIREMENTS

Dimensions and configuration see figures 1, 2, and 3.

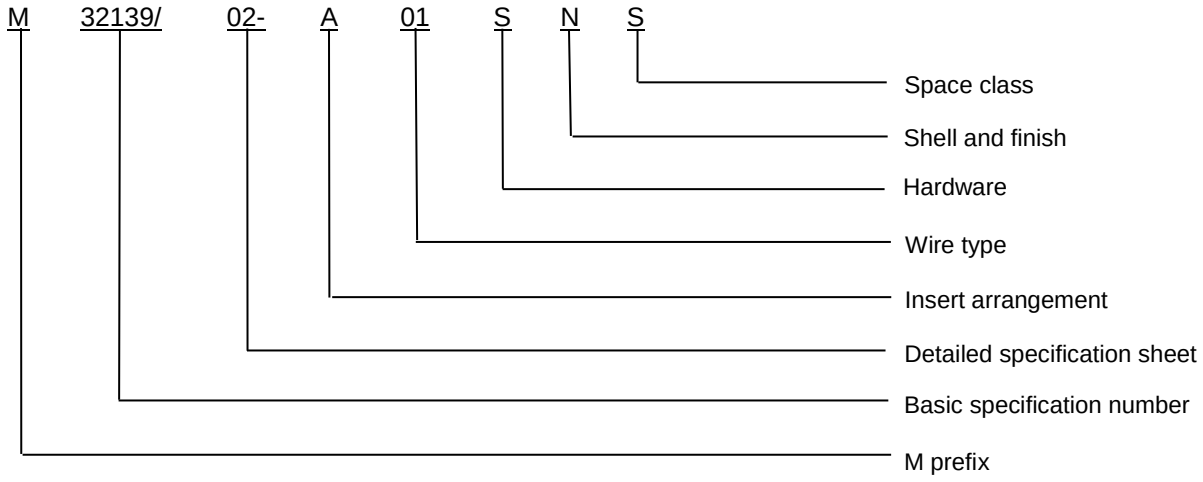
This specification sheet describes the socket side of a rectangular connector. This connector uses reverse gender contacts, i.e., the live pin is recessed in the insulator with the static socket protruding from a shrouded interface.

Contact connection: The socket contact, which is exposed in the insulator, is normally connected to the neutral side of the circuit.

Sockets are terminated with 30 AWG wire.

Mating plug: Shall be in accordance with MIL-DTL-32139/1.

Part or Identifying Number (PIN):



Insert arrangement	Wire type [1/]	
A = 9	01 = NEMA HP3-ETXBBB9	6 inches (152 mm) long
B = 15	02 = NEMA HP3-ETXBBB9	18 inches (457 mm) long
C = 21	03 = NEMA HP3-ETXBBB9	36 inches (914 mm) long
D = 25	04 = NEMA HP3-ETXBBB( )	6 inches (152 mm) long [2/]
E = 31	05 = NEMA HP3-ETXBBB( )	18 inches (457 mm) long [2/]
F = 37	06 = NEMA HP3-ETXBBB( )	36 inches (914 mm) long [2/]
G = 51	07 = M22759/33-30-9	6 inches (152 mm) long [3/]
	08 = M22759/33-30-9	18 inches (457 mm) long [3/]
	09 = M22759/33-30-9	36 inches (914 mm) long [3/]
	10 = M22759/33-30-( )	6 inches (152 mm) long [2/ 3/]
	11 = M22759/33-30-( )	18 inches (457 mm) long [2/ 3/]
	12 = M22759/33-30-( )	36 inches (914 mm) long [2/ 3/]
	13 = 04047-30A-9	6 inches (152 mm) long
	14 = 04047-30A-9	18 inches (457 mm) long
	15 = 04047-30A-9	36 inches (914 mm) long
	16 = 04047-30A-( )	6 inches (152 mm) long [2/]
	17 = 04047-30A-( )	18 inches (457 mm) long [2/]
	18 = 04047-30A-( )	36 inches (914 mm) long [2/]
	19 = M22759/47-30-9	6 inches (152 mm) long
	20 = M22759/47-30-9	18 inches (457 mm) long
	21 = M22759/47-30-9	36 inches (914 mm) long
	22 = M22759/47-30-( )	6 inches (152 mm) long [2/]
	23 = M22759/47-30-( )	18 inches (457 mm) long [2/]
	24 = M22759/47-30-( )	36 inches (914 mm) long [2/]

Hardware [4/]	Shell and finish	Space class
T = Thread hole	C = Aluminum shell, cadmium finish	Blank for non-space applications.
	N = Aluminum shell, electroless nickel finish [5/]	S = Space class
	S = Passivated stainless steel shell	
	T = Titanium shell	
	A = Pure Electrodeposited Aluminum	
	F = Nickel Fluorocarbon Polymer	
	Z = Zinc Nickel	

1/ Pig tail wire lead tolerance is +1.00 inch/-0.0 inch (25.4/-0.0 mm).
2/ Color coding in accordance with MIL-STD-681, system 1, except using ten solid colors only in repeating sequence.
3/ Corrosion has been experienced on M32139 connectors that are pre-wired with M22759/33-30-9 or M22759/33-30-( ) wires and stored in a sealed environment. CAUTION SHOULD BE EXERCISED WHEN USING THIS WIRE.
4/ Supplied installed.
5/ When aluminum shells are required for space applications electroless nickel finish shall be used. Cadmium finish is not acceptable (see MIL-DTL-32139).

Alternate shell finishes:

Pure Electrodeposited Aluminum. Pure dense electrodeposited aluminum shall be in accordance with MIL-DTL-83488, type II shall withstand 48 hour salt spray. Color shall be non-reflective and shall meet the requirements as specified herein.

Nickel Fluorocarbon Polymer. High phosphate nickel with fluorocarbon polymer additive over a suitable underplate shall withstand 48 hour salt spray. Color shall be non-reflective and shall meet the requirements as specified herein.

Zinc Nickel. Zinc Nickel Alloy shall be in accordance with ASTM B841, over a suitable underplate shall withstand 48 hour salt spray. Color shall be non-reflective and shall meet the requirements as specified herein.

Amendment notations. The margins of this specification are marked with vertical lines to indicate modifications generated by this amendment. 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 last previous issue.

Referenced documents: In addition to MIL-DTL-32139, this document references the following:

MIL-DTL-32139/1
MIL-DTL-83488
MIL-STD-681
ASTM B841

CONCLUDING MATERIAL

Custodians:
Army - CR
Navy - EC
Air Force - 85
DLA - CC

Review activities:
Army - AV, MI
Air Force - 99

Preparing activity:
DLA - CC

(Project 5935-2013-090)

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.