

# D38999 High Frequency Contacts

**SV** Amphenol  
**MICROWAVE**

## FEATURES & BENEFITS

**Operating frequency range DC to 40 GHz**  
**Compatible with all Size 8 D38999 Inserts**  
**True float mount for optimal performance**

## APPLICATIONS

**Military Communication Terminals**  
**Shipboard and Airborne Systems**  
**Phased Array Radars**  
**High Density Multiport Requirements**  
**Harsh Environment Applications**



**D38999 High Frequency Contacts**

## High Frequency Size 8 Contacts for D38999 Connectors

Amphenol SV Microwave now offers DC to 40 GHz size 8, 12 & 16 coaxial contacts for the D38999 housing and standard inserts. These contacts can be terminated to a multiple of cable types depending on the application. By using standard interfaces that are based on MIL-STD-348 and can be installed in any D38999 size 8, 12 & 16 inserts, Amphenol has transformed the circular connector industry. This technology will allow any application to continue to use the D38999 connector and be able to expand the use to include the microwave transmission lines within the multiport configuration without change to a custom connector.

The high frequencies are maintained by Amphenol's unique "Float Mount" technology designed into the contacts. This technology allows for consistent microwave performance while maintaining tight mechanical tolerances. This consistency provides superior electrical performance and, unlike other blindmate connectors, will maintain an accurate phase length when mated.

### Specifications

#### Electrical (Mated pair - RG 405 Semi-Rigid Cable)

Impedance	50 $\Omega$
Frequency Range	DC - 40 GHz
VSWR	1.05 +.01 (freq. GHz)
Insertion Loss	0.03 $\sqrt{\text{freq. GHz}}$
Insulation Resistance (Min.)	10,000 M $\Omega$
Contact Resistance (Max.)	
center conductor:	6.0 m $\Omega$
outer conductor:	3.0 m $\Omega$
outer to cable:	0.5 m $\Omega$
DWV	1,000 VRMS
Corona Extinction Voltage	250 VRMS
RF High Potential Voltage	500 VRMS
RF Leakage	-(80-freq. GHz)

#### Materials and Finish

Body and Sleeve	Stainless steel per AMS-5640 Alloy UNS S30300 Type 1
Ferrule	Brass per ASTM B16, Alloy UNS C36000
Contact and Lock Ring	Beryllium Copper per ASTM B196 Alloy UNS C17300, Td04
Insulator	PTFE per ASTM D1710, Type 1, Grade 1, Class B
Spring	Stainless steel per ASTM A313 Type 631
Rear Body and Contacts	Gold per ASTM B488 Type II, Code C, Class 1.27 over Nickel per AMS-QQ-N-290 Class 1 (60 $\mu$ inches) over Copper per MIL_C-14550 (10 $\mu$ inches) Passivated per AMS-2700, Type 2

#### Environmental

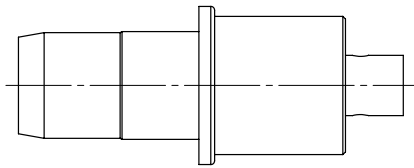
Temperature Range	-65°C to +125°C
Corrosion (Salt Spray)	MIL-STD-202, Method 101, Condition B
Vibration	MIL-STD-202, Method 204, Condition D, 20Gs
Shock	MIL-STD-202, Method 213, Condition 1, 100Gs
Thermal Shock	MIL-STD-202, Method 107, Condition B, -65°C to +125°C
Moisture Resistance	MIL-STD-202, Method 106, Less step 7B
Barometric Pressure (Altitude)	MIL-STD-202, Method 105, Condition C, 70,000 ft.

# Coaxial Contacts

## Coaxial Contacts Interface at a Glance

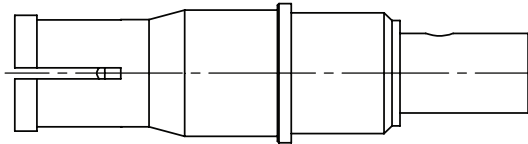
System design and platform needs have required smaller packaging with RF, D/C signal and power all in close proximity. Our proven designs and blindmate technology have enabled the integration of multiport RF signals into single housings for gang mating capability. Various existing form factors such as D38999, ARINC, Micro-D and D-Sub have provided standard components and familiar shell sizes. Hybrid technology fuses RF and D/C contacts into a single connector simplifying design and installation while eliminating discrete wiring.

### Pin D38999 Cable Contact (Size 8)



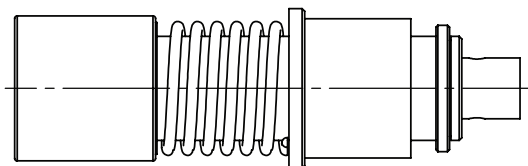
Cable	Series	Part Number	Freq.
0.085	BMA	<a href="#">SF9421-6000</a>	26.5 GHz
0.085	BMZ	<a href="#">SF9821-6000</a>	18 GHz
0.085	NSME	<a href="#">8001-4107</a>	3 GHz

### Socket D38999 Cable Contact (Size 8)



Cable	Series	Part Number	Freq.
0.085	NSME	<a href="#">8001-4108</a>	3 GHz

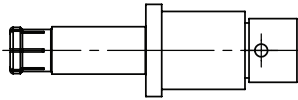
### Socket D38999 Cable Contact (Size 8), Spring Loaded



Cable	Series	Part Number	Freq.
0.085	BMA	<a href="#">SF9411-6000</a>	26.5 GHz
0.085	BMZ	<a href="#">SF9811-6000</a>	18 GHz

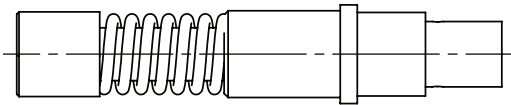
# Coaxial Contacts

## Pin D38999 Cable Contact (Size 12)



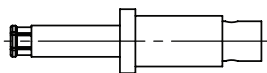
Cable	Series	Part Number	Freq.
0.085	NSME	<a href="#">8001-4102</a>	3 GHz
0.085	SMPM	<a href="#">3221-4002</a>	50 GHz

## Socket D38999 Cable Contact (Size 12)



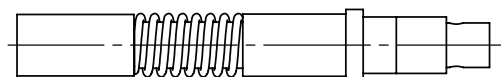
Cable	Series	Part Number	Freq.
0.085	NSME	<a href="#">8001-4104</a>	3 GHz
0.085	SMPM	<a href="#">SF3211-6004</a>	50 GHz

## Pin D38999 Cable Contact (Size 16)



Cable	Series	Part Number	Freq.
0.047	SMPS	<a href="#">9921-40001</a>	50 GHz

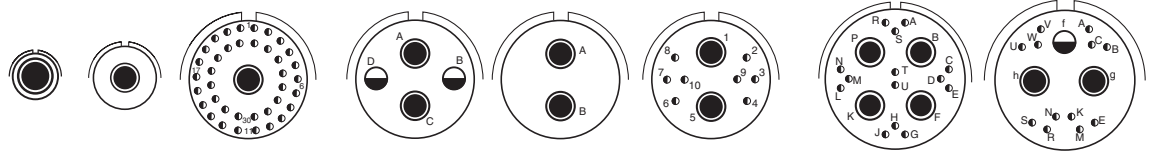
## Socket D38999 Cable Contact (Size 16)



Cable	Series	Part Number	Freq.
0.047	SMPS	<a href="#">SF9911-60001</a>	50 GHz

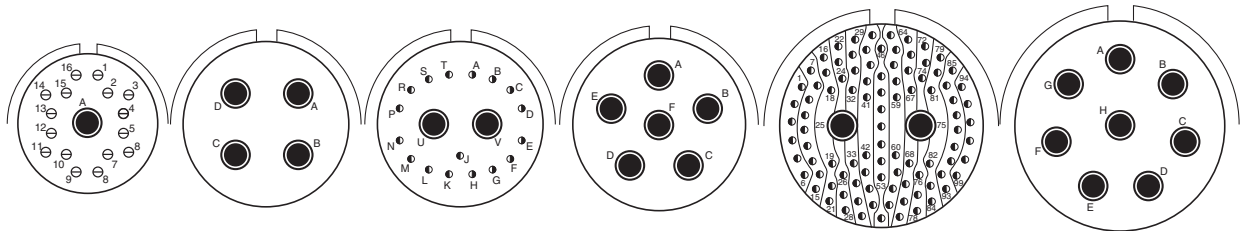
# HF38999 Insert Arrangements

front face of pin inserts illustrated

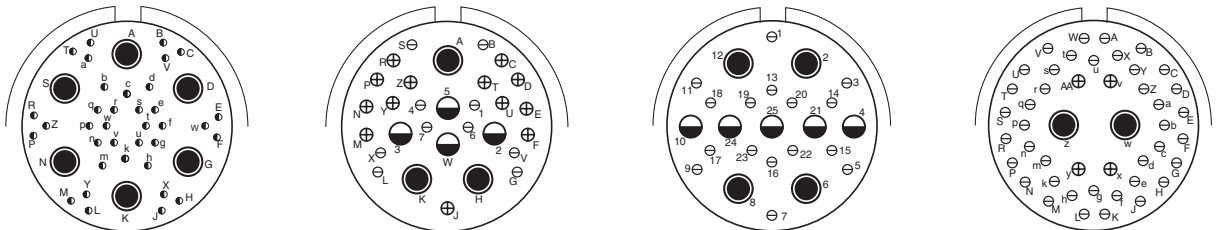


Insert Arrangement	9-5	11-1	17-2	17-22	17-52	17-60	19-18	19-31
Number of Contacts	1	1	38	2 2	2	8 2	14 4	2 1 12
Contact Size	8	8	22D 8	12 8	8	22D 8	22D 8	8 12 22D

Grounded



Insert Arrangement	19-AD	21-75	21-79	23-6	25-7	25-8
Number of Contacts	16 1	4	17 2	6	97 2	8
Contact Size	20 8	8	22D 8	8	22D 8	8



Insert Arrangement	25-17	25-20	25-26	25-46
Number of Contacts	36 6	10 13 3 4	16 5 4	40 4 2
Contact Size	22D 8	20 16 8 12	20 12 8	20 16 8



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