BNC OVERVIEW

BNC Connectors

Features and Benefits

- Miniature
- Bayonet Lock Coupling
- DC to 4 GHz
- 50 and 75Ω

Molex BNC connectors are small, lightweight, weatherproof miniature connectors that are the most popular connector series used in a variety of RF applications. The two stud bayonet coupling system of the BNC yields an easy-to-use, quick connecting/disconnecting device that accounts for the BNC's popularity. These connectors are manufactured to MIL-PRF-39012 requirements and are typically used in applications operating up to 4 GHz. BNC connectors are used in data networking as well as video, audio and test equipment application. Video applications such as security systems use 75Ω versions to match the standard system impedance.

Engineering

Nominal Impedance	Frequency Range	Voltage Rating - Sea Level	Temperature
50Ω	dc-4 GHz	500 Vrms	-65 to +165°C
75Ω	dc-4 GHz	500 Vrms	-65 to +165°C

Mechanical

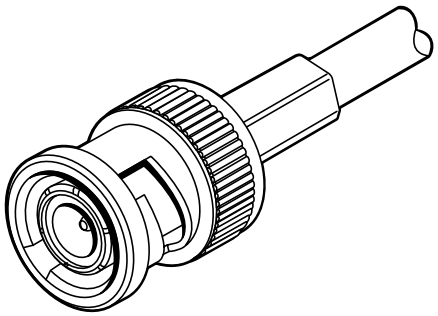
Nominal Impedance	Force to Engage and Disengage		Coupling Nut Retention Force	Mating Characteristics	Durability	Center Contact Retention - Axial Force	Cable Retention - Axial Force
	Axial Force	Radial					
50Ω	13.3N (3 lb)	28N-cm (2.5 in.-lb)	Plugs - 444N (100 lb)	SEE ES-73599-0000	500 cycles	26.7N (6 lb)	RG 174, 188, 316 - 44.4N (10 lb) RG 58, 141, 303 - 88.9N (20 lb) RG 59, 62 - 133.3N (30 lb)
75Ω	13.3N (3 lb)	28N-cm (2.5 in.-lb)	Plugs - 444N (100 lb)	SEE ES-73599-0000	500 cycles	26.7N (6 lb)	RG 174, 188, 316 - 44.4N (10 lb) RG 58, 141, 303 - 88.9N (20 lb) RG 59, 62 - 133.3N (30 lb)

Electrical

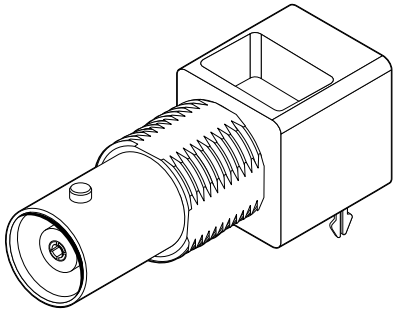
Nominal Impedance	Insulation Resistance	Dielectric Withstanding Voltage	Contact Resistance			Voltage Standing Wave Ratio	RF Leakage	RF Insertion Loss
			Center Contact Initial	Center Contact After Environment	Outer Contact			
50Ω	5000 MΩ	1500 Vrms min.	2.0mΩ	2.5mΩ	0.2mΩ	1.30:1 max.	-55 dB at 2.0 to 3.0 GHz	0.2 dB max.
75Ω	5000 MΩ	1500 Vrms min.	1.5mΩ	2.0mΩ	0.2mΩ	1.30:1 max.	-55 dB at 2.0 to 3.0 GHz	0.2 dB max.

Environmental

Nominal Impedance	Vibration: MIL-STD-202, Method 204	Shock: MIL-STD-202, Method 213	Thermal Shock: MIL-STD-202, Method 1071	Corrosion (Salt Spray): MIL-STD-202, Method 101	Moisture Resistance MIL-STD-202, Method 106 5 min. after removal	Corona Level - 70,000 Feet
50Ω	Test Condition B	Test Condition G	Test Condition B	Test Condition B	200 MΩ	375 Vrms
75Ω	Test Condition B	Test Condition G	Test Condition B	Test Condition B	200 MΩ	N/A

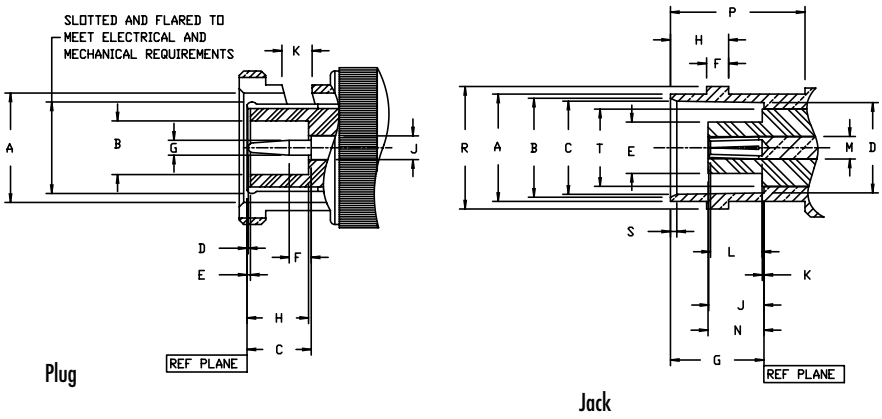


Straight Crimp/Crimp Plug

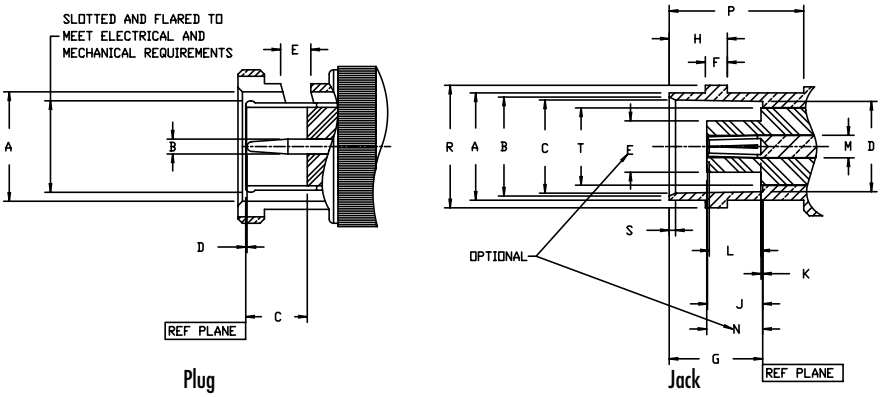


Right Angle PCB Jack Receptacle

50Ω



75Ω



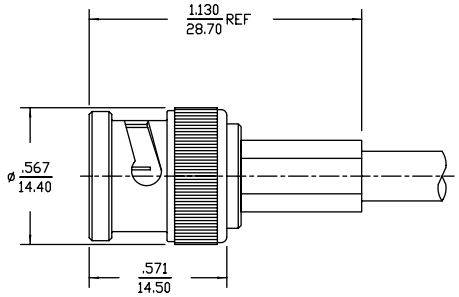
INTERFACE MATING DIMENSIONS

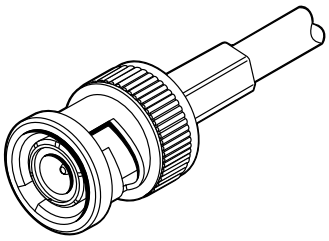
	Dimension							
	50Ω				75Ω			
	Plug		Jack		Plug		Jack	
	min.	max.	min.	max.	min.	max.	min.	max.
A (dia.)	9.78 (.385)	9.91 (.390)	9.60 (.378)	9.70 (.382)	9.78 (.385)	9.91 (.390)	9.60 (.378)	9.70 (.382)
B	4.86 (.190)		8.79 (.346)	9.04 (.356)	1.32 (.052)	1.37 (.054)	8.79 (.346)	9.04 (.356)
C	5.33 (.210)	5.84 (.230)	8.31 (.327)	8.46 (.333)	5.41 (.213)	5.66 (.223)	8.31 (.327)	8.46 (.333)
D	0.15 (.006)		8.10 (.319)	8.15 (.321)	0.15 (.006)		8.10 (.319)	8.15 (.321)
E	0.08 (.003)			4.72 (.186)	2.31 (.091)	2.46 (.097)		4.72 (.186)
F	1.98 (.078)		1.91 (.075)	2.06 (.081)			1.91 (.075)	2.06 (.081)
G	1.32 (.052)	1.37 (.054)	8.31 (.327)	8.51 (.335)			8.31 (.327)	8.51 (.335)
H	5.28 (.208)	5.79 (.228)	5.18 (.204)	5.28 (.208)			5.18 (.204)	5.28 (.208)
J	2.06 (.081)	2.21 (.087)	4.72 (.186)	5.23 (.206)			4.72 (.186)	5.23 (.206)
K	2.31 (.091)	2.46 (.097)		0.15 (.006)				0.15 (.006)
L			4.95 (.195)				4.95 (.195)	
M			2.06 (.081)	2.21 (.087)			2.06 (.081)	2.21 (.087)
N			4.78 (.188)	5.28 (.208)			4.78 (.188)	5.28 (.208)
P			10.52 (.414)				10.52 (.414)	
R			10.97 (.432)	11.07 (.436)			10.97 (.432)	11.07 (.436)
S			0.38 (.015)	0.76 (.030)			0.38 (.015)	0.76 (.030)
T				6.50 (.256)				6.50 (.256)

CATALOG DRAWING (FOR REFERENCE ONLY)

- Overall Plating: Nickel
- Center contact crimp or solder termination
- Crimp braid termination
- Packaging: Individual

Plug
Straight
Crimp/Crimp
Cable



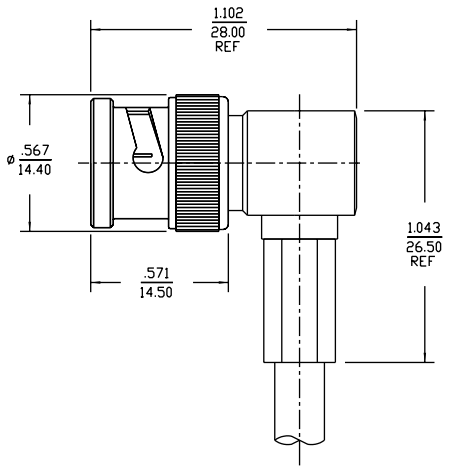


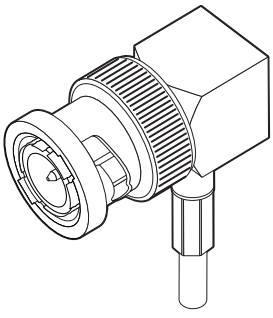
Order No.	Cable Group	Impedance	Center Contact	Assembly Instructions
73104-5003	RG 58, 141, 303	50Ω	Non-Captive	AS-73597-0032
73174-0083	RG 58, 141, 303	50Ω	Captive	AS-73597-0042
73174-0093	RG 58, 141, 303	50Ω	Captive	AS-73597-0042
73105-5003	RG 59, 62, 71	50Ω	Non-Captive	AS-73597-0032
73174-0113	RG59, 62, 71	75Ω	Non-Captive	AS-73597-0032

CATALOG DRAWING (FOR REFERENCE ONLY)

- Overall Plating: Nickel
- Center contact solder termination
- Crimp braid termination
- Packaging: Individual

Plug
Right Angle
Solder/Crimp
Cable



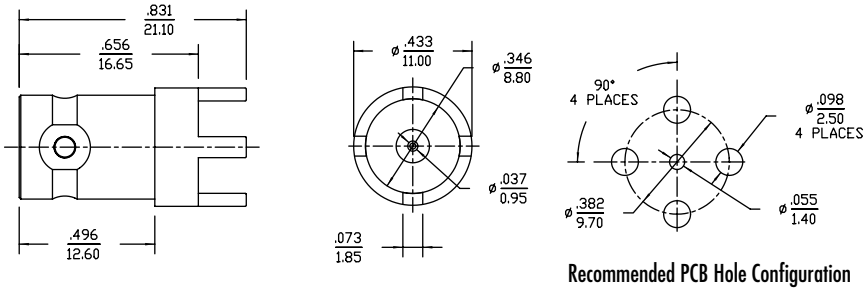


Order No.	Cable Group	Impedance	Assembly Instructions
73100-0015	RG58, 141, 303	50Ω	AS-73597-0010
73100-0016	RG 59, 62, 71	75Ω	AS-73597-0010

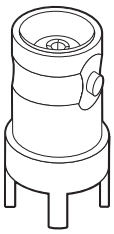
CATALOG DRAWING (FOR REFERENCE ONLY)

- Body: Brass
- Overall Plating: Nickel
- Packaging: Bag

Jack Receptacle Vertical PCB



Recommended PCB Hole Configuration

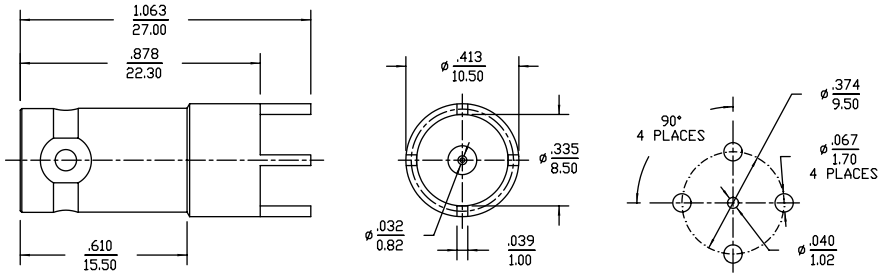


Order No.
73100-0153

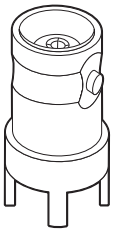
CATALOG DRAWING (FOR REFERENCE ONLY)

- Body: Brass
- Overall Plating: Nickel
- Packaging: Bag

Jack Receptacle Vertical PCB



Recommended PCB Hole Configuration

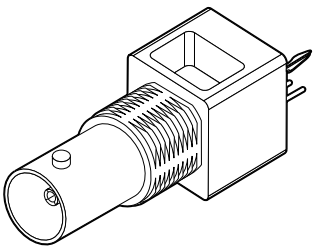


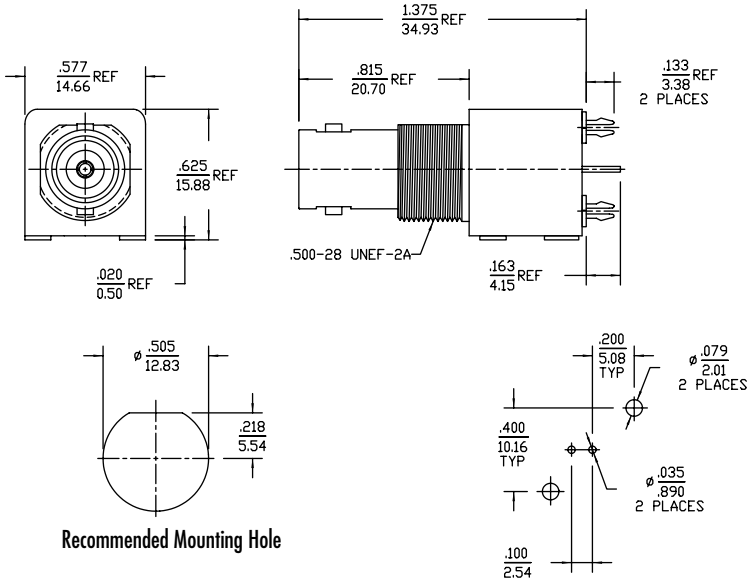
Order No.
73100-0133

CATALOG DRAWING (FOR REFERENCE ONLY)

- Body/Housing: Zinc
- Overall Plating: Nickel
- Packaging: Tray

Jack Receptacle Vertical With Board Lock Pins PCB





Recommended Mounting Hole

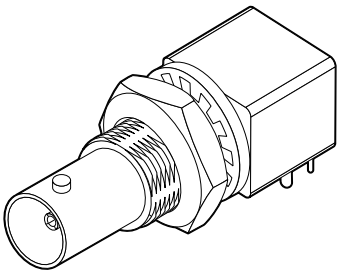
Recommended PCB Hole Configuration

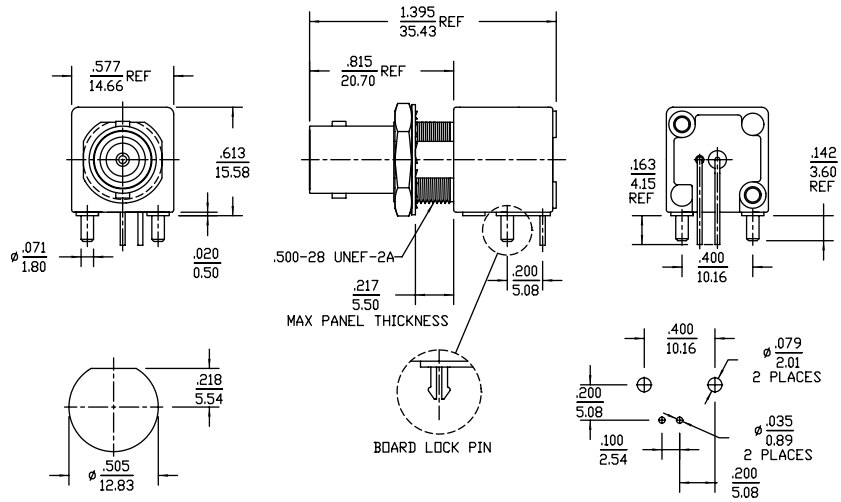
Order No.	Impedance
73101-0030	75Ω

CATALOG DRAWING (FOR REFERENCE ONLY)

- Body/Housing: Zinc
- Overall Plating: Nickel

Jack Receptacle Right Angle PCB





Recommended Mounting Hole

Recommended PCB Hole Configuration

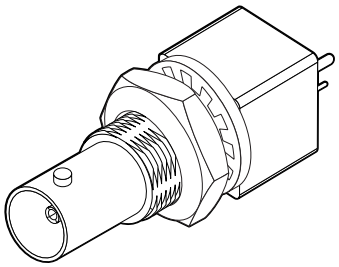
Order No.	Impedance
73138-5033*	50Ω
73100-0080	75Ω
73101-0040	75Ω

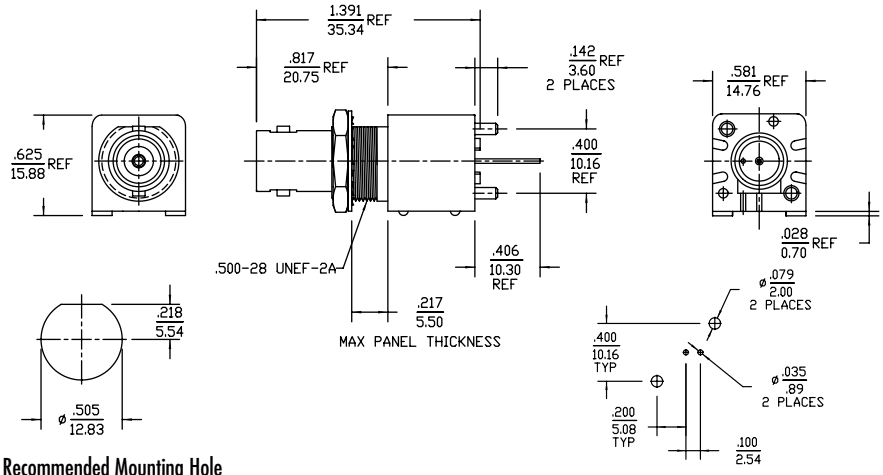
*Includes board lock pins

CATALOG DRAWING (FOR REFERENCE ONLY)

- Body: Zinc
- Housing: Valox
- Overall Plating: Nickel

Jack Receptacle
Vertical
Panel Isolated
PCB





Recommended Mounting Hole

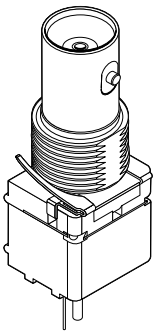
Recommended PCB Hole Configuration

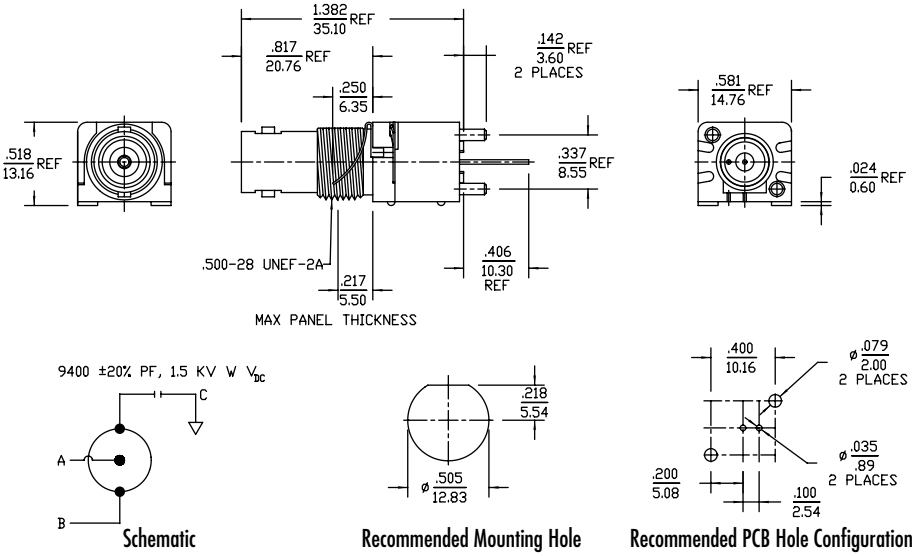
Order No.	Housing Color	Impedance
73131-5003	Black	50Ω
73131-5013	White	50Ω
73131-7003	Black	75Ω

CATALOG DRAWING (FOR REFERENCE ONLY)

- Body: Zinc
- Housing: Valox
- Overall Plating: Nickel

Jack Receptacle
Vertical
Panel Isolated
Filtered
PCB





Schematic

Recommended Mounting Hole

Recommended PCB Hole Configuration

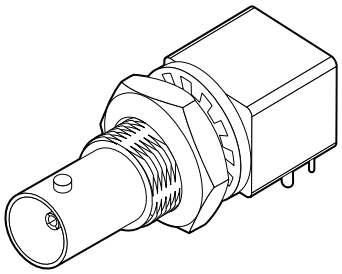
Order No.	Housing Color	Impedance
73101-0071	Black	75Ω
73171-0440*	Black	50Ω

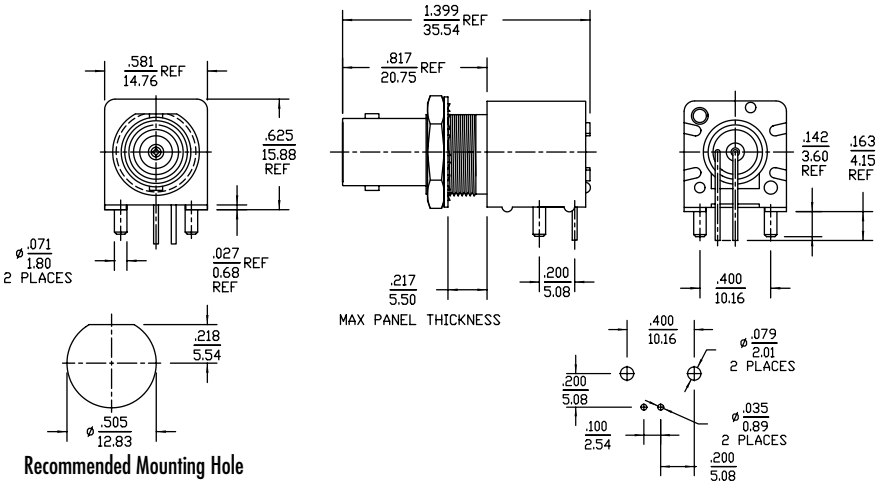
* Hardware included

CATALOG DRAWING (FOR REFERENCE ONLY)

- Body: Zinc
- Housing: Valox
- Overall Plating: Nickel
- Packaging: Tray

Jack Receptacle Right Angle Panel Isolated PCB





Recommended Mounting Hole

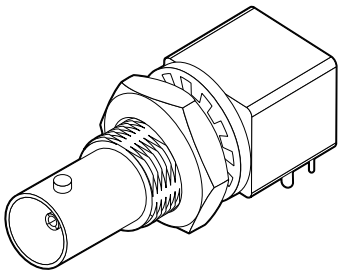
Recommended PCB Hole Configuration

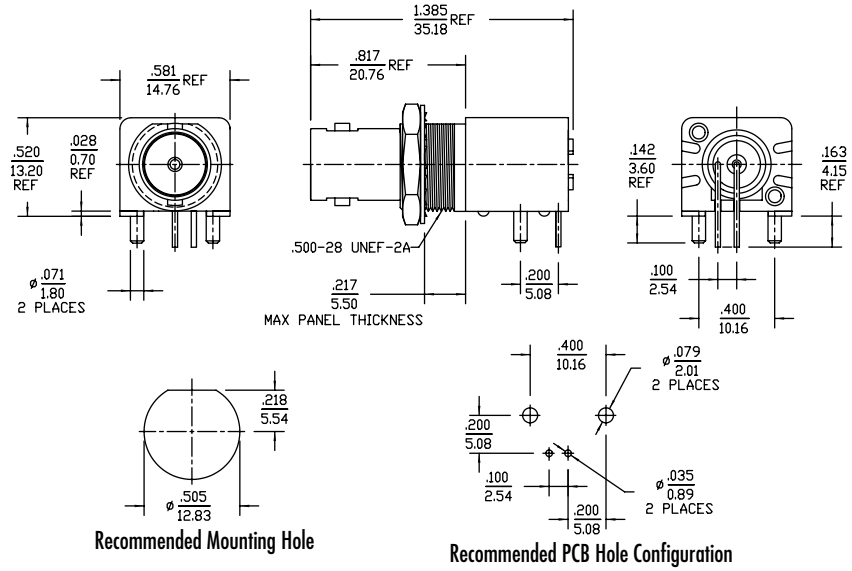
Order No.	Housing Color	Impedance
73138-5003	Black	50Ω
73138-5013	White	50Ω
73100-0070	Black	75Ω
73100-0071	White	75Ω

CATALOG DRAWING (FOR REFERENCE ONLY)

- Body: Zinc
- Housing: Valox
- Overall Plating: Nickel
- Packaging: Tray

Jack Receptacle Right Angle Panel Isolated PCB





Recommended Mounting Hole

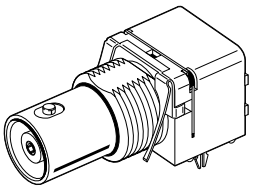
Recommended PCB Hole Configuration

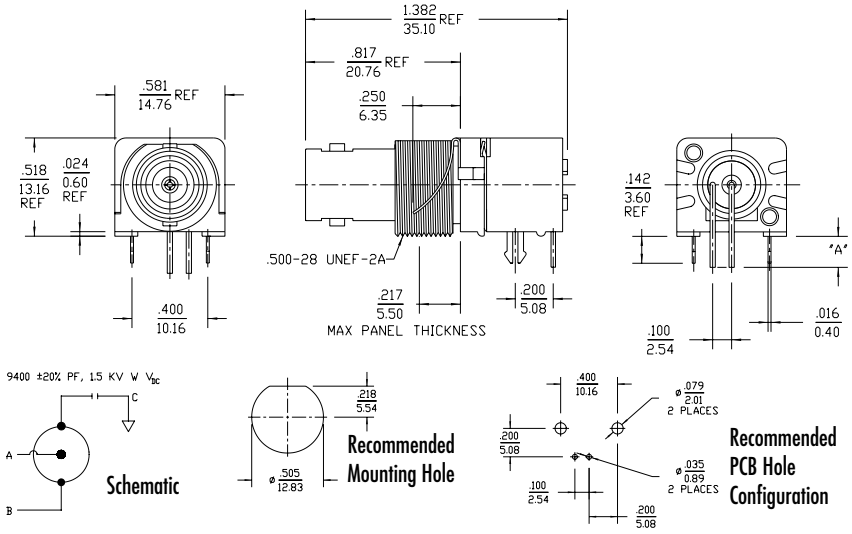
Order No.	Housing Color	Impedance
73100-0131	White	50Ω
73100-0167	Black	50Ω
73137-5003	Black	50Ω
73100-0067	Black	75Ω
73100-0069	White	75Ω

CATALOG DRAWING (FOR REFERENCE ONLY)

- Body: Zinc
- Housing: Valox
- Overall Plating: Nickel
- Packaging: Individual

Jack Receptacle
Right Angle
Filtered
Panel Isolated
With Board Lock Pins
PCB





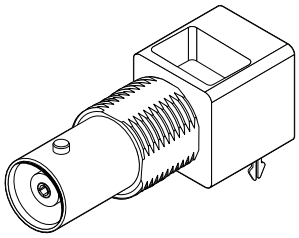
Order No.	Housing Color	Impedance	Dimensions
			A
73100-0090	Black	50Ω	4.15 (.163)
73100-0162*	Black	50Ω	4.15 (.163)
73100-0134	Black	50Ω	3.56 (.140)
73100-0223*	Black	50Ω	3.56 (.140)
73100-0166†	Neutral	50Ω	4.15 (.163)
73101-0070	Black	75Ω	4.15 (.163)

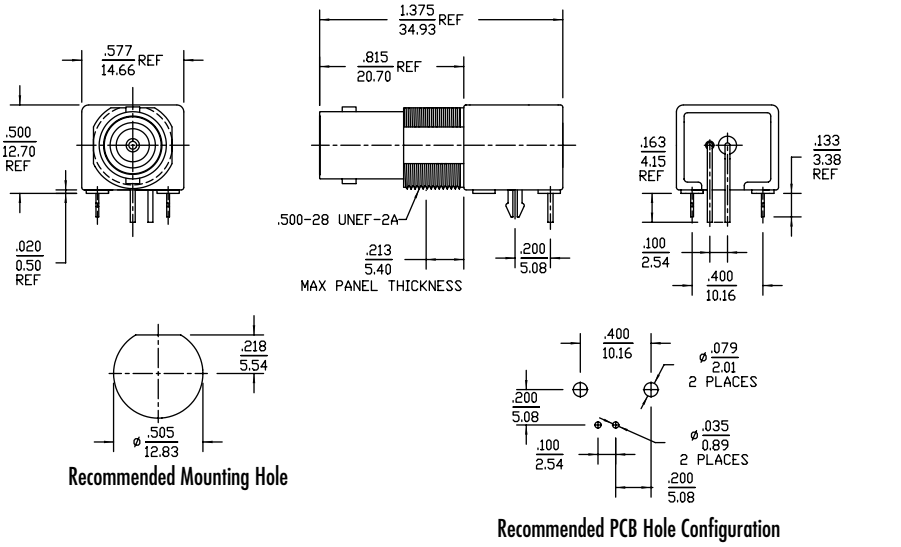
*Hardware included
† High temperature

CATALOG DRAWING (FOR REFERENCE ONLY)

- Body/Housing: Zinc
- Overall Plating: Nickel
- Packaging: Tray

Jack Receptacle
Low Profile
Right Angle
With Board Lock Pins
PCB





Order No.	Impedance
73101-0120	75Ω