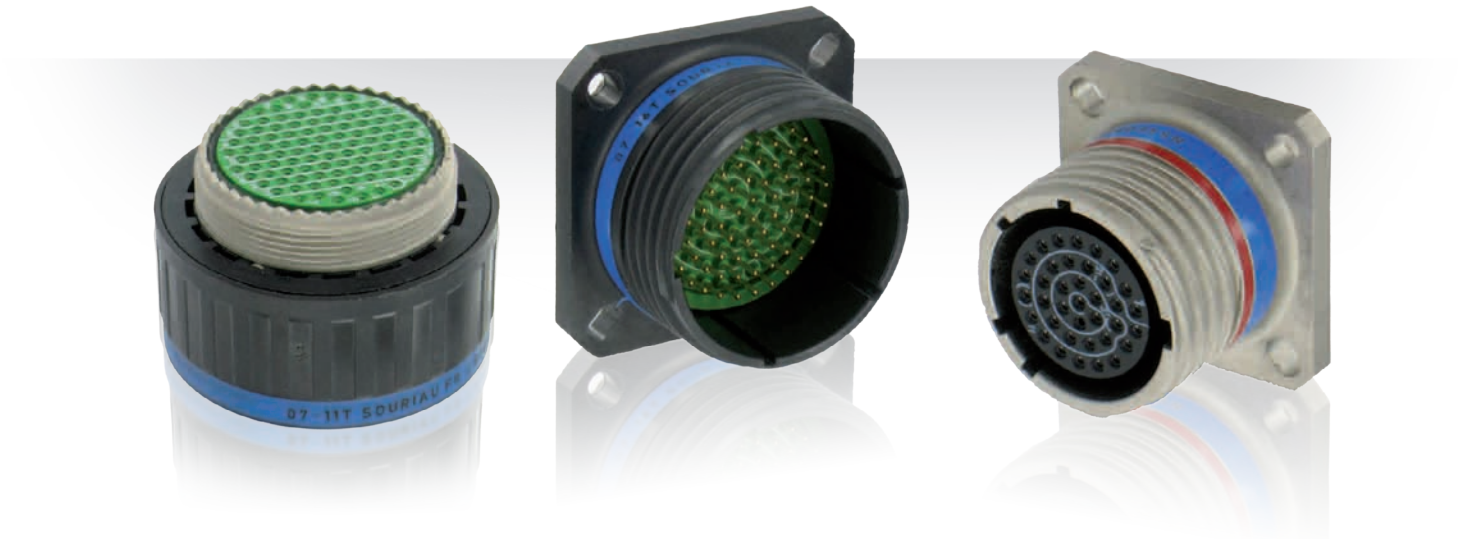
8D Series
Composite

SOURIAU



38999 Series III Composite Connectors

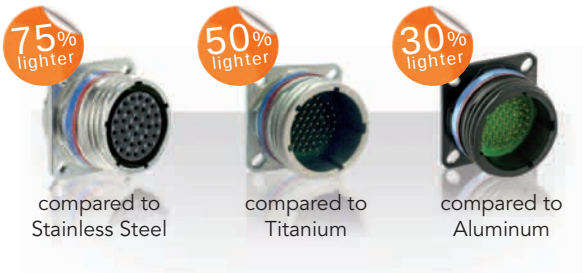
The RoHS connector with the best performance in weight saving and corrosion resistance for MilAero applications.

MIL-DTL-38999 Standard
- Mechanical and climatic characteristics conforming to the MIL-DTL-38999.
  All layouts 38999 Series III available.

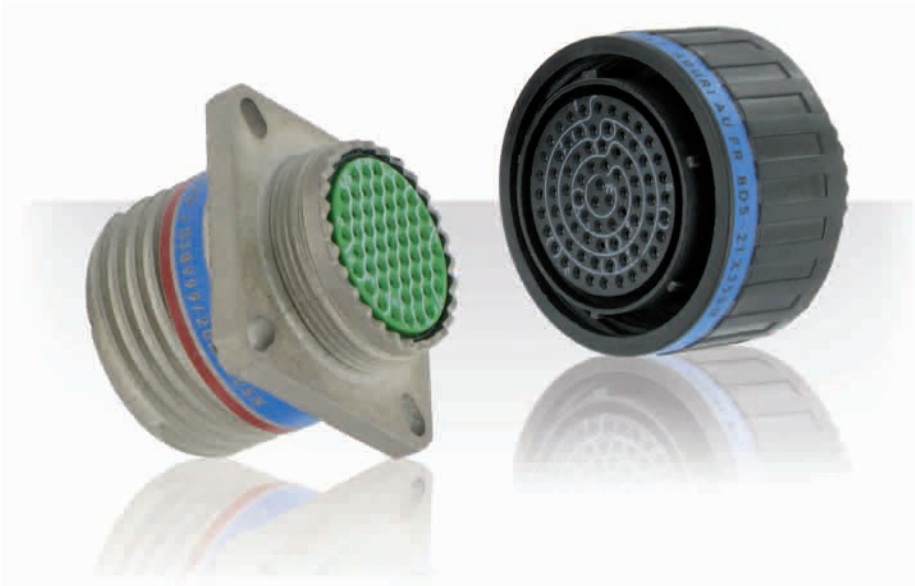
Versatility
- Fully intermatable & interchangeable with qualified Series III plugs or receptacles.
  Available with plating for conductivity.

Robust connector
- Suitable for applications with high vibrations.
  High corrosion resistant: 2000 hours salt spray withstanding.

Weight saving
- Composite lighter compared to other material:



Esterline
Connection Technologies



Description

- High contact density layouts available
- Screw coupling, Shell size from 9 to 25
- Contact protection: 100% Scoop proof
- RFI - EMI shielding and shell to shell continuity
- Accessories (protective caps, backshells, etc…)
- Hermetic versions
- Optical layouts
- 230V layouts available (ABS22-19, ABS22-20, ABS22-21 & ABS22-22 qualified)

Technical features

Mechanical

- **Shell:** Composite
- **Shell plating:**
  . Cadmium olive drab (J)
  . Nickel (M) - RoHS Compliant
  . Without plating (X) - RoHS Compliant
- **Insulator:** Thermoplastic
- **Grommet and interfacial seal:**
  Silicone elastomer
- **Contacts:** Copper alloy
- **Contacts plating:** Gold over nickel plated
- **Endurance:**
  . 500 mating cycles
  . 1500 mating cycles with specifics contacts
- **Shock:**
  300g, 3 ms according EN 2591-D2 method A
- **Vibration:**
  . Sinus:
  . . 10 à 2000 Hz, 3x12 hrs
  (60g, 140 - 2000 Hz) with T° cycling
  . Random:
  . . 50 to 2000 Hz, 2x8 Hrs
  (1g2/ Hz, 100 - 2000Hz) at T° max.
  . . 25 to 2000 Hz, 2x8 Hrs
  (5g2/ Hz, 100 - 300Hz) at ambiant T°
  Test with accessories in acc with EN2591-D3
- **Contact retention:**

Contacts size	26	22	20	16	12	8	4
Min force in N	30	44	67	111	111	111	200

Electrical

- **Test voltage rating (Vrms)**

Service	sea level	at 21000 m
R	400	N/A
M	1 300	800
N	1 000	600
I	1 800	1 000
II	2 300	1 000

- **Contact resistance**

Contacts size	26	22	20	16	12	8	4
Resistance mΩ	16	14.6	7.3	3.8	3.5	3	2

- **Insulation resistance:**
  ≥ 5 000 MΩ (under 500 Vdc)
- **Contact rating:**

Contacts size	26	22	20	16	12	8	4
Rating (A)	3	5	7.5	13	23	45	80

- **Shell continuity**
  . Cadmium olive drab (J): 3 mΩ
  . Nickel (M): 3 mΩ
- **Shielding:** J & M: 85 db at 1 GHz

Environmental

- **Temperature range:**
  . J: -65°C +175°C
  . M: -65°C +200°C
  . Without plating (X): -65°C +175°
- **Sealing:**
  Mated connectors meet altitude immersion requirements of MIL-DTL-38999.
- **Salt spray:**
  . J: 2000 Hrs
  . M: 2000 Hrs
  . Without plating (X): 2000 Hrs

Resistance to fluids

- **According to MIL-DTL-38999 standard**
  . Gasoline: JP5 (OTAN F44)
  . Mineral hydraulic fluid: MIL-H-5606 (OTAN H515)
  . Synthetic hydraulic fluid: Skydrol 500 B4
- **LD4 (SAE AS 1241)**
  . Mineral lubricating: MIL-L-7870A (OTAN 0142)
  . Synthetic lubricating: MIL-L-23699 (OTAN 0156), MIL-L-7808
  . Cleaning fluid: MIL-DTL-25769 diluted
  . De-icing fluid: MIL-A-8243
  . Extinguishing fluid: Bromochloromethane
  . Cooling fluid: Coolanol

Connector part numbers

Basic Series	8D	0	-	11	J	35	P	N			L

Shell style:
0: Square flange receptacle
5: Plug with RFI shielding

Type:
- : Connectors with standard crimp contacts.
L: Receptacle with long PC tail (male and female size #22D, #20).
C: Receptacle with short PC tail (male and female #22D, #20, #16, #12).
S: Receptacle with specific PC tail (male et female #22D)
W: Receptacle with male contacts #22D for wire wrap (3 wraps)
T: Receptacle with male contacts #20 for wire wrap (2 wraps)
P: Receptacle with solder cup contacts - please consult us

Shell size: 09, 11, 13, 15, 17, 19, 21, 23, 25

Plating:
J: Olive drab cadmium
M: Nickel
X: Without plating

Contact layout: See SOURIAU «8D Series - MIL-DTL-38999 Series III» catalog

Contact type:
P: Pin (500 mating/unmating)
H: Pin (1500 mating/unmating)
A: Connector supplied less pin contact or with specific contacts (connector marking: A + orientation)
S: Socket (500 mating/unmating)
J: Socket (1500 mating/unmating)
B: Connector supplied less socket contact or with specific contacts (connector marking: B + orientation)

Orientation: N, A, B, C, D, E, T, V

Specification:
046: Tinned straight PC tail
251: Connector provided with power contacts (layouts with contact #8)
022: Fuel tank
600: 230V qualified connector (T or V orientation mandatory - Consult us for available layouts)

Special custom:
None: Standard plastic cap
M: Antistatic plastic cap

L: For P or S contact type only, connectors delivered without contacts, connectors marking P or S plus orientation.

Note: PC tail contacts without shoulder also available. Please consult us.

MIL-DTL-38999 part numbers*

Basic Series	D38999/	20	M	B	35	P	N	L

Shell style:
20: Square flange receptacle
26: Plug with RFI shielding.

Plating:
J: Olive drab cadmium
M: Nickel

Shell size: 09=**A**, 11=**B**, 13=**C**, 15=**D**, 17=**E**, 19=**F**, 21=**G**, 23=**H**, 25=**J**

Contact layout: See SOURIAU «8D Series - MIL-DTL-38999 Series III» catalog for layouts according to MIL-DTL-38999

Contact type:
P: Pin (500 mating/unmating)
H: Pin (1500 mating/unmating)
A: Connector supplied less pin contact or with specific contacts (connector marking: A + orientation)
S: Socket (500 mating/unmating)
J: Socket (1500 mating/unmating)
B: Connector supplied less socket contact or with specific contacts (connector marking: B + orientation)

Orientation: N, A, B, C, D, E

L: For P or S contact type only, connector delevired without contacts, connector marking P or S (without L)

* Note: To place an order of MIL connectors delivered without MIL removable crimp contacts and keep P or S plus orientation marking, it must be specify clearly on the order (by adding a suffix L at the end of the P/N or specified in comment).

BACC part numbers

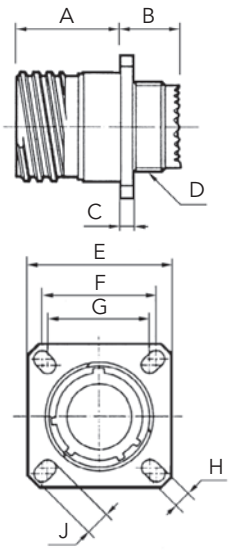
Basic Series: **BACC63CT:** 8D5*M (composite plug) **BACC63CU:** 8D0*M (composite square flange receptacle)	**BACC63CT**	**13**	**-**	**98**	**P**	**N**	**H**
Shell size: **09**=A, **11**=B, **13**=C, **15**=D, **17**=E, **19**=F, **21**=G, **23**=H, **25**=J							
Plating & grounding: **- :** Nickel plated, ungrounded **G:** Nickel plated, grounded **D:** Cadmium plated, ungrounded **C:** Cadmium plated, grounded							
Contact layout: See SOURIAU «8D Series - MIL-DTL-38999 Series III» catalog for layout according to BACC							
Contact type: **P:** Pin **S:** Socket							
Orientation: **N, A, B, C, D, E**							
Specification: **None:** With contacts **H:** Without contact & without filler plug							

EN3645 part numbers

Basic Series	**EN3645**	**J**	**6**	**G**	**N**	**35**	**B**	**N**
Plating: **J:** Olive drab cadmium **M:** Nickel								
Shell style: **0:** Square flange receptacle **6:** Plug								
Shell size: 09=**A**, 11=**B**, 13=**C**, 15=**D**, 17=**E**, 19=**F**, 21=**G**, 23=**H**, 25=**J**								
Grounding: **N:** Standard insert not grounded								
Contact layout: See SOURIAU «8D Series - MIL-DTL-38999 Series III» catalog for layout according to EN3645								
Contact type: **A:** Connector supplied less pin contact **B:** Connector supplied less socket contact **F:** Socket **M:** Pin								
Orientation: **N, A, B, C, D, E**								

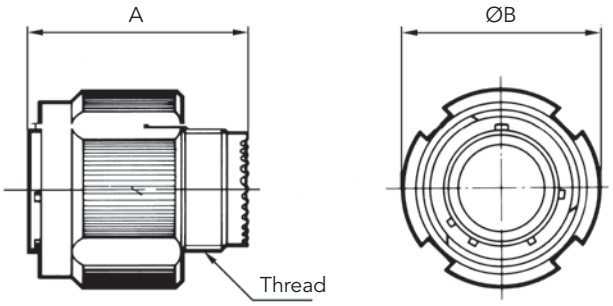
Dimensions

Receptacle type 0



Shell size	A Max	B Max	C Max	D Thread	E±0.3	F	G	H±0.2	J±0.2
09 (A)	19.65	11.96	3.65	M12 x 1-6g	23.8	18.26	15.09	3.25	5.49
11 (B)				M15 x 1-6g	26.2	20.62	18.26		4.93
13 (C)				M18 x 1-6g	28.6	23.01	20.62		
15 (D)				M22 x 1-6g	31	24.61	23.01		4.39
17 (E)				M25 x 1-6g	33.3	26.97	24.61		4.93
19 (F)			3.7	M28 x 1-6g	36.5	29.36	26.97		
21 (G)	18.85	12.76	4.35	M31 x 1-6g	39.7	31.75	29.36		
23 (H)			4.4	M34 x 1-6g	42.9	34.93	31.75	3.91	6.15
25 (J)				M37 x 1-6g	46	38.1	34.93		

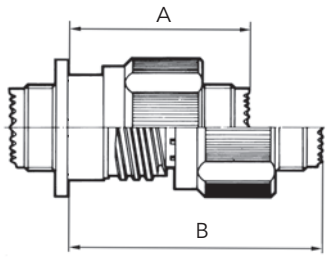
Plug type 5



Shell size	A Max	Thread	ØB Max
09 (A)	31.00	M12 x 1-6g	21.80
11 (B)		M15 x 1-6g	25.00
13 (C)		M18 x 1-6g	29.40
15 (D)		M22 x 1-6g	32.50
17 (E)		M25 x 1-6g	35.70
19 (F)		M28 x 1-6g	38.50
21 (G)		M31 x 1-6g	41.70
23 (H)		M34 x 1-6g	44.90
25 (J)		M37 x 1-6g	48.00

Mated connectors

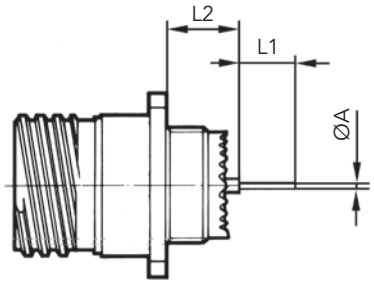
Type 0 with plug



Shell size	A Max	B Max
09 (A)	37.00	52.30
11 (B)		
13 (C)		
15 (D)		
17 (E)		
19 (F)		
21 (G)	36.00	51.30
23 (H)		
25 (J)		

Note: All dimensions are in millimeters (mm)

Receptacle with straight PC tail contacts



		Shell size			09 (A)	11 (B)	13 (C)	15 (C)	17 (E)	19 (F)	21 (G)	23 (H)	25 (J)
		Contact size	Contact type	PC tail type									
A		#22D	M & F	L & C	0.70								
		#22D	M & F	S	0.50								
		#20	M & F	C	0.70								
		#16	M & F	C	1.15								
L1		#22D	M & F	L	8.50								
		#22D	M & F	C	4.00								
		#22D	M & F	S	5.00								
		#20	M & F	C	5.00								
		#16	M & F	C	5.00								
L2	Min	#22D	M	L & C	9.48						9.59		
	Max	#22D	M	L & C	10.38						10.48		
	Min	#22D	F	L & C	9.15						9.26		
	Max	#22D	F	L & C	10.38						10.48		
	Min	#22D	M	S	9.65						9.76		
	Max	#22D	M	S	10.55						10.65		
	Min	#22D	F	S	9.32						9.42		
	Max	#22D	F	S	10.55						10.65		
	Min	#20	M	C	9.65						9.76		
	Max	#20	M	C	10.55						10.65		
	Min	#20	F	C	9.65						9.76		
	Max	#20	F	C	10.55						10.65		
	Min	#16	M	C	9.65						9.76		
	Max	#16	M	C	10.55						10.65		
	Min	#16	F	C	9.65						9.76		
	Max	#16	F	C	10.55						10.65		

M: Male contact **F:** Female contact **L:** Long PC tail **C:** Short PC tail **S:** Specific PC tail

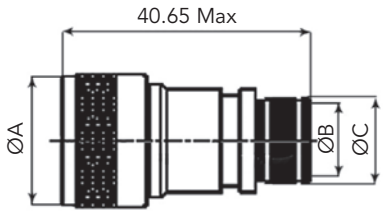
Note: All dimensions are in millimeters (mm)

Connectors weight - in gram (±15%)

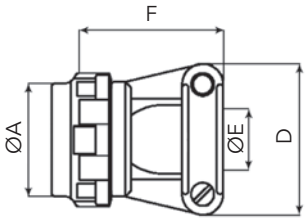
Shell size & Layout		With contacts				Without contacts			
		Plug (type 5)		Receptacle (type 0)		Plug (type 5)		Receptacle (type 0)	
		Male	Female	Male	Female	Male	Female	Male	Female
09	35	8.5	10.1	7.8	9.4	8.1	8.6	7.4	7.9
	98	8.5	9.8	7.8	9.1	8.1	8.6	7.4	7.9
11	01	12.8	15.7	10.4	13.3	12.1	14.1	9.7	11.7
	02	11.5	14.1	09.3	11.8	10.9	12.5	8.7	10.3
	04	12.6	15.7	10.2	13.3	12.0	14.1	9.7	11.7
	05	12.6	15.8	10.2	13.4	11.9	13.8	9.5	11.5
	22	11.4	13.8	9.1	11.6	11.1	12.8	8.8	10.6
	35	12.5	16.0	10.1	13.6	11.6	12.8	9.2	10.4
	80	15.2	18.6	13.4	10.4	10.7	11.6	8.9	9.4
	98	12.5	15.3	10.1	12.9	11.7	12.8	9.3	10.5
	99	11.8	15.0	9.6	12.8	10.8	12.2	8.6	10.0
13	04	17.2	20.9	13.7	17.5	15.6	17.9	12.4	14.3
	08	17.6	22.8	14.1	19.2	16.5	19.6	12.9	16.1
	26	17.9	23.6	14.4	20.1	16.2	18.9	12.7	15.4
	35	17.4	23.1	13.8	19.6	15.8	17.6	12.3	14.1
	98	17.2	21.8	13.7	18.3	15.8	17.9	12.3	14.3
15	05	21.4	26.7	16.6	21.9	19.8	22.8	15.0	18.0
	15	22.2	29.3	17.4	24.5	19.9	23.0	15.1	18.1
	18	22.4	31.3	17.6	26.5	19.9	24.0	15.0	19.2
	19	22.0	29.6	17.1	24.8	19.2	22.0	14.5	17.2
	35	22.0	31.3	17.2	26.5	19.4	22.0	14.6	17.2
	97	21.8	28.9	17.1	24.1	19.4	22.6	14.7	17.8
17	02	26.5	38.8	25.2	37.6	19.3	22.3	18.1	21.1
	06	25.9	35.5	23.2	32.8	21.9	25.9	19.2	23.2
	08	24.9	33.6	22.2	30.1	22.4	27.4	19.7	24.7
	26	25.5	36.3	22.8	33.6	21.8	25.9	19.2	23.1
	35	25.7	39.3	23.0	36.6	21.9	25.5	19.2	22.8
	75	31.3	42.6	28.6	39.9	22.3	28.6	19.6	25.9
	99	25.5	36.1	22.8	33.4	22.0	26.1	19.3	23.4
19	11	32.1	45.7	26.1	39.7	28.7	37.1	22.7	31.1
	32	31.3	44.7	25.3	38.7	26.8	31.9	20.8	25.9
	35	31.6	48.1	25.6	42.0	27.1	31.6	21.0	25.6
21	11	38.0	57.9	32.8	52.6	30.8	40.3	25.5	35.1
	16	35.1	50.4	29.9	45.2	30.2	37.9	24.9	32.7
	35	35.4	56.1	30.1	50.8	29.9	36.3	24.6	31.1
	39	36.8	57.1	31.5	51.9	31.0	40.8	25.7	35.5
	41	35.3	52.7	30.1	47.5	29.6	36.3	24.3	31.0
	48	42.4	62.4	37.7	57.7	29.3	36.2	24.6	31.5
	75	47.3	64.2	42.6	59.50	29.3	36.2	24.6	31.5
23	21	43.1	66.3	38.0	61.2	36.5	49.9	31.5	44.8
	35	41.4	67.5	36.3	62.5	34.4	42.5	29.3	37.5
	53	41.5	63.6	36.4	58.6	34.1	42.4	29.0	37.4
	55	42.2	65.3	42.2	60.2	34.5	43.3	29.4	38.2
25	07	53.6	90.05	49.0	84.8	37.8	51.8	33.2	46.6
	11	59.1	81.6	54.5	77.0	40.8	53.8	36.2	49.2
	19	51.7	83.7	46.6	78.6	39.2	53.3	34.0	48.2
	24	51.2	82.5	46.1	77.4	39.6	54.0	34.4	48.9
	29	49.5	78.5	44.4	73.4	40.5	55.9	35.4	50.7
	35	47.3	80.1	42.2	75.0	38.4	48.1	33.2	43.0
	37	49.3	80.4	45.5	76.2	37.8	51.5	34.0	47.3
	44	69.6	93.7	65.0	94.6	36.1	45.8	31.5	46.7
	43	49.6	80.2	44.4	75.1	40.1	55.4	35.0	50.3
	46	51.9	75.7	46.7	70.1	37.2	47.4	32.1	42.2
	61	46.6	73.4	41.5	68.2	38.1	48.9	32.9	43.8
	08	72.9	104.8	67.8	99.6	36.9	48.8	31.8	43.6
	20	57.9	88.2	52.8	83.0	36.4	46.6	31.3	41.5
	04	50.4	80.2	45.3	75.0	41.2	54.8	36.1	49.6

Backshells

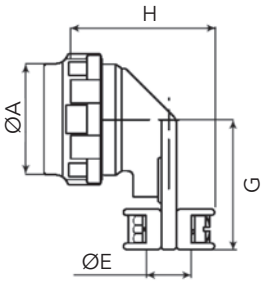
Straight backshell for EMI/RFI heat shrink boots (Type 88)



Straight cable clamp (Type 91)



90° cable clamp (Type 92)



Shell size	ØA Max	ØB±0.10 Entry size		ØC Entry size		D Max	E Max	F Max	G	H
		02	03	02	03					
09	21.80	N/A	6.35	N/A	10.03	24.90	5.55	21.25	22.20	26.95
11	25.00	N/A	7.92	N/A	11.61	26.00	6.70	24.30	23.80	27.95
13	29.40	7.92	11.13	11.61	14.81	30.50	8.75	27.95	26.20	30.00
15	32.50	11.13	14.27	14.81	17.96	33.00	11.70	27.95	28.60	33.00
17	35.70	12.70	15.88	16.38	19.56	36.10	13.85	31.25	33.30	35.05
19	38.50	15.88	19.05	19.56	22.73	38.60	15.60	35.80	34.95	36.85
21	41.70	15.88	20.62	19.56	24.30	41.65	17.75	38.35	38.10	39.15
23	44.90	17.47	23.83	21.06	27.51	45.00	19.80	42.15	41.30	41.15
25	48.00	19.05	25.40	22.73	29.08	48.00	21.60	44.70	44.45	42.95

Basic Series	**M85049**	**91**	**11**	**M**
Backshell type: **88:** Straight backshell for EMI/RFI heat shrink boots **91:** Straight cable clamp **92:** 90° cable clamp				
Shell size: **09, 11, 13, 15, 17, 19, 21, 23, 25**				
Plating: **J:** Olive drab cadmium over electroless nickel **M:** Electroless nickel **T:** Without plating (Type 91 & 92 only)				
Entry size (Type 88 only): **02:** See table above **03:** See table above				

Note: All dimensions are in millimeters (mm)

For further information contact us at contactmilaero@souriau.com
or visit our web site www.souriau.com

Product Range Extension

High Density
Composite version available

SOURIAU offers a robust & reliable High Density solution derived from 38999 Series I, Series III & VG96912.

3 shell sizes available:
. Provides flexibility according to your application.

A reliable & robust solution:
. Same well proven design as standard 38999 & VG96912.

Significant space saving:
. Twice the number of contacts compared to size13-35 with 22 contacts.
. Two shell sizes smaller than a partially populated size 17-35 with 55 cavities.

See «High Density Connectors» product news on www.souriau.com

Reinforced Sealing
Composite version available

Cost effective sealing solution, the best value for money. To be used when enhanced sealing is needed in harsh environment and as an alternative to hermetic glass bead.

Weight saving:
. Lightweight compared with hermetic versions.

Excellent shock resistance:
. Better than hermetic glass seals.
. Filtered receptacle are generally standard length.

High performances:
. Reinforced sealing receptacle with male or female straight PC tails.
. High hermiticity performance: 10^{-7} atm.cm^3/s.
. 100 % scoop proof.
. High density connectors.
. Lower profile for compactness.

See «8D Series - MIL-DTL-38999 Series III» catalog on www.souriau.com

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OCEAN CHIPS
Океан Электроники
Поставка электронных компонентов

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «**JONHON**», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «**FORSTAR**».

AVIC JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

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ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).

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