

G526 Series Environment Resistance High Density Circular Connector

Description

- The fifth generation military high-tech level connector
- Tri-start thread coupling with anti-decoupling mechanism
- High density connector, 87 contacts maximum
- High reliable hyperboloid wire spring socket
- Corrosion resistance, salt spray: 500 hours for aluminum alloy
- 100% scoop-proof
- Excellent EMI/RFI shielding
- RF, differential and optical fiber contacts can be installed and different signals can be integrated transmission
- Rear release and rear removal contact
- Termination: crimp, solder and PCB solder
- Fire proof shell, titanium alloy and aluminum alloy shell, different kinds of plating
- Enterprise standard: Q/21EJ950



Main technical characteristics

[Mechanical]

—Shell: aluminum alloy, titanium alloy, stainless steel

—Plating:

W—olive green cadmium plating, aluminum alloy

K—stainless steel, passive

Z—aluminum alloy, zinc nickel plating

P—titanium alloy, passive

—Vibration: sine: 10~2000Hz, 60g

Random: 10~2000Hz, power spectral density $5g^2/Hz$ in ambient temperature, power spectral density $1g^2/Hz$ at high temperature

—Shock: 3ms half sine wave, acceleration peak value 300g

—Endurance: 1000 cycles

[Electrical]

—Contact resistance and rated current:

Contact size	Dia. (mm)	Contact resistance (mΩ)	Rated current (A)
22#	Φ0.76	12.5	5
20#	Φ1.00	5	7.5
16#	Φ1.60	2.5	13

[Environmental]

—Operating temperature:

W and Z class: $-65^{\circ}C \sim +175^{\circ}C$

K and P class: $-65^{\circ}C \sim +200^{\circ}C$

—Salt spray:

Z class: 200h W class: 500h

K class: 1000h P class: 2000h

—Damp & heat: according to GJB1217, method 1002.24, 10 cycles

—Fluid resistance: various fuels, coolant, solvent

—Fungus resistance: in accordance with GJB150.10, duration: 28 days

12#	Φ2.40	1.5	23
10#	Φ3.15	1	40

—Applicable wire:

Contact size	Cross section (mm ²)	AWG	Outer dia. of cable (mm)	
			min	max
22#	0.08, 0.13, 0.21, 0.33	28, 26, 24, 22	0.76	1.27
20#	0.21, 0.33, 0.52	24, 22, 20	1.02	2.11
16#	0.52, 0.82, 1.31	20, 18, 16	1.65	2.77
12#	2.08, 3.31	14, 12	2.46	3.61
10#	5.26	10	3.42	4.12

—Insulation resistance: normal temperature 5000MΩ; High temperature 1000MΩ; Damp& Heat 100MΩ

—Withstanding voltage: V

Service rating*	M	I	II	N
Sea level	1300	1800	2300	1000
21336m	350	400	500	260

Note: Different insert arrangements have different service rating. See insert arrangement

—EMI shielding:

The minimum attenuation should be 85dB (P, W and Z class) at 100MHz~1GHz

The minimum attenuation should be 65dB (W and Z class) at 1GHz~10GHz

[RF contact]

- 16# shielding contact (P/N: pin-J1216/76-424; socket-J1216/77-428)
- 12# shielding contact (P/N: pin -J1216/28-211; socket -J1216/75-416)

—Low level contact resistance (only for inner contact)

Contact	Max contact resistance (mΩ)	
	Initial	After test
16#	170	204
12#	55	66

—Test current and voltage drop

Contact		Test current (A)	Voltage drop (mV)			
			25℃		175℃	200℃
			Initial	After test	After test	
16#	Inner contact	1	170	204	290	—
12#					—	290
16#	Inner contact	12	150	180	255	—
12#					—	255

—Withstanding voltage (between the inner and outer contact):

sea level: 750 Vrms; 15240m: 250 Vrms

- 12# coaxial contact (P/N: pin-J1216/102-558; socket-J1216/103-559)

—Nominal impedance: 50Ω

—Operating frequency: DC0~3GHz

—Low level contact resistance (only for inner contact): initial 55mΩ, after test 66 mΩ

—Withstanding voltage: sea level: 1000 Vrms; 15240m: 250 Vrms

——Test current and voltage drop:

Contact	Test current (A)	Voltage drop (mV)		
		25℃		200℃
		Initial	After test	
Inner contact	1	55	66	94
Outer contact	12	75	90	128

——VSWR: frequency: 500MHz~3GHz, VSWR $\leq$ 1.20+0.04F (F unit: GHz)

——Insertion loss: dB max=0.11 $\sqrt{f}$ (f unit: GHz) . When F is at 3GHz and tested in accordance with MIL-C-39012., insertion loss should not be more than 0.20dB

- 12# coaxial contact (40GHz) (P/N: pin-J1216/102-558C; socket-J1216/103-559C)

——Nominal impedance: 50 Ω

——Operating frequency: DC0~40GHz

——VSWR: 0~18GHz: $\leq$ 1.3; 18~40GHz: $\leq$ 1.7

——Withstanding voltage (between center conductor and outer conductor) : 500 Vrms

——Vibration: 10~2000Hz, power spectral density 1g²/Hz at high temperature

- 8# twin axial contact (P/N: pin -J1216/90-529; socket -J1216/91-530)

——Low level contact resistance (only for center contact and intermediate contact) : initial 55m Ω , after test 66 m Ω

——Test current and voltage drop:

Contact	Test current (A)	Voltage drop (mV)		
		25℃		175℃
		Initial	After test	After test
Center contact	1.0	55	66	94
Intermediate contact	1.0	55	66	94
Outer contact	12	75	90	128

——Operating frequency: 0~20MHz

——Rated voltage: Sea level: 500 V rms; 21336m: 125 V rms

——Withstanding voltage:

Contact	Height	Test voltage (V) rms
From center to intermediate	Sea level	500
From intermediate to outer		1000

[Differential contact]

- 8# differential contact (2 contacts P/N: pin-CF81/211-01; socket-CF82/211-01)

- 8# differential contact (4 contacts P/N: pin -CF81/411-01; socket -CF82/411-01)

——Withstanding voltage (V rms) :

Normal: from center conductor to outer conductor: 500V AC;

Between center conductor: 1000V AC

——Contact resistance: $\leq$ 15m Ω (only for center contact)

——Insulation resistance (Between center conductors) : $\geq 1000\text{M}\Omega$ at 500Vdc

——Rated current: Center conductor 1A

——Data rate: 1.65Gbps

[Optical fiber contact]

——Insertion loss:

$\leq 1.1\text{dB}$ (≤ 4 contacts), $\leq 1.2\text{dB}$ (≤ 6 contacts),

$\leq 1.4\text{dB}$ (≤ 8 contacts), $\leq 1.6\text{dB}$ (≤ 16 contacts),

$\leq 2\text{dB}$ (≤ 61 contacts)

——Operating temperature: $-40^{\circ}\text{C} \sim +80^{\circ}\text{C}$

——Vibration: 10Hz~500Hz, acceleration:

98m/s^2

——Shock: 980m/s^2

——Endurance: 500 cycles

——Tensile strength: $\geq 800\text{N}$ (main cable)

[Special contact type]

Contact size	GJB part number	International part number	Applicable wire	
			National wire	International wire
16# shielding pin	J1216/76-424	M39029/76-424	SFF-50-1.5-1 SFF-75-1.5-1	M17/113-RG316
16# shielding socket	J1216/77-428	M39029/77-428		
12# shielding pin	J1216/28-211	M39029/28-211	SFF-50-1.5-1	M17/113-RG316
	J1216/28-412	M39029/28-412		M17/113-RG316D
12# shielding socket	J1216/75-416	M39029/75-416	SFF-50-1.5-1	M17/113-RG316
	J1216/75-422	M39029/75-422		M17/113-RG316D
12# coaxial pin (3GHz)	J1216/102-558	M39029/102-558	SFF-50-2-51 SFF-75-1.6-51	M17/113-RG316
12# coaxial socket (3GHz)	J1216/103-559	M39029/103-559		
12# coaxial pin (40GHz)	J1216/102-558C	——	——	UT-085C-AL-TP-LL (MICRO-COAX)
12# coaxial socket (40GHz)	J1216/103-559C	——		
8# twin axial shielding pin	J1216/90-529	M39029/90-529	SEFF-78-1-51	M17/176-00002
8# twin axial shielding socket	J1216/91-530	M39029/91-530		
8# differential (2-pin, 100 Ω)	CF81/211-01	——		HDP700001070
8# differential (2-socket, 100 Ω)	CF82/211-01	——		
8# differential (4-pin, 100 Ω)	CF81/411-01	——		ET2PC236(Nexans)
8# differential (4-socket, 100 Ω)	CF82/411-01	——		

Note: Special contacts should be ordered separately. Consult us for ordering optical fiber contact



Ordering information

Basic series		G526/								20	W	B	35	P	N
Type	20—Square flange receptacle 24—Jam nut receptacle 26—Shielding plug														
Shell and plating	W—Olive green, cadmium plating, aluminum alloy K—Stainless steel passive Z—Aluminum alloy, zinc-nickel plating P—Titanium alloy passive														
Shell size Index No A through J	<u>09</u> A	<u>11</u> B	<u>13</u> C	<u>15</u> D	<u>17</u> E	<u>19</u> F	<u>21</u> G	<u>23</u> H	<u>25</u> J						
Insert arrangement	See insert arrangement														
Contact type	P—pin, crimped PH—pin, soldered PL—pin, long PCB PC—pin, short PCB A—special pin				S—socket, crimped SH—socket, soldered SL—socket, long PCB SC—socket, short PCB B—special socket										
Polarization	N—Normal A/B/C/D/E—Variation														

Note: When the pin or socket is normal, contact type should be P (or S); When the pin or socket is special, P (or S) should be changed to A (or B) and the quantity of contact should be noted after P/N, but the quantity should not marked on P/N.

[Part number identification example]

G526/20ZE06PN

G526 series square flange receptacle, aluminum alloy, zinc-nickel plating, E# shell, 06 insert arrangement, pin, N polarization.

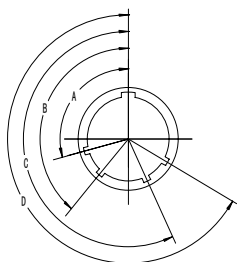
If six 12# power pins are changed to six 12# coaxial pins, P/N should be

G526/20ZE06AN (6-J1216/102-558)

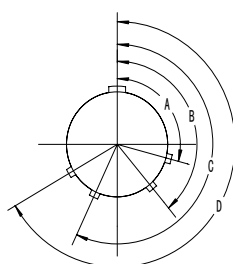


Polarization

Front face of
receptacle



Front face of
plug



Shell size	Index No.	Angle	N	A	B	C	D	E
9	A	A°	105	102	80	35	64	91
		B°	140	132	118	140	155	131
		C°	215	248	230	205	234	197
		D°	265	320	312	275	304	240
11	B	A°	95	113	90	53	119	51
13	C	B°	141	156	145	156	146	141
		C°	208	182	195	220	176	184
		D°	236	292	252	255	298	242
15	D	A°	95	113	90	53	119	79
17	E	B°	141	156	145	156	146	153
		C°	208	182	195	220	176	197
		D°	236	292	252	255	298	272
19	F	A°	80	135	49	66	62	79
21	G	B°	142	170	169	140	145	153
23	H	C°	196	200	200	200	180	197
25	J	D°	293	310	244	257	280	272

Insert arrangement (Front face of pin insert)

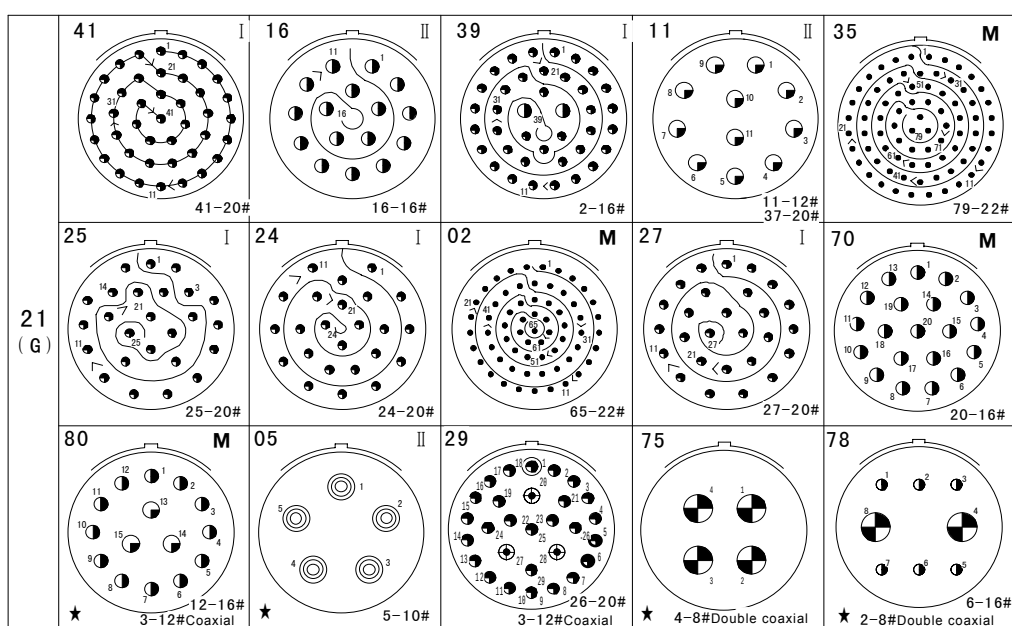
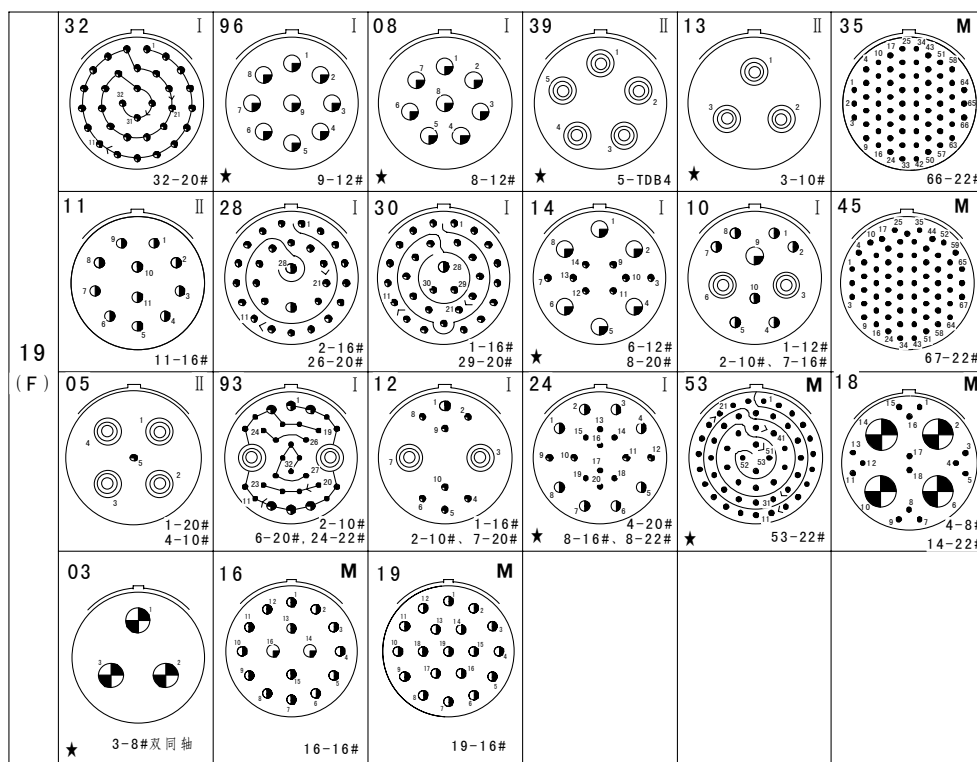
Shell No	35	98	02	03	10	11		
09 (A)	6-22#	3-20#	2-20#	3-20#	1-12#	1-16#		
11 (B)	13-22#	6-20#	5-20#	4-20#	1-12#	7-20#	2-16#	★ 1-8#Double coaxial
13 (C)	2-12#	10-20#	8-20#	4-16#	1-12# 11-22# ★	3-16# 10-22# ★	4-16# 2-20#	22-22#
	3-16#	★ 1-16# 2-12#	★ 1-12#	★ 1-8#Double coaxial				

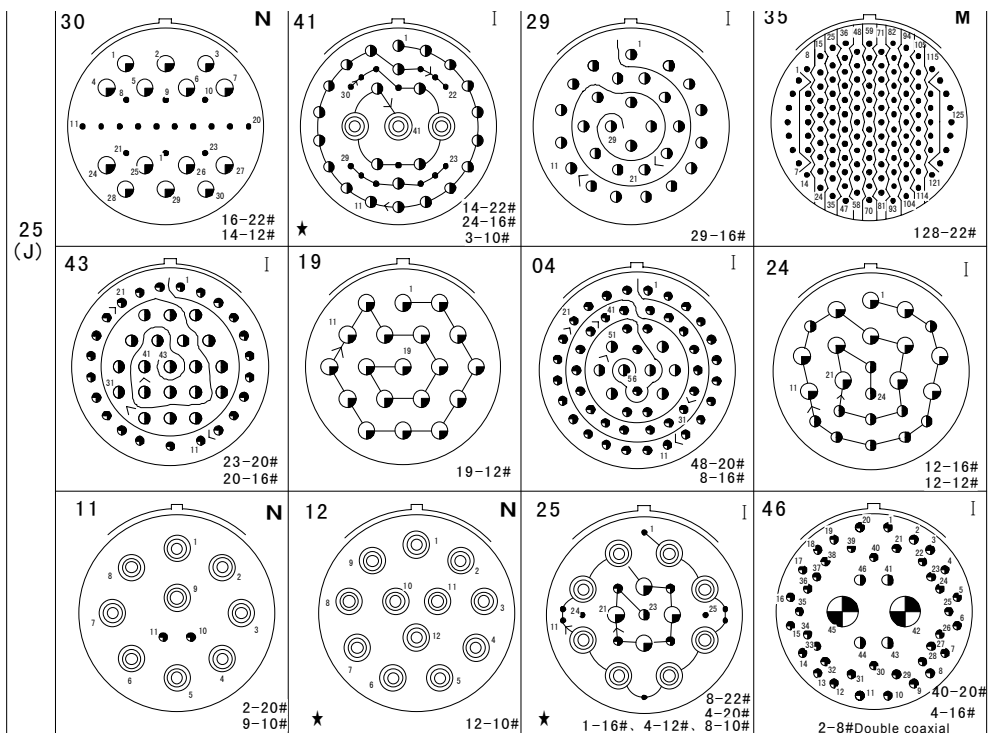
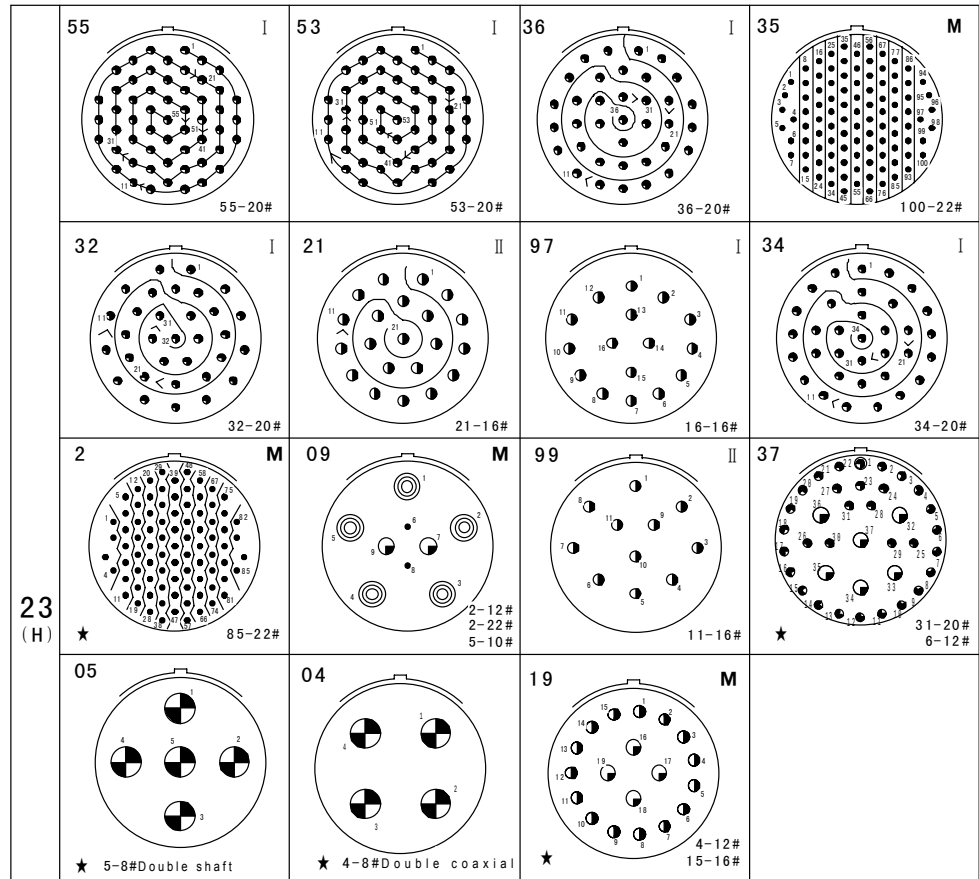
15 (D)	19 I 19-20#	02 II 2-12#	03 II 1-16# 2-12#	05 II 5-16#	15 I 1-16# 14-20#	18 I 18-20#	35 M 37-22#
	31 M 1-12# 30-22#	38 II 4-12#	97 I 8-20# 4-16#	14 M 8-22#; 6-16#	12 M 8-22#; 2-20# 2-12#	★	
	03 N 1-16# 2-10#	26 I 26-20#	99 I 2-16# 21-20#	06 I 6-12#	08 II 8-16#	35 M 55-22#	

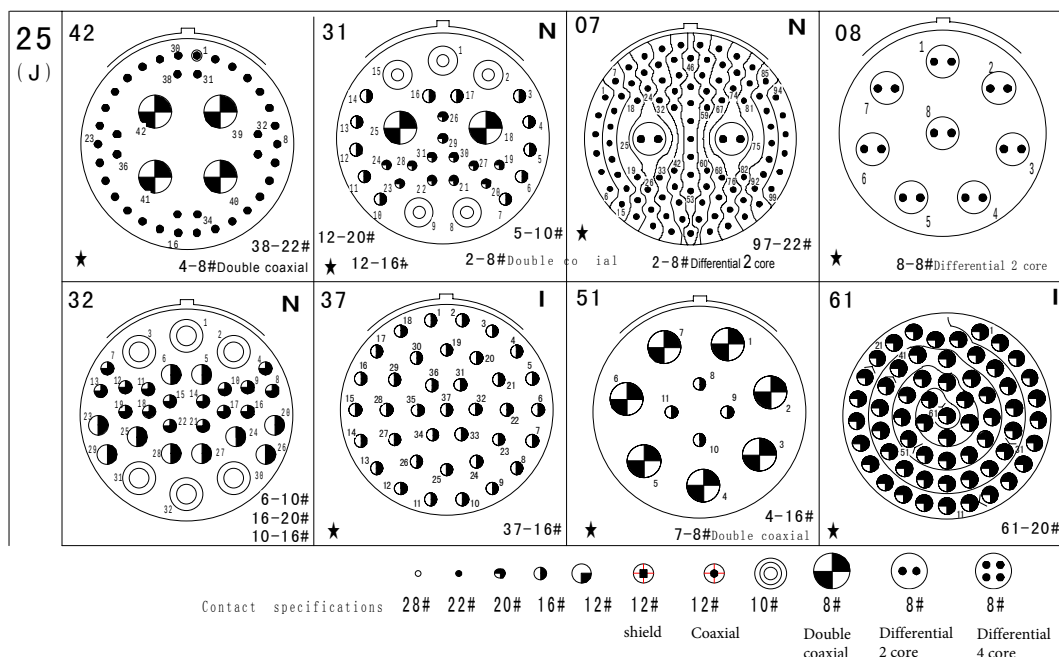
17 (E)	05 I 5-12#	16 I 3-20# 1-16# 2-10#	21 N 4-12# 17-22#	27 I 7-12#	30 N 3-20# 3-10#	39 II 3-10#
	42 M 42-22#	02 I 1-8# difference 2 core	32 I 20-22# 16-22# 2-12# shield	20 I 2-20# 16-22# 2-12# shield	22 I 2-8# Double coaxial	51 I 1-8# Double coaxial
	24 I 1-16# 2-12#	29 I 6-16# 3-12#	53 I 13-16#	52 I 1-8# Double coaxial	64 I 2-12# 2-8# Double coaxial	



APMA







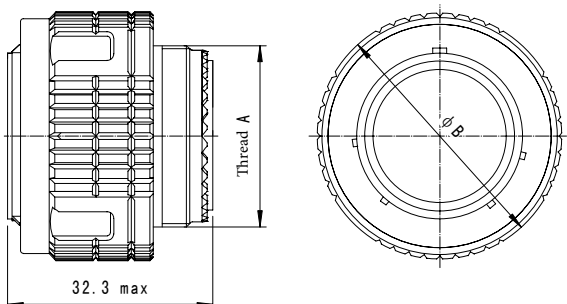
Note: ★ designates the product in design

Note:

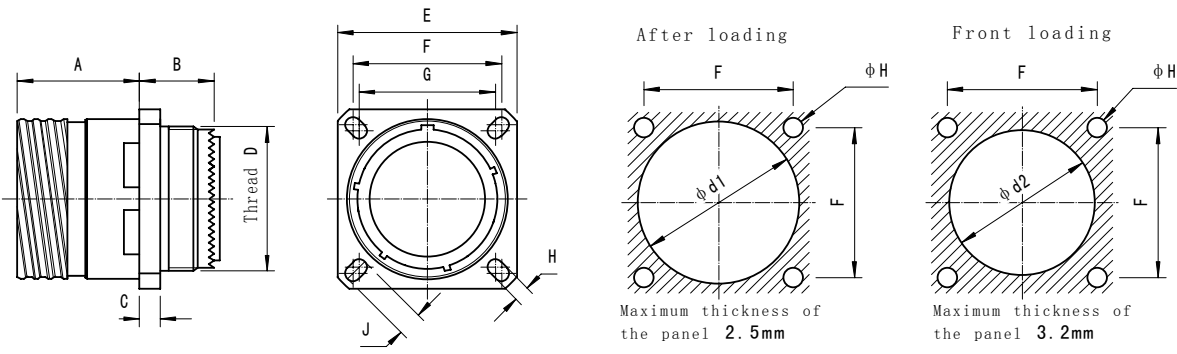
- 1) 20# optical fiber contacts can be installed in 20# cavity
- 2) 16# shielding contacts and 16# optical fiber contacts can be installed in 16# cavity
- 3) 12# shielding contacts, 12# coaxial contacts and 12# optical fiber contacts can be installed in 12# cavity
- 4) 8# twin axial contacts and 8# differential contacts are in 8# cavity.

Outline dimension

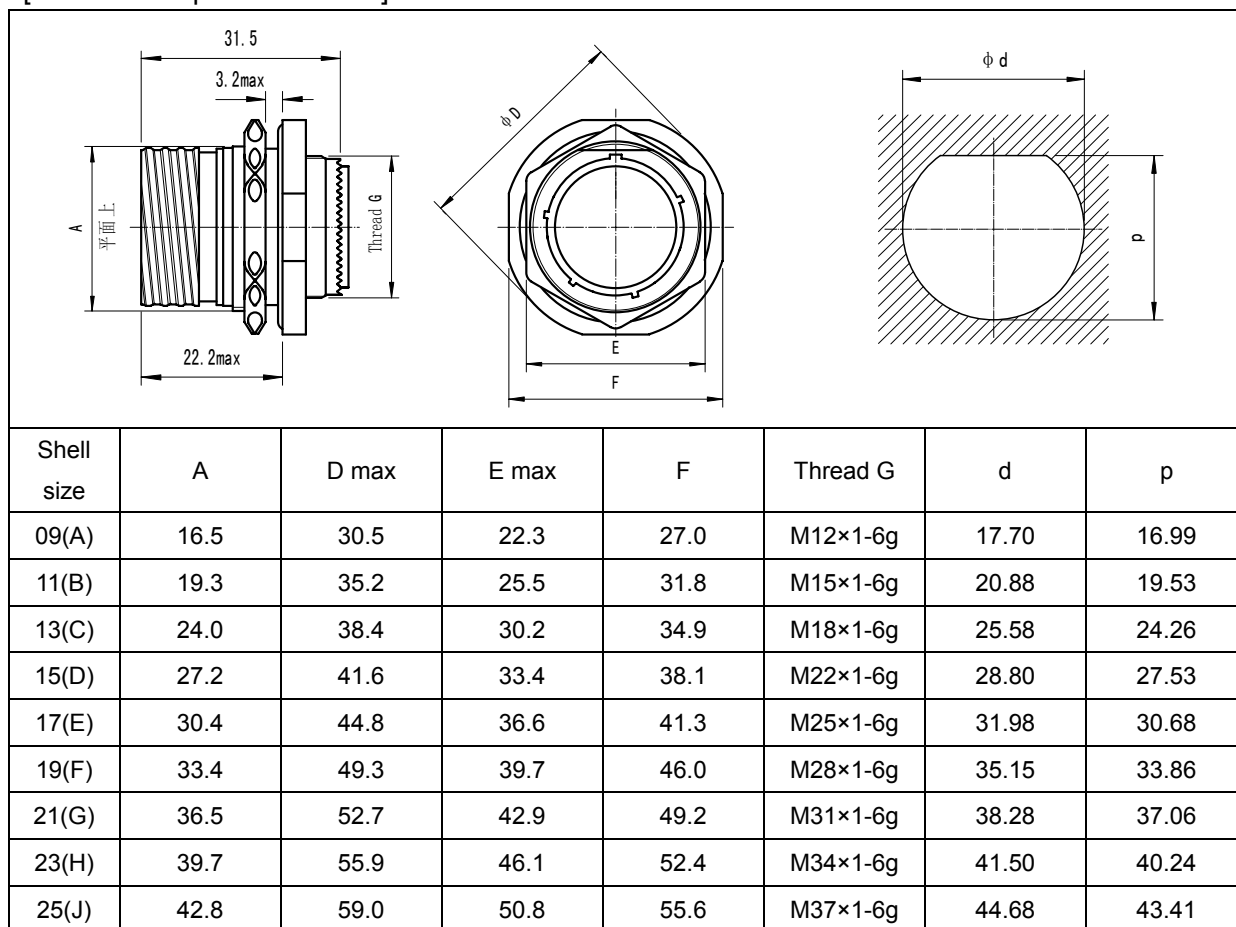
[Plug G526/26]

	Shell size	Thread A	B max
	09(A)	M12×1-6g	21.5
	11(B)	M15×1-6g	24.5
	13(C)	M18×1-6g	27.5
	15(D)	M22×1-6g	31.5
	17(E)	M25×1-6g	34.5
	19(F)	M28×1-6g	37.5
	21(G)	M31×1-6g	40.5
	23(H)	M34×1-6g	43.5
	25(J)	M37×1-6g	46.5

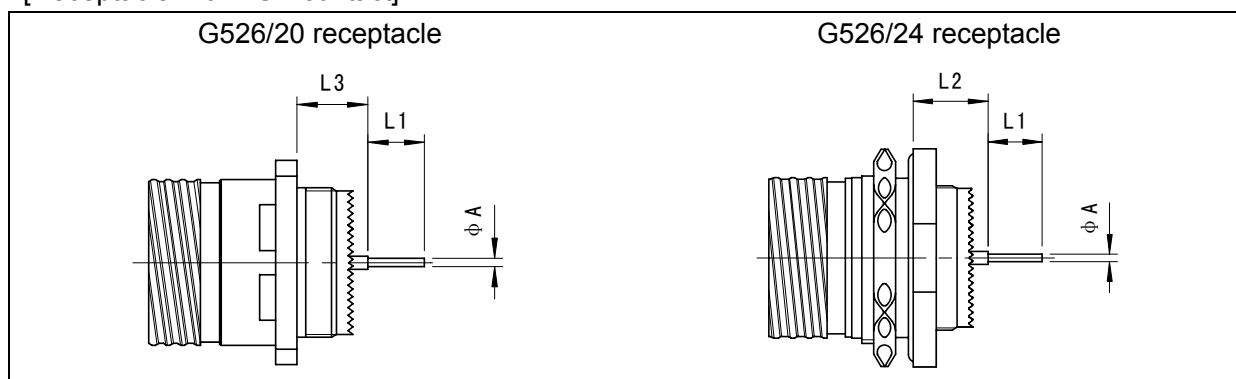
[Square flange G526/20]

											
Shell size	A	B	C	Thread D	E	F	G	H	J	d1 min	d2 min
09(A)	20.7	10.8	2.5	M12×1-6g	23.8	18.26	15.09	3.25	5.49	16.66	13.11
11(B)	20.7	10.8	2.5	M15×1-6g	26.2	20.62	18.26	3.25	4.93	20.22	15.88
13(C)	20.7	10.8	2.5	M18×1-6g	28.6	23.01	20.62	3.25	4.93	23.42	19.05
15(D)	20.7	10.8	2.5	M22×1-6g	31.0	24.61	23.01	3.25	4.39	26.59	23.01
17(E)	20.7	10.8	2.5	M25×1-6g	33.3	26.97	24.61	3.25	4.93	30.96	25.81
19(F)	20.7	10.8	2.5	M28×1-6g	36.5	29.36	26.97	3.25	4.93	32.94	28.98
21(G)	19.9	11.6	3.2	M31×1-6g	39.7	31.75	29.36	3.25	4.93	36.12	32.18
23(H)	19.9	11.6	3.2	M34×1-6g	42.9	34.93	31.75	3.91	6.15	39.29	34.93
25(J)	19.9	11.6	3.2	M37×1-6g	46.0	38.10	34.93	3.91	6.15	42.47	37.69

[Jam nut receptacle G526/24]



[Receptacle with PCB contact]

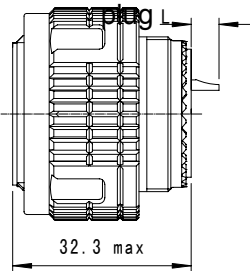
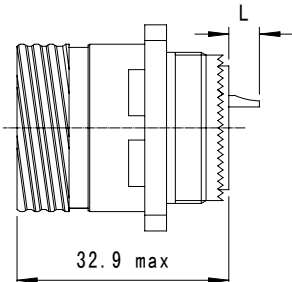
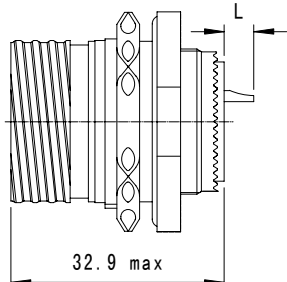


PCB contact size		L1	A
22#	Long PCB contact	8.5	0.7
	Short PCB contact	4.0	
20#	Long PCB contact	8.5	0.7
	Short PCB contact	5.1	
16#	Long PCB contact	8.5	1.15
	Short PCB contact	5.1	



Dimension of different sizes of contacts			Shell size A-B	Shell size C-D-E-F-G-H-J
L2	With 22# pin	min	10.52	10.34
		max	11.46	11.28
	With 22# socket	min	10.19	10.01
		max	11.46	11.28
	With 20# or 16# pin or socket	min	10.69	10.51
		max	11.63	11.45
L3	With 22# pin	min	9.48	9.48
		max	10.58	10.58
	With 22# socket	min	9.15	9.15
		max	10.58	10.58
	With 20# or 16# pin or socket	min	9.65	9.65
		max	10.75	10.75

[Soldered connector]

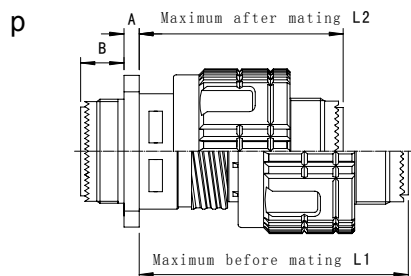
G526/26  G526/20 receptacle  G526/24 receptacle 			
Soldered contact size	L	Inner diameter of solder cup	The applicable wire gauge (AWG) max
22#	4	φ0.9	22
20#	4	φ1.1	20
16#	4	φ1.9	16
12#	4	φ2.9	12
10#	6	φ3.6	10

。 Note: no soldered coaxial contact

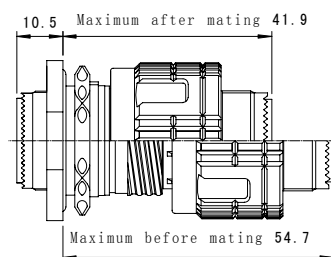
Mating dimension of plug and receptacle

Square flange receptacle

(G526/20)/



Jam nut receptacle (G526/24) /plug (G526/26)



Shell size		09(A)	11(B)	13(C)	15(D)	17(E)	19(F)	21(G)	23(H)	25(J)
L1	max	53.2	53.2	53.2	53.2	53.2	53.2	52.4	52.4	52.4
L2	max	40.3	40.3	40.3	40.3	40.3	40.3	39.6	39.6	39.6
A	max	2.5	2.5	2.5	2.5	2.5	2.5	3.2	3.2	3.2
B	max	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6

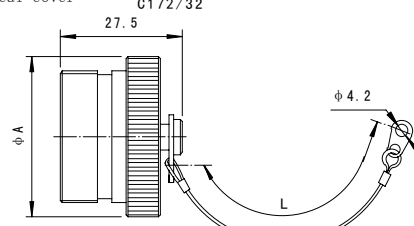
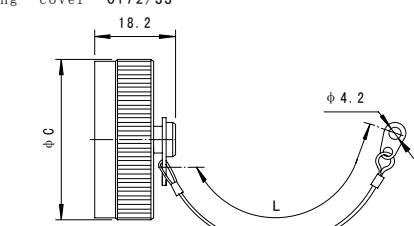
Sealing cap of plug and receptacle

[How to order]

Basic series	G526	32	W	09	N
Type	/ 32—Sealing cap of plug 33—Sealing cap of receptacle				
	W—Olive green, cadmium plating, aluminum alloy				
Shell and plating	K—Stainless steel passive Z—Aluminum alloy, zinc-nickel plating P—Titanium alloy passive				
Shell size	09-11-13-15-17-19-21-23-25				
Chain type	R—Stainless steel wire with coupling parts (for square flange receptacle) C—Nylon yarn with coupling parts (for square flange receptacle) N—Stainless steel with ring (for jam nut receptacle) S—Nylon yarn with ring (for jam nut receptacle)				

Note: The sealing cap should be ordered separately and not be supplied with connectors

[Outline dimension]

Plug seal cover C172/32  Socket sealing cover C172/33 									
Shell size	09(A)	11(B)	13(C)	15(D)	17(E)	19(F)	21(G)	23(H)	25(J)

A	max	22.86	25.40	30.48	33.02	36.83	39.37	43.18	44.45	48.26
B	min	12.92	17.78	19.27	22.60	25.62	28.95	31.97	34.03	38.32
C	max	22.86	27.86	30.48	31.75	36.83	38.10	41.91	44.45	48.26
D	min	17.78	21.33	25.62	28.95	31.97	35.30	38.32	41.65	44.45
L	max	127.00	127.00	127.00	127.00	127.00	127.00	127.00	127.00	127.00

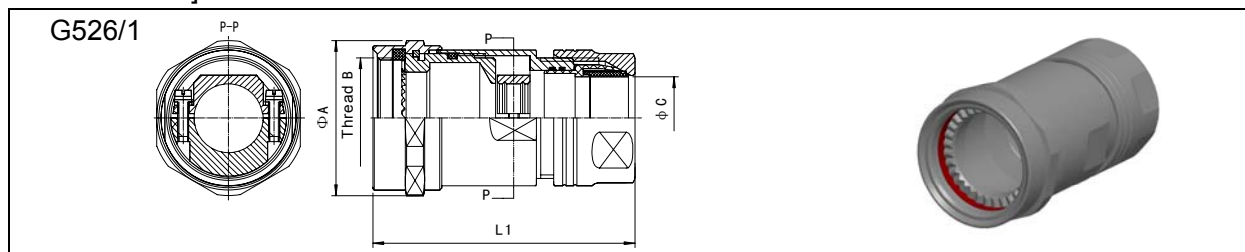
Accessory

The accessory is for fixing the wire and sealed cable and is composed of right angle and straight accessories with the inner pressure plate for clamping the cable or wire. At the same time, the pressure plate can clamp the braid for shielding

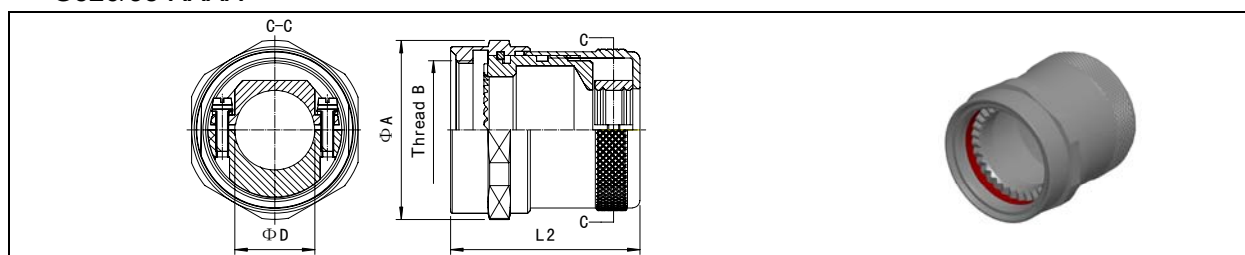
[Ordering information]

Basic series	G526/	18-	15	W	01
Type	38—Straight shielding accessory 39—Right angle shielding accessory 18—Straight shielding sealed accessory 19—Right angle shielding sealed accessory				
Shell size	09-11-13-15-17-19-21-23-25				
Shell and plating	W—Olive green, cadmium plating, aluminum alloy Z—Aluminum alloy, zinc-nickel plating K—Stainless steel passive P—Titanium alloy passive				
Entry code	Sealing accessory: 01, 02...		Non-sealing accessory: blank		

[Outline dimension] ●



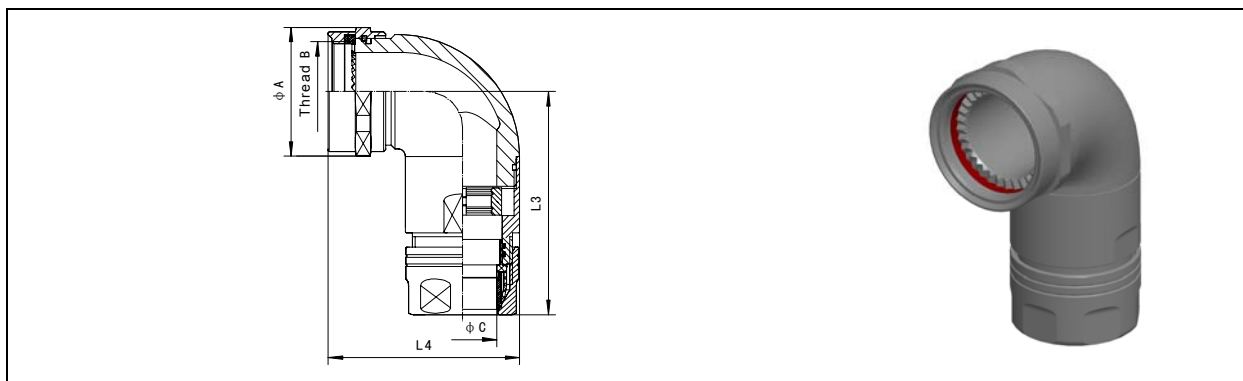
● G526/38-XXXX



● G526/19-XXXX



APMA



● G526/39-XXXX

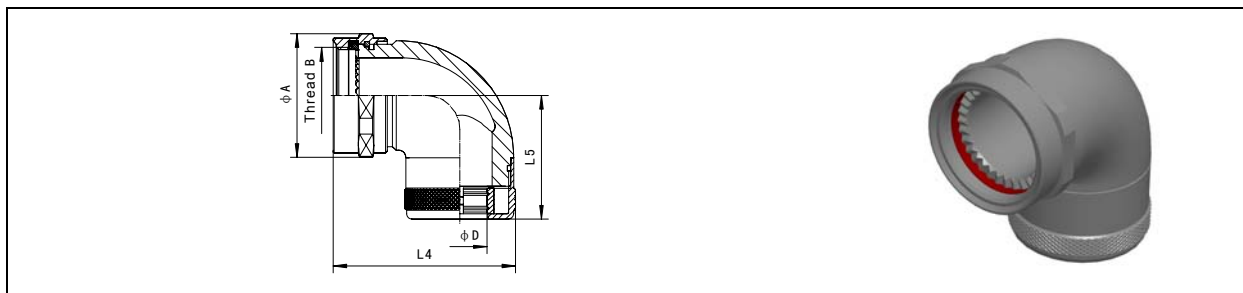


Table 1

Shell size	A	Thread B	L1 max	L2 max	L3 max	L4 max	L5 max	Shielding sealed accessory Diameter of entry Code C	Shielding accessory Diameter of entry D(max)
09	19	M12×1	47.6	28.7	47.4	39.2	26	01、02	4
11	22.2	M15×1	49.6	30.2	48.0	40.7	26	01、02、03	7
13	25.4	M18×1	52.1	31.7	52.0	46.2	29	01、02、03	10
15	29.6	M22×1	57.7	33.2	56.0	48.0	29	01、02、03	12
17	32.8	M25×1	59.7	35.2	60.0	51.7	33	01、02、03	14
19	36	M28×1	64.7	38.3	62.0	54.5	33	01、02、03	16
21	39.2	M31×1	68.0	41.5	68.0	56.7	39	01、02、03	19
23	42.4	M34×1	71.0	44.6	68.0	59.2	39	01、02、03	22
25	45.6	M37×1	73.1	46.7	73.0	64.7	44	01、02、03	25

Table 2

Shell size	Entry code	Entry dimension (C)
09	01	3.5~5.5
	02	2~4
11	01	5~7.5
	02	3.5~5.5
13	01	7.5~10.5
	02	5~7.5
	03	3.5~5.5
15	01	8.5~12
	02	7.5~10.5
	03	5~7.5

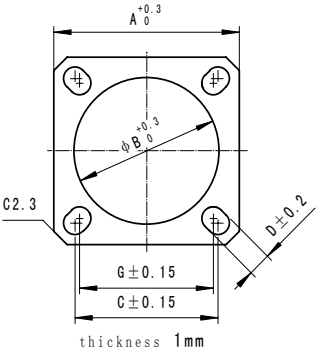


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17	01	10.5~15
	02	8.5~12
	03	7.5~10.5
19	01	13.5~18
	02	10.5~15
	03	8.5~12
21	01	16.5~21
	02	13.5~18
	03	10.5~15
23	01	18.5~23.5
	02	16.5~21
	03	13.5~18
25	01	21.5~26.5
	02	18.5~23.5
	03	16.5~21



Square flange rubber cushion

	Shell size	Square flange rubber cushion code	Conductive square flange rubber cushion code	A	B	C	G	D
	A	21E8.701.885	21E8.701.886	23.9	16.1	18.26	15.09	3.3
	B	21E8.701.887	21E8.701.888	26.3	19.2	20.62	18.26	3.3
	C	21E8.701.889	21E8.701.890	28.7	22.4	23.01	20.62	3.3
	D	21E8.701.891	21E8.701.892	31.1	25.6	24.61	23.01	3.3
	E	21E8.701.893	21E8.701.894	33.4	30.4	26.97	24.61	3.3
	F	21E8.701.895	21E8.701.896	36.6	32.0	29.36	26.97	3.3
	G	21E8.701.897	21E8.701.898	39.8	34.9	31.75	29.36	3.3
	H	21E8.701.899	21E8.701.900	43.0	38.3	34.93	31.75	4.0
	J	21E8.701.901	21E8.701.902	46.1	41.4	38.10	34.93	4.0

Note: The common square flange cushion is supplied with product. If the conductive square flange rubber cushion is required, it is should be noted in P/N (The identification C2 can be added after the P/N)