

J & K SERIES

MIL-C-83723 Hermetic connectors were developed for application where a controlled atmosphere such as inert gasses, partial vacuums, or constant environments are needed. These receptacles are designed for use in aerospace, electronic, electrical power, and control circuits.

The "J" & "K" Series receptacles are manufactured to American Micro Products, Inc. (AMPI / ACE) standards and meet the intermateability requirements of MIL-C-83723 Series 3 types B and T respectively. They are hermetically sealed with a single compression glass seal around all contacts to prevent air leakage in excess of 1×10^{-7} cc/sec of helium at one atmosphere.

The "J" series receptacles have a bayonet coupling mechanism and the "K" series have the threaded coupling type.

Standard hermetic receptacles are supplied with either solder cup or eyelet type contact terminations. Contacts for other applications such as thermocouple or flex prints are also available. Standard receptacles are tin plated steel shells or passivated stainless steel shells with gold plated nickel-iron alloy contacts. Other materials and finishes can be supplied to meet specific application requirements. Both series are supplied with interfacial seals and O-rings.

ELECTRICAL SERVICE DATA

The maximum current to be carried by the connector, based on contact size, is the same as permitted by the wire bundle. Maximum current ratings and corresponding voltage drops under test condition, fully assembled, are shown below.

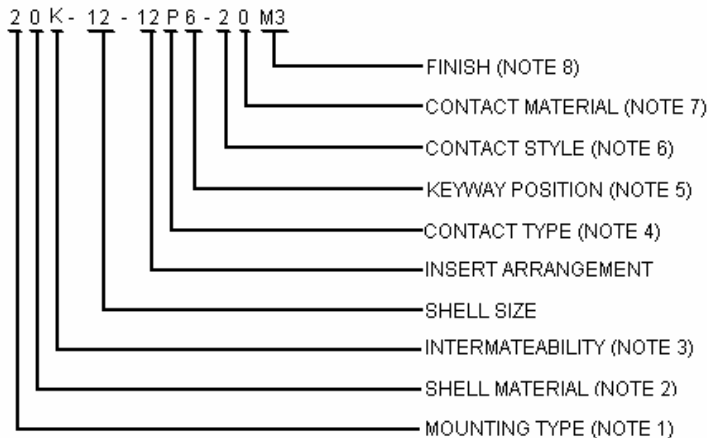
CONTACT SIZE	TEST CURRENT (AMPS)	POTENTIAL DROP (MILLIVOLTS)
20	5	100
16	10	95
12	17	95

HIGH POTENTIAL TEST VOLTAGE

Unmated connectors tested per method 3001 of MIL-STD-1344 shall have a maximum leakage of 2 milliamperes and show no evidence of electrical breakdown of flashover.

SERVICE RATING	TEST VOLTAGE (RMS 60 CPS)
1	1500

PART NUMBER EXPLANATION



STANDARD MATERIALS AND FINISHES

FERROUS ALLOY SHELLS

Material: Cold rolled steel per ASTM 108
Finish: 100 microinches minimum fused tin per MIL-T-10727 over a suitable underplate

STAINLESS STEEL SHELLS

Material: Corrosion resistant steel per QQ-S-764, type 303 or as specified.
Finish: Passivated.

CONTACTS

Material: Nickel-iron alloy per MIL-I-23011, class 2.
Finish: 50 microinches minimum gold per MIL-G-45204 over a suitable underplate.

BAYONET PINS

Material: Corrosion resistant steel per QQ-S-764, type 303.

INSERTS

Material: Glass

INTERFACIAL SEALS

Material: Fluorosilicone rubber.

BAYONET COUPLING		
DESCRIPTION	MILITARY DESIGNATION	AMPI DESIGNATION
BOX MOUNT	M83723/79H**N	30J-*.PN-20
	M83723/79Y**N	31J-*.PN-20
SOLDER MOUNT	M83723/80H**N	20J-*.PN-20
	M83723/80Y**N	21J-*.PN-20
	M83723/93H**N	20J-*.PN-40
	M83723/93Y**N	21J-*.PN-40
JAM NUT MOUNT	M83723/81H**N	50J-*.PN-20
	M83723/81Y**N	51J-*.PN-20
	M83723/94H**N	50J-*.PN-50
	M83723/94Y**N	51J-*.PN-50
MATING PLUG	M83723/75 - M83723/77	
THREAD COUPLING		
BOX MOUNT	M83723/88H**N	30K-*.PN-20
	M83723/88Y**N	31K-*.PN-20
JAM NUT MOUNT	M83723/89H**N	50K-*.PN-20
	M83723/89Y**N	51K-*.PN-20
SOLDER MOUNT	M83723/90H**N	20K-*.PN-20
	M83723/90Y**N	21K-*.PN-20
MATING PLUG	M83723/86, M83723/91, M83723/95, M83723/97	

NOTES:

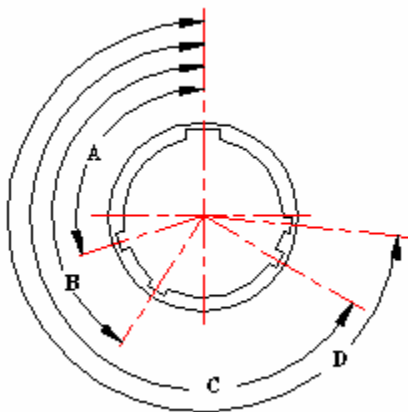
1. -- 2--Circular flange solder mount
3--Square flange box mount
5--Jam nut mount
2. -- 0-- Ferrous alloy
1 thru 7- various stainless steel #303 thru #347
3. -- J--MIL-C-83723, series III type B intermateability
K-- MIL-C-83723, series III type T intermateability
4. -- P---Pin
5. -- Alternate keyway position
6. -- 1--Eyelet
2--Solder cup
7. -- 0--Nickel-iron alloy
8. -- M2-- Gold contacts with shell passivated
M3-- Fused tin contacts over nickel with gold on contacts

INDEX OF INSERT ARRANGEMENTS MIL-STD-1554

Shell Size	INSERT ARRANGEMENT	TOTAL CONTACTS	CONTACT SIZE			
			20	16	12	COAX
8	2	2	2			
	3	3	3			
	98	3	3			
10	2	2	2			
	5	5	5			
	6	6	6			
	20	2		2		
12	3	3		3		
	12	12	12			
14	4	4			4	
	7	7		7		
	15	15	15			
16	10	10		10		
	24	24	24			
18	14	14		14		
	31	31	31			
20	16	16		16		
	41	41	41			
22	19	19		19		
	55	55	55			
24	61	61	61			

ALL ARRANGEMENTS ARE SERVICE RATING I

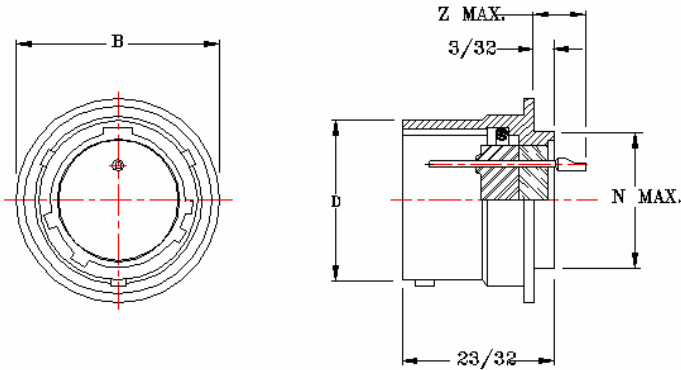
KEYWAYS POSITION
FRONT FACE OF PIN INSERT SHOWN



SHELL SIZE	KEYWAY POSITION	A°	B°	C°	D°
8 10	NORMAL	105	140	215	265
	6	102	132	248	320
	7	80	118	230	312
	8	35	140	205	275
	9	64	155	234	304
	Y	25	115	220	270
12 THRU 24	NORMAL	105	140	215	265
	6	18	149	192	259
	7	92	152	222	342
	8	84	152	204	334
	9	24	135	199	240
	Y	98	152	268	338

Y POSITION NOT AVAILABLE FOR SHELL SIZE 8

**SOLDER MOUNT
20J RECEPTACLES (REF. M83723/80)**

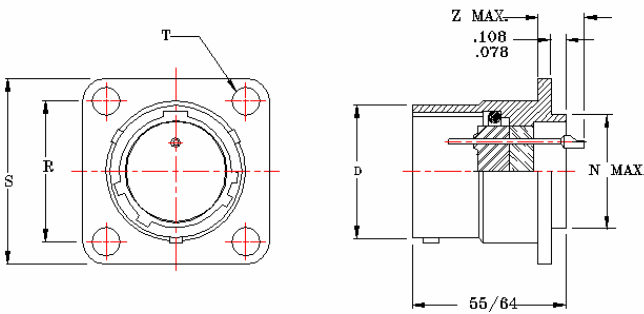


CONTACT SIZE	Y MAX
20	0.330
16	0.400
12	0.400

SHELL SIZE	PART NUMBER	B +.020 -.020	D +.000 -.005	N MAX
8	20J-8-(*)P▼-(**)	0.740	0.536	0.500
10	20J-10-(*)P▼-(**)	0.840	0.659	0.562
12	20J-12-(*)P▼-(**)	1.045	0.829	0.750
14	20J-14-(*)P▼-(**)	1.090	0.898	0.812
16	20J-16-(*)P▼-(**)	1.210	1.025	0.937
18	20J-18-(*)P▼-(**)	1.340	1.131	1.062
20	20J-20-(*)P▼-(**)	1.430	1.256	1.187
22	20J-22-(*)P▼-(**)	1.590	1.381	1.312
24	20J-24-(*)P▼-(**)	1.710	1.506	1.437

▼ REPLACE WITH ALTERNATE INSERT POSITION INDICATOR /(*) PIN ARRANGEMENT
NORMAL POSITION INDICATOR REQUIRED IS N (**) CONTACT STYLE AND MATERIAL

**BOX MOUNT
30J RECEPTACLES (REF. M83723/79)**

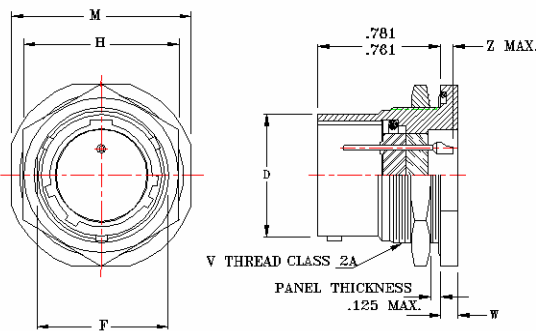


CONTACT SIZE	Z MAX
20	0.330
16	0.400
12	0.400

SHELL SIZE	PART NUMBER	D +.000 -.005	N MAX	R +.005 -.005	S +.005 -.005	T +.000 -.009
8	30J-8-(*)P▼-(**)	0.536	0.500	0.594	0.812	0.125
10	30J-10-(*)P▼-(**)	0.659	0.562	0.719	0.937	
12	30J-12-(*)P▼-(**)	0.829	0.750	0.812	1.031	
14	30J-14-(*)P▼-(**)	0.898	0.812	0.906	1.125	
16	30J-16-(*)P▼-(**)	1.025	0.937	0.969	1.250	
18	30J-18-(*)P▼-(**)	1.131	1.062	1.062	1.343	
20	30J-20-(*)P▼-(**)	1.256	1.187	1.156	1.437	
22	30J-22-(*)P▼-(**)	1.381	1.312	1.250	1.562	0.154
24	30J-24-(*)P▼-(**)	1.506	1.437	1.375	1.703	

▼ REPLACE WITH ALTERNATE INSERT POSITION INDICATOR /(*) PIN ARRANGEMENT
NORMAL POSITION INDICATOR REQUIRED IS N (**) CONTACT STYLE AND MATERIAL

**JAM NUT MOUNT
50J RECEPTACLES (REF. M83723/81)**



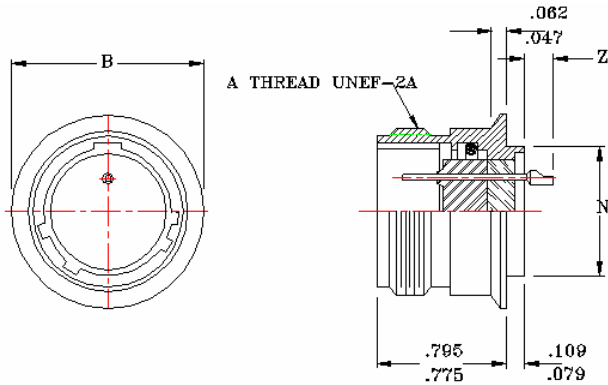
CONTACT SIZE	Z MAX
20	0.165
16	0.235
12	0.235

SHELL SIZE	PART NUMBER	D +.000 -.005	F +.003 -.003	H +.017 -.017	M +.005 -.005	V THREAD CLASS 2 A	W +.020 -.020
8	50J-8-(*)P▼-(**)	0.536	0.593	0.812	0.979	0.6250-20 UN	0.117
10	50J-10-(*)P▼-(**)	0.659	0.718	0.937	1.104	0.7500-20 UNEF	
12	50J-12-(*)P▼-(**)	0.829	0.905	1.123	1.291	0.9375-20 UNEF	
14	50J-14-(*)P▼-(**)	0.898	0.968	1.188	1.391	1.0000-20 UNEF	
16	50J-16-(*)P▼-(**)	1.025	1.093	1.312	1.516	1.1250-20 UN	
18	50J-18-(*)P▼-(**)	1.131	1.217	1.438	1.641	1.2500-20 UN	
20	50J-20-(*)P▼-(**)	1.256	1.342	1.562	1.766	1.3750-18 UNEF	
22	50J-22-(*)P▼-(**)	1.381	1.467	1.688	1.954	1.5000-20 UN	0.148
24	50J-24-(*)P▼-(**)	1.506	1.592	1.812	2.079	1.6250-18 UNEF	

▼ REPLACE WITH ALTERNATE INSERT POSITION INDICATOR /(*) PIN ARRANGEMENT
NORMAL POSITION INDICATOR REQUIRED IS N (**) CONTACT STYLE AND MATERIAL



SOLDER MOUNT 20K RECEPTACLES (REF. M83723/90)

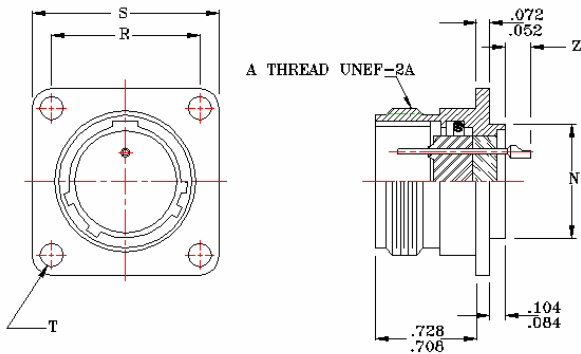


CONTACT SIZE	Z +/- .030
20	0.164
16	0.194
12	0.194

SHELL SIZE	PART NUMBER	A THREAD UNEF 2A	B +.010 -0.010	N +.000 -0.006
8	20K-8-(*P▼-(**))	0.5625-24	0.713	0.500
10	20K10-(*P▼-(**))	0.6875-24	0.840	0.562
12	20K-12-(*P▼-(**))	0.8750-20	1.045	0.750
14	20K-14-(*P▼-(**))	0.9375-20	1.090	0.812
16	20K-16-(*P▼-(**))	1.0625-18	1.210	0.937
18	20K-18-(*P▼-(**))	1.1875-18	1.340	1.062
20	20K-20-(*P▼-(**))	1.3125-15	1.475	1.187
22	20K-22-(*P▼-(**))	1.4375-18	1.590	1.312
24	20K-24-(*P▼-(**))	1.5625-18	1.725	1.437

▼ REPLACE WITH ALTERNATE INSERT POSITION INDICATOR (/*) PIN ARRANGEMENT
NORMAL POSITION INDICATOR REQUIRED IS N (**) CONTACT STYLE AND MATERIAL

BOX MOUNT 30K RECEPTACLES (REF. M83723/88)

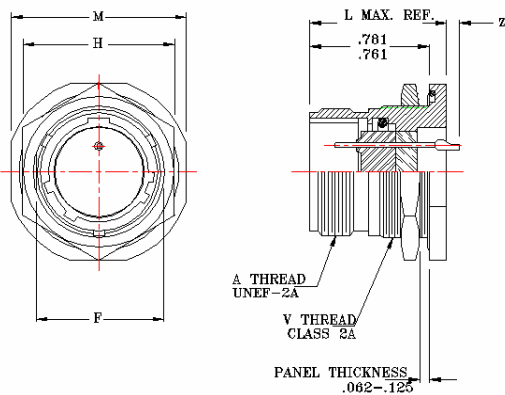


CONTACT SIZE	Z +/- .030
20	0.164
16	0.194
12	0.194

SHELL SIZE	PART NUMBER	A THREAD UNEF 2A	N +.000 -0.006	R +.005 -0.005	S +.005 -0.005	T +.000 -0.009
8	30K-8-(*P▼-(**))	0.5625-24	0.500	0.594	0.812	0.125
10	30K-10-(*P▼-(**))	0.6875-24	0.562	0.719	0.937	
12	30K-12-(*P▼-(**))	0.8750-20	0.750	0.812	1.031	
14	30K-14-(*P▼-(**))	0.9375-20	0.812	0.906	1.125	
16	30K-16-(*P▼-(**))	1.0625-18	0.937	0.969	1.25	
18	30K-18-(*P▼-(**))	1.1875-18	1.062	1.062	1.343	
20	30K-20-(*P▼-(**))	1.3125-15	1.187	1.156	1.437	
22	30K-22-(*P▼-(**))	1.4375-18	1.312	1.250	1.562	
24	30K-24-(*P▼-(**))	1.5625-18	1.437	1.375	1.703	0.154

▼ REPLACE WITH ALTERNATE INSERT POSITION INDICATOR (/*) PIN ARRANGEMENT
NORMAL POSITION INDICATOR REQUIRED IS N (**) CONTACT STYLE AND MATERIAL

JAM NUT MOUNT 50K RECEPTACLES (REF. M83723/89)



CONTACT SIZE	Z +/- .030 SHELL SIZE	
	8-20	22 & 24
20	0.150	0.139
16	0.180	0.169
12	0.180	0.169

SHELL SIZE	PART NUMBER	A THREAD UNEF 2A	F +.003 -0.003	H +.017 -0.017	L MAX REF	M +.015 -0.015	V THREAD CLASS 2 A
8	50K-8-(*P▼-(**))	0.5625-24	0.593	0.812	0.918	0.964	0.6250-20 UN
10	50K-10-(*P▼-(**))	0.6875-24	0.718	0.937		1.088	0.7500-20 UNEF
12	50K-12-(*P▼-(**))	0.8750-20	0.905	1.125		1.275	0.9375-20 UNEF
14	50K-14-(*P▼-(**))	0.9375-20	0.968	1.187		1.375	1.0000-20 UNEF
16	50K-16-(*P▼-(**))	1.0625-18	1.093	1.312		1.500	1.1250-18 UNEF
18	50K-18-(*P▼-(**))	1.1875-18	1.217	1.437		1.625	1.2500-18 UNEF
20	50K-20-(*P▼-(**))	1.3125-15	1.342	1.562	1.750	1.3750-18 UNEF	
22	50K-22-(*P▼-(**))	1.4375-18	1.467	1.687	0.929	1.938	1.5000-18 UNEF
24	50K-24-(*P▼-(**))	1.5625-18	1.592	1.812		2.063	1.6250-18 UNEF

▼ REPLACE WITH ALTERNATE INSERT POSITION INDICATOR (/*) PIN ARRANGEMENT
NORMAL POSITION INDICATOR REQUIRED IS N (**) CONTACT STYLE AND MATERIAL