

The standard type SC connectors are popular due to the increasing demand for high power, low VSWR, low loss systems requirements. The series has been designated as the OSSC series. The basic design utilizes a hexagonal coupling nut for proper and reliable installation torque, and solid outer conductor to insure low noise and low VSWR performance. The OSSC series provides superior performance and mates to the type SC standards of MIL-C-39012.

Design and Construction

The outer shell and body parts are made of high strength aluminum, for light weight, or stainless steel for ruggedness and durability. The dielectric is PTFE fluorocarbon. The contacts are made of beryllium copper, gold plated.

Types

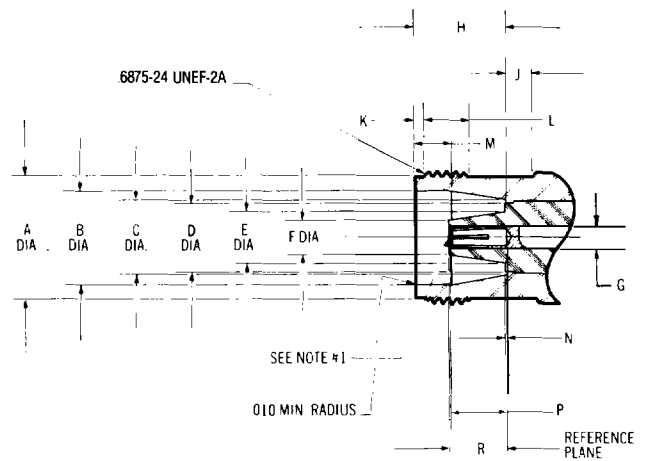
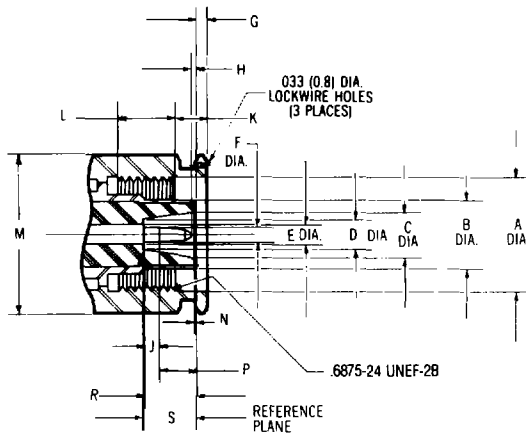
The OSSC series is limited to high performance versions such as connectors for high power, low loss cables. For other types, the factory should be contacted.

Application

The OSSC series has been designed for high power, low loss E-W system applications. Durability and reliability are of utmost importance in high power systems, where catastrophic failures must be avoided. The low VSWR which results in properly assembled connectors also minimizes voltage breakdown. The low VSWR keeps to the minimum voltage peaks associated with reflected energy.

Table of Contents

OSSC Interface Mating Dimensions	194
Specifications	195
Semi-Rigid Cable	196
Clamp Attachment	
Flexible Cable	197
Crimp Attachment	



PLUG

Letter	Inches (Millimeters) ³	
	Minimum	Maximum
A	.690 (17.53)	-
B	.407 (10.33)	.409 (10.39)
C	.276 (7.0)	-
D	.194 (4.93)	-
E	.119 (3.02)	.124 (3.15)
F	.090 (2.29)	.092 (2.34)
G	.025 (0.63)	.085 (2.16)
H	.003 (0.08)	.040 (1.02)
J	.093 (2.36)	-
K	.213 (5.41)	.223 (5.92)
L	.250 (6.35)	-
M	-	.813 (20.65)
N	.007 (0.18)	-
P	.191 (4.85)	.251 (6.38)
R	.307 (7.80)	.337 (8.56)
S	.309 (7.85)	-

JACK

Letter	Inches (Millimeters) ³	
	Minimum	Maximum
A	-	.630 (16.00)
B	.482 (12.24)	.498 (12.65)
C	.411 (10.44)	.415 (10.54)
D	-	.374 (9.50)
E	-	.272 (6.91)
F	-	.190 (4.83)
G	.119 (3.02)	.124 (3.15)
H	.491 (12.47)	.495 (12.57)
J	.140 (3.56)	-
K	.047 (1.19)	.077 (1.96)
L	.250 (6.35)	-
M	.190 (4.83)	.200 (5.08)
N	-	.007 (0.18)
P	.273 (6.93)	.303 (7.70)
R	-	.309 (7.85)

1. ID to meet VSWR and contact resistance when mated with $.091 \pm .001$ (2.31 \pm .0254mm) dia. pin.
2. When fully engaged, the two reference planes must coincide with metal to metal contact.
3. Metric equivalents (to the nearest 0.01mm) are given for general information only.



Requirement	MIL-C-39012 Applicable Paragraph	Detail
General		
Material	3.3	Aluminum Alloy type 6061-7T per QQ-A-200/B. Beryllium copper per ASTM-B-196. PTFE Fluorocarbon per ASTM-D-1457.
Finish	3.3.1	Center contacts shall be gold plated to a min. thickness of .0001 inch in accordance with MIL-G-45204, Type I, Grade C. All other metal parts shall be finished as to provide a connector which meets the corrosion requirements.
Design	3.4	The design shall be such that the outline shown in this catalog and the interface dimensions of MIL-STD-348A are met.
Electrical		
Insulation Resistance	3.11	The insulation resistance shall not be less than 5,000 megohms.
Corona Level	3.22	The connector shall not exhibit breakdown when the voltage is 750 volts rms at 70,000 ft.
Dielectric Withstanding Voltage	3.17	Refer to applicable military slash sheet or consult factory.
RF High Potential	3.23	The withstanding voltage is 2,500 volts rms at 5 MHz. Leakage current is not applicable.
Contact Resistance	3.16	Center contact resistance: 1.5 milliohms max. Outer contact resistance: 1.5 milliohms max.
VSWR	3.14	Refer to applicable military slash sheet or consult factory. Frequency range dependent on cable used.
RF Leakage	3.26	Refer to applicable military slash sheet or consult factory.
Insertion Loss	3.27	Refer to applicable military slash sheet or consult factory. Frequency range dependent on cable used.
Mechanical		
Force to Engage	3.5.1	The torque required to engage and disengage shall not exceed 3 in.-lbs. The longitudinal force is not applicable.
Coupling Nut Retention	3.25	100 lbs. min. Applicable for plug connectors only.
Coupling Proof Torque	3.6	15 in.-lbs. min. Applicable for plug connectors only.
Cable Retention	3.24	Refer to applicable military slash sheet or consult factory.
Mating Characteristics	3.7	Applicable to jack connectors only. Reference MIL-STD-348 for dimensions: oversize test pin .093 min. dia., .125 deep; insertion force 2 lbs. max. with .092 min. dia. pin; withdrawal force 2 oz. min. with .090 max. dia. pin.
Connector Durability	3.15	The connector to be tested and its mating connector shall be subjected to 500 insertion and withdrawal cycles at 12 cycles per minute max. The connector shall show no evidence of mechanical failure and shall meet the mating characteristic requirements.
Recommended Mating Torque	—	12 to 15 in.-lbs.
Environmental		
Vibration	3.18	Specification MIL-STD-202, method 204, test condition B.
Shock	3.19	Specification MIL-STD-202, method 213, test condition I.
Thermal Shock	3.20	Refer to applicable military slash sheet or consult factory.
Corrosion (Salt Spray)	3.13	Specification MIL-STD-202, method 101, test condition B.
Moisture Resistance	3.21	Specification MIL-STD-202, method 106. No measurements at high humidity. Insulation resistance shall be at least 200 megohms within 5 minutes of removal from humidity.

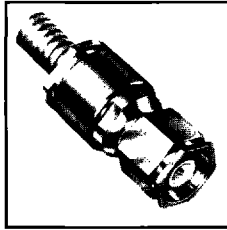
OSSC

For High Power • Low Loss Cable

These OSSC connectors have been designed for use with high power low loss semi-rigid coaxial cable of .500-inch diameters. Each connector body and/or coupling nut is made of aluminum for light weight. The

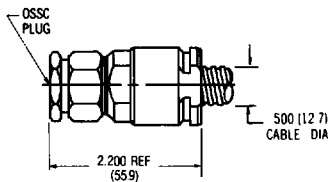
bodies have an iridited finish while the coupling and clamp nuts are anodized. The solder-on center is beryllium copper, gold plated and supported by a PTFE fluorocarbon dielectric.

Semi-Rigid Cable • Clamp Attachment



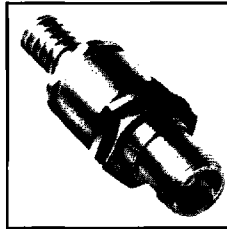
Straight Cable Plug

.030 (0.8 DIA.)
LOCKWIRE HOLES
4 PLACES

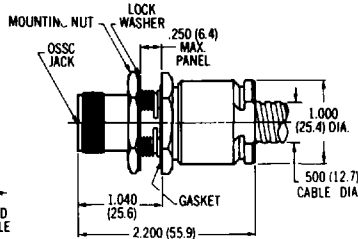
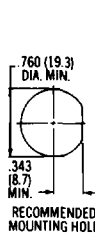


Cable	.500
Cable Dielectric	Microporous PTFE
Compression Clamp Attachment	
Part Number	3401-7500-00

Finish: Aluminum. Housing is iridited. Coupling and clamp nut are anodized.
Press clamp attachment available.
Refer to Appendix for Coaxial Cable Characteristics.
Refer to recommended assembly tools in Tool Section.

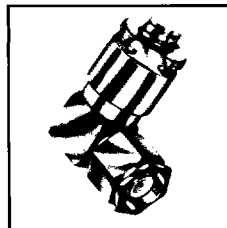


Bulkhead Feedthrough Cable Jack

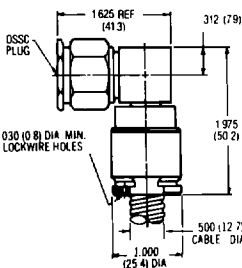


Cable	.500
Cable Dielectric	Microporous PTFE
Compression Clamp Attachment	
Part Number	3404-7500-00

Finish: Aluminum. Housing is iridited. Coupling and clamp nut are anodized.
Press clamp attachment available.
Refer to Appendix for Coaxial Cable Characteristics
Refer to recommended assembly tools in Tool Section.



Right Angle Cable Plug



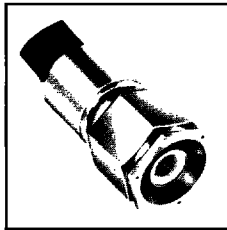
Cable	.500
Cable Dielectric	Microporous PTFE
Compression Clamp Attachment	
Part Number	3407-7500-00

Finish: Aluminum. Housing is iridited. Coupling and clamp nut are anodized.
Press clamp attachment available.
Refer to Appendix for Coaxial Cable Characteristics
Refer to recommended assembly tools in Tool Section.

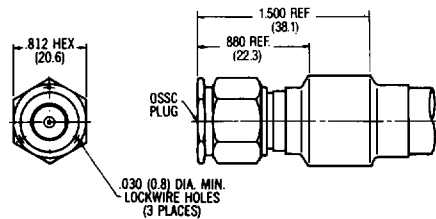
The following SC Type Connectors have been designed for use with high power low loss flexible cable of .545-inch diameter. Each connector body and coupling

nut is made of stainless steel for rugged connector applications. The center contact is beryllium copper, gold plated and supported by a PTFE fluoro-carbon dielectric.

Flexible Cable • Crimp Attachment

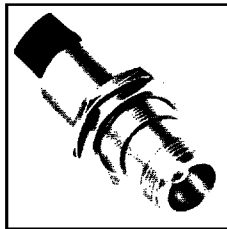


Straight Cable Plug

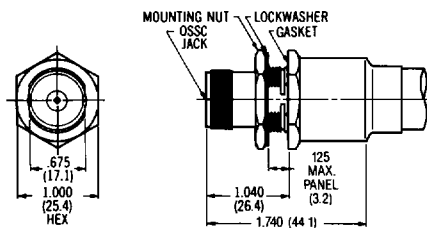


Cable	.545
Cable Dielectric	Perforated
Part Number	3401-7545-00

Finish: Passivated stainless steel.
Refer to Appendix for Coaxial Cable Characteristics

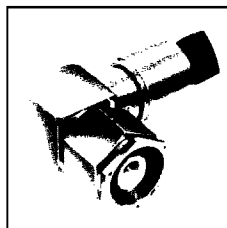


Bulkhead Feedthrough Cable Jack

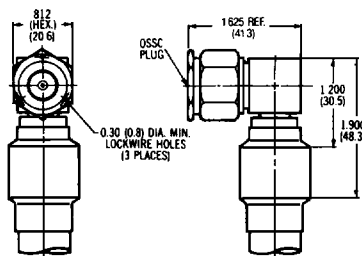


Cable	.545
Cable Dielectric	Perforated
Part Number	3404-7545-00

Finish: Passivated stainless steel.
Refer to Appendix for Coaxial Cable Characteristics



Right Angle Cable Plug



Cable	.545
Cable Dielectric	Perforated
Part Number	3407-7545-00

Finish: Passivated stainless steel.
Refer to Appendix for Coaxial Cable Characteristics