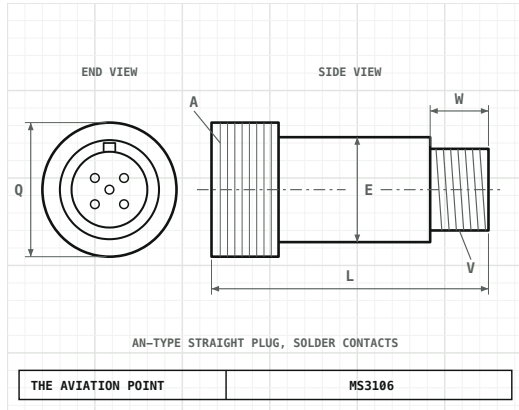
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MS3106 — AN-type straight plug, solder contacts

MS3106: straight AN-type plugs with solder contacts in classes A (solid shell), K (firewall) and E, R and F (environment resistant), with shell dimensions by shell size.



Engineering drawing · dimensions in inches

Specification

Item	Value
Type	Circular connector plug, straight, solder contacts
Status	Cancelled by Notice 2 (December 2009) and replaced by SAE-AS31061; inactive for new design since Notice 1 (19 June 1999). Check the current issue before design use.

Dimensions by size

Dimension, in	8S	10S	10SL	12S	12	14S	14	16S	16	18	20	22	24	28	32	36	40
A — A coupling thread	1/2-28	5/8-24	5/8-24	3/4-20	3/4-20	7/8-20	7/8-20	1-20	1-20	1-1/8-18	1-1/4-18	1-3/8-18	1-1/2-18	1-3/4-18	2-18	2-1/4-16	2-1/2-16
B — B coupling ring extension, +.000 -.062	.375	.375	.375	.375	.625	.375	.625	.375	.625	.625	.625	.625	.625	.625	.625	.625	.625
E — E dia outside, +.000 -.015	.365	.440	.446	.555	.555	.675	.675	.805	.805	.930	1.050	1.175	1.300	1.520	1.770	1.980	2.230
F — F dia inside, min	.252	.323	—	.450	.450	.526	.526	.651	.651	.776	.932	1.026	1.151	1.370	1.620	1.838	2.057
I — I dia insert, max	.250	.320	.440	.445	.445	.525	.525	.650	.650	.770	.925	1.020	1.145	1.365	1.615	1.830	2.047
J — J length of engagement, ±.005	.531	.531	.531	.531	.719	.531	.719	.531	.719	.719	.719	.719	.719	.719	.719	.719	.719
JJ — JJ insert location, +.031 -.000	.562	.562	.562	.562	.750	.562	.750	.562	.750	.750	.750	.750	.750	.750	.750	.750	.750
L — L overall length, max	1.469	1.531	1.531	1.688	2.062	1.688	2.062	1.688	2.062	2.062	2.188	2.188	2.312	2.312	2.438	2.438	2.438
Q — Q dia overall, max	.844	.969	.969	1.062	1.062	1.156	1.156	1.250	1.250	1.344	1.469	1.594	1.719	1.969	2.219	2.469	2.719
V — V thread	1/2-28	1/2-28	5/8-24	5/8-24	5/8-24	3/4-20	3/4-20	7/8-20	7/8-20	1-20	1-3/16-18	1-3/16-18	1-7/16-18	1-7/16-18	1-3/4-18	2-18	2-1/4-16
W — W usable thread, min	.375	.375	.375	.375	.375	.375	.375	.375	.375	.375	.375	.375	.375	.375	.438	.500	.500
Z — Z, max (class B only)	.844	.969	1.062	1.062	1.062	1.156	1.156	1.250	1.250	1.641	1.812	1.938	2.062	2.312	2.594	2.844	3.000

Class A, dimensions in inches; letters as on the standard's drawing. Classes K, E, R and F follow below.

Part numbers

8S 5 part numbers

Part no.	Class	Coupling thread	Packing (ref.)
MS3106A8S	A	1/2-28	—
MS3106K8S	K	1/2-28	—
MS3106E8S	E	1/2-28	—

10S 5 part numbers

Part no.	Class	Coupling thread	Packing (ref.)
MS3106A10S	A	5/8-24	—
MS3106K10S	K	5/8-24	—
MS3106E10S	E	5/8-24	—

10SL 5 part numbers

Part no.	Class	Coupling thread	Packing (ref.)
MS3106A10SL	A	5/8-24	—
MS3106K10SL	K	5/8-24	—
MS3106E10SL	E	5/8-24	—

12S 5 part numbers

Part no.	Class	Coupling thread	Packing (ref.)
MS3106A12S	A	3/4-20	—
MS3106K12S	K	3/4-20	—
MS3106E12S	E	3/4-20	—

12 5 part numbers

Part no.	Class	Coupling thread	Packing (ref.)
MS3106A12	A	3/4-20	—
MS3106K12	K	3/4-20	—
MS3106E12	E	3/4-20	—

14S 5 part numbers

Part no.	Class	Coupling thread	Packing (ref.)
MS3106A14S	A	7/8-20	—
MS3106K14S	K	7/8-20	—
MS3106E14S	E	7/8-20	—

14 5 part numbers

Part no.	Class	Coupling thread	Packing (ref.)
MS3106A14	A	7/8-20	—
MS3106K14	K	7/8-20	—
MS3106E14	E	7/8-20	—

16S 5 part numbers

Part no.	Class	Coupling thread	Packing (ref.)
MS3106A16S	A	1-20	—
MS3106K16S	K	1-20	—
MS3106E16S	E	1-20	—

16 5 part numbers

Part no.	Class	Coupling thread	Packing (ref.)
MS3106A16	A	1-20	—
MS3106K16	K	1-20	—
MS3106E16	E	1-20	—

18 5 part numbers

Part no.	Class	Coupling thread	Packing (ref.)
MS3106A18	A	1-1/8-18	—
MS3106K18	K	1-1/8-18	—
MS3106E18	E	1-1/8-18	—

20 5 part numbers

Part no.	Class	Coupling thread	Packing (ref.)
MS3106A20	A	1-1/4-18	—
MS3106K20	K	1-1/4-18	—
MS3106E20	E	1-1/4-18	—

22 5 part numbers

Part no.	Class	Coupling thread	Packing (ref.)
MS3106A22	A	1-3/8-18	—
MS3106K22	K	1-3/8-18	—
MS3106E22	E	1-3/8-18	—

24 5 part numbers

Part no.	Class	Coupling thread	Packing (ref.)
MS3106A24	A	1-1/2-18	—
MS3106K24	K	1-1/2-18	—
MS3106E24	E	1-1/2-18	—

28 5 part numbers

Part no.	Class	Coupling thread	Packing (ref.)
MS3106A28	A	1-3/4-18	—
MS3106K28	K	1-3/4-18	—
MS3106E28	E	1-3/4-18	—

32 5 part numbers

Part no.	Class	Coupling thread	Packing (ref.)
MS3106A32	A	2-18	—
MS3106K32	K	2-18	—
MS3106E32	E	2-18	—

36 5 part numbers

Part no.	Class	Coupling thread	Packing (ref.)
MS3106A36	A	2-1/4-16	—
MS3106K36	K	2-1/4-16	—
MS3106E36	E	2-1/4-16	—

40 4 part numbers

Part no.	Class	Coupling thread	Packing (ref.)
MS3106A40	A	2-1/2-16	—
MS3106E40	E	2-1/2-16	—
MS3106R40	R	2-1/2-16	MS28900-40

Showing 51 of 84 rows. Complete table: theaviationpoint.com/parts/electrical/ms3106/

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How to read the part number

Part	Meaning
Format	MS3106<cls><dash>-(insert)<style><pos>
A	Cls: Solid shell
K	Cls: Firewall
E	Cls: Environment resistant
R	Cls: Environment resistant, without saddle cable clamp
F	Cls: Environment resistant, with saddle cable clamp
P	Style: Pin insert
S	Style: Socket insert
	Pos: Normal insert position
W	Pos: Alternate insert position W
X	Pos: Alternate insert position X
Y	Pos: Alternate insert position Y
Z	Pos: Alternate insert position Z
Example	MS3106K18-5SY — Class K (firewall) plug, shell size 18, insert arrangement 18-5 (MIL-STD-1651), socket insert, alternate insert position Y

Class K, firewall: dimensions

Shell size	A coupling thread	B +.000 −.062	E dia +.000 −.015	F dia, min	I dia, max	J length of engagement	JJ +.031 −.000	L, max	Q dia, max	V thread	W, min	Z, max
8S	1/2-28	.375	.365	.252	.250	.531	.562	2.188	.844	1/2-28	.375	.844
10S	5/8-24	.375	.440	.323	.320	.531	.562	2.188	.969	1/2-28	.375	.969
10SL	5/8-24	.375	.446	None	.440	.531	.562	2.188	.969	5/8-24	.375	1.062

Showing 3 of 16 rows. Complete table: theaviationpoint.com/parts/electrical/ms3106/

Class E, environment resistant: dimensions

Shell size	A coupling thread	B +.000 −.062	E dia +.000 −.015	F dia, min	I dia, max	J ±.005	JJ +.047 −.000	L, max	Q coupling nut dia, max	X cable clearance, min	Z across adapter assy, max
8S	1/2-28	.375	.365	.252	.250	.531	.531	2.250	.844	.172	1.046
10S	5/8-24	.375	.440	.323	.320	.531	.531	2.250	.969	.281	1.125
10SL	5/8-24	.375	.446	None	.440	.531	.531	2.250	.969	.281	1.125

Showing 3 of 17 rows. Complete table: theaviationpoint.com/parts/electrical/ms3106/

Class R, environment resistant, grommet seal: dimensions

Shell size	A coupling thread	B +.000 −.062	E dia +.000 −.015	F dia, min	I dia, max	J ±.005	JJ +.047 −.000	L, max	Q coupling nut dia, max	X cable clearance, min	Y dia +.005 −.010	Z across wire grommet seal, max	Packing
8S	1/2-28	.375	.365	.252	.250	.531	.531	1.838	.844	.172	.355	1.046	MS28900-8
10S	5/8-24	.375	.440	.323	.320	.531	.531	1.838	.969	.172	.440	1.046	MS28900-10
10SL	5/8-24	.375	.446	None	.440	.531	.531	1.838	.969	.281	.446	1.125	MS28900-10

L: add .375 for size 0 contacts.

Showing 3 of 17 rows. Complete table: theaviationpoint.com/parts/electrical/ms3106/

Class F, environment resistant, with clamp: dimensions

Shell size	A coupling thread	B +.000 −.062	E dia +.000 −.015	F dia, min	I dia, max	J ±.005	JJ +.047 −.000	L, max	Q coupling nut dia, max	NN closed, max	X cable clearance, min	Y dia +.005 −.010	Z across clamp, max	Packing
8S	1/2-28	.375	.365	.252	.250	.531	.531	2.312	.844	.200	.172	.355	1.046	MS28900-8
10S	5/8-24	.375	.440	.323	.320	.531	.531	2.312	.969	.200	.172	.440	None	MS28900-10
10SL	5/8-24	.375	.446	None	.440	.531	.531	2.312	.969	.200	.172	.446	None	MS28900-10

L: add .375 for size 0 contacts.

Showing 3 of 17 rows. Complete table: theaviationpoint.com/parts/electrical/ms3106/

Notes

- Dimensions in inches. Unless otherwise specified, tolerances: decimals ±.016.
- Insert arrangements per MIL-STD-1651. Style P is a pin insert, S a socket insert; W, X, Y or Z marks an alternate insert position (no letter for the normal position).
- Class A: a socket insert of hard material extends .016 maximum beyond or .032 maximum below the shell; a socket insert of resilient material extends .047 +.000 −.047 beyond the shell. Where resilient inserts are used, JJ may be .109 less than shown.
- Classes R and F: add .375 to L for size 0 contacts. Packing per MS28900, dash number as listed.
- Class A was cancelled after 1 Jan 1991 and class E after 1 Jan 1991 (for replacement: MS3106F with clamp, MS3106R with grommet seal). Classes K, R and F are inactive for new design after 1 Jan 1991. For new design: MS3456W with an M85049/31 backshell (classes A, E and R), MS3456 with an M85049/31 backshell (class K), MS3456W with an M85049/52 backshell (class F); for shipboard jacketed cables, MS3406.
- MS3106A replaces and is interchangeable with AN3106A (or B); MS3106K with AN3106K; MS3106E with AN3106E; MS3106R with MS3106E and AN3106E without saddle type cable clamp; MS3106F with MS3106E and AN3106E with saddle type cable clamps.
- Approved data governs. Use the part the drawing, SRM or IPC calls for.

SOURCES · MS3106 Rev. D, 20 Aug 1992 — Connector, Plug, Electric, Straight, Solder Contacts, AN Type

SCAN · OPEN THIS DATA SHEET
theaviationpoint.com/parts/electrical/ms3106/