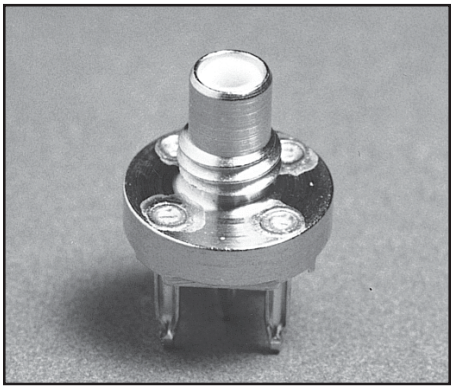
121 Series

Coaxial— Snap On & Screw On Types / 50 Ohm & 75 Ohm



These 50 and 75 Ohm coaxial connectors are easily inserted into your printed circuit board using an insertion tool. Solder is eliminated and a dependable press-fit connection is made.

Note

Types: SMB = Snap On
SMC = Screw On

SPECIFICATIONS

Material: Body — Brass per QQ-B-620 half hard insulator — Teflon per MIL-P-19468

Finish: Center contacts mating area shall be gold plated to a minimum thickness of 0.00003 inch in accordance with MIL-G-45204 Type II Grade C. All other metal parts shall be finished to provide a connector which meets the corrosion requirements as called out in this specification.

Electrical:

50 Ohms:
- Impedance: 50 Ohms nominal
- Frequency: 0 to 4 GHz
- Insulation Resistance: 1,000 Megohms (min.)

75 Ohms:
- Impedance: 75 Ohms nominal
- Frequency: 0 to 2 GHz
- Insulation Resistance: 1,000 Megohms (min.)

Dielectric Withstanding Voltage:
- 50 Ohms: The magnitude of the test voltage shall be 1,000 volts rms at sea level.
- 75 Ohms: The magnitude of the test voltage shall be 2,000 volts rms at sea level.

Voltage Standing Wave Ratio (VSWR):
- SMB: From dc to 4 GHz, the VSWR shall not exceed 1.3 & .04 (f) where f is the frequency in Gigahertz (GHz).
- SMC: From dc to 10 GHz the VSWR shall not exceed 1.25 & .04 (f) where f is the frequency in Gigahertz (GHz).

R.F. Leakage (dB) Min. @ 2 to 3 GHz:
- SMC: 60
- SMB: 55

Insertion Loss:

50 Ohms (dB Max.):
- SMB: @ 1.5 GHz .30
- SMC: @ 4.0 GHz .25

75 Ohms (dB Max.):
- SMB & SMC: @ 1.5 GHz .30

Mating Characteristics: Interface design per MIL-C-39012 and interchangeable with other manufacturers.

Connector Durability: The connector to be tested and its mating connector shall be subjected to 500 insertion and withdrawal cycles at 12 cycles per minute. The connector shall show no evidence of mechanical failure and the connector shall meet the mating characteristic requirements.

Environmental Vibration:
- SMB: Specification MIL-STD-202, method 204, test condition B
- SMC: Specification MIL-STD-202, method 204, test condition D

Shock:
- SMB: Specification MIL-STD-202, method 213, test condition B
- SMC: Specification MIL-STD-202, method 213, test condition C

Corrosion (salt spray): Specification MIL-STD-202, method 101, test condition B

Corona Level: The connector shall not exhibit breakdown (corona) when 190 volts rms is applied and the altitude is 70,000 feet.

Contact Resistance: The center contact resistance drop shall not exceed 2.5 milliohms and the outer contact resistance drop shall not exceed 2.0 milliohms.

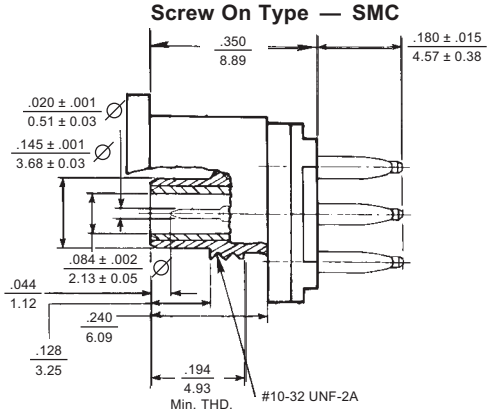
121 Series

Coaxial-Snap on & Screw on Types 50 Ohm & 75 Ohm

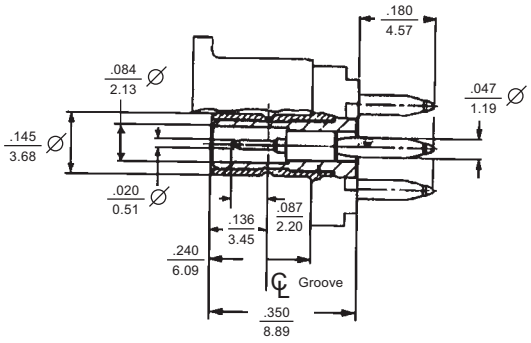
OUTLINE

50 Ohm

Screw On Type — SMC

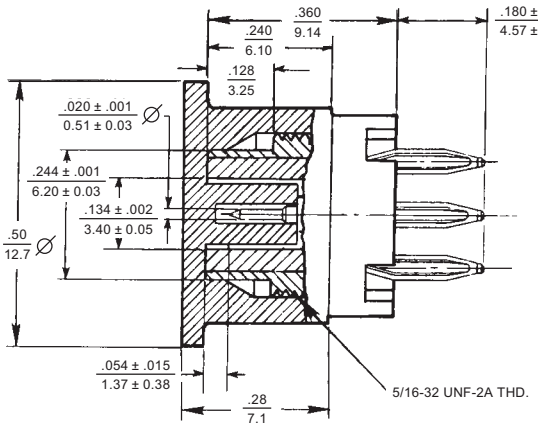


Snap On Type — SMB

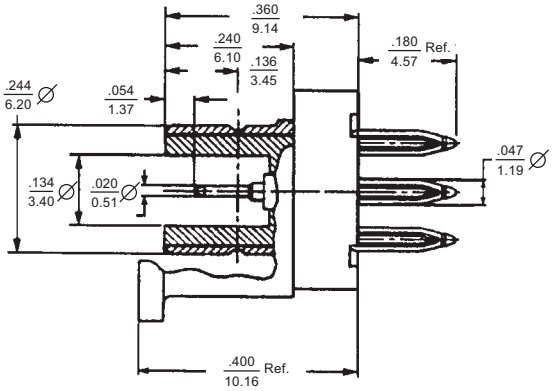


75 Ohm

Screw On Type — SMC

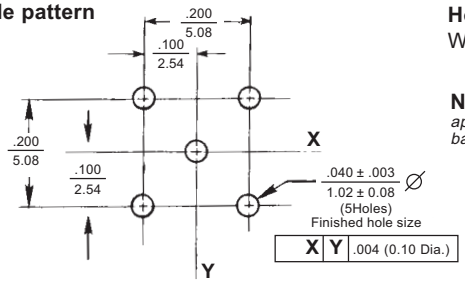


Snap On Type — SMB



BACKPANEL REQUIREMENTS

Hole pattern



Hole Size & Plating - Standard C-Press®: Winchester illustration on page CP/4.

NOTE: *Consult Winchester Electronics for C-Press® applications for backpanels less than .093" thick and for bare copper plated through holes.*

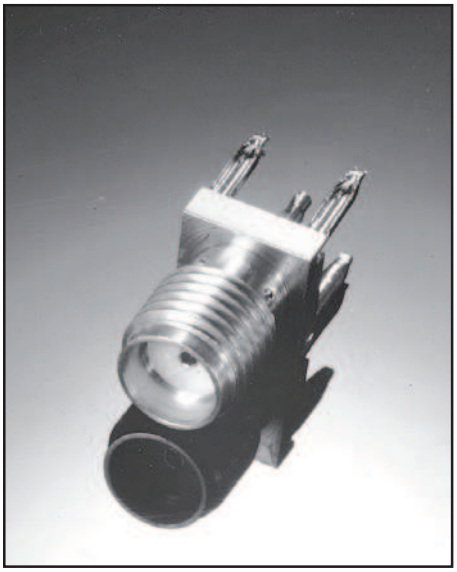
ORDERING INFORMATION

Connector Type	Screw on Type	Snap on Type
50 Ohm	121-27341-1 Without CAP	121-10302-1 With CAP
	121-27341-2 With CAP	121-10302-2 Without CAP
75 Ohm	121-10349-1 With CAP	121-14165-1 With CAP
	121-10349-2 Without CAP	121-14165-2 Without CAP

Recognized under the Component Program of Underwriters Laboratories Inc. File No. E136181, to Standard UL 1863

121 Series

Straight Jack 50 Ohm Coaxial Press-fit Connector



This new SMA straight jack 50 ohm coaxial connector featuring our C-Press® compliant contacts offers a superior option to soldering coaxial connectors to printed circuit boards. Easily inserted, the SMA connector yields a minimum retention of 50 lbs. The unchallenged performance of the C-Press® compliant contact allows this SMA connector to be removed and replaced multiple times without loss of mechanical or electrical integrity exceeding the requirements of Mil-Std-2166. The connector meets the performance and interface requirements of Mil-C-39012/93B and Mil-Std-348. It is presented in an attractive silvery white star bright finish which exhibits superior electrical properties and corrosion protection.

SPECIFICATIONS

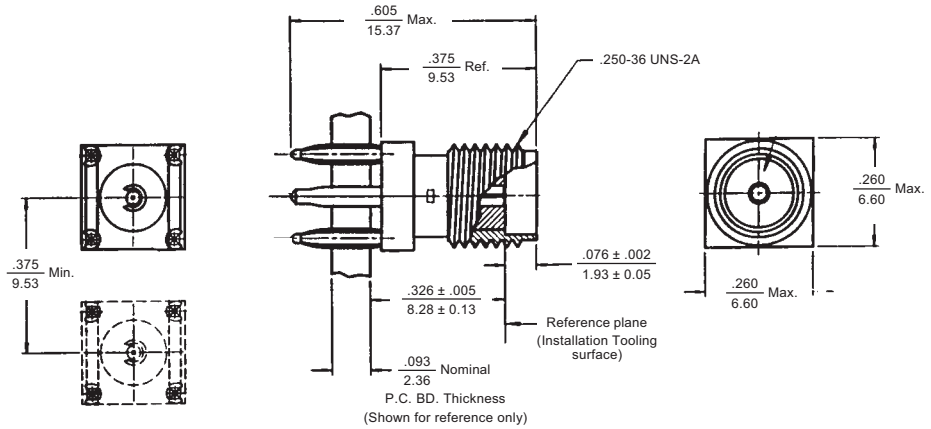
MATERIALS AND FINISHES

Body:	Material: Brass, alloy Finish: Albaloy
Insulator:	Material: PTFE
Socket Contact:	Material: Phosphor bronze Finish: Gold over nickel
Ground Contact:	Material: Copper alloy Finish: Tin-lead over 50 microinches min. nickel

PERFORMANCE SPECIFICATIONS

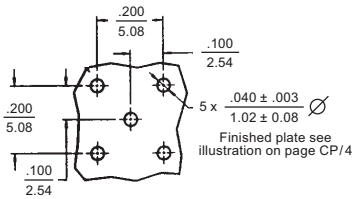
Nominal Impedance:	50 ohms
Frequency Range:	0-18 GHz
Voltage Rating:	335 VRMS max. at sea level 85 VRMS max. at 70,000 feet
Temperature Rating:	-65°C to +165°C
Dielectric Withstanding Voltage:	1000 VRMS at sea level
Center Contact Resistance:	3.0 Milliohms max.
Outer Contact Resistance:	2.0 Milliohms max.
Insulation Resistance:	5000 megohms min.
Center Contact Insertion Force:	2 lbs. max.
Center Contact Withdrawal Force:	1 ounce min.
Connector Installation Force:	200 lbs.
Connector Removal Force:	50 lbs.

DIMENSIONS



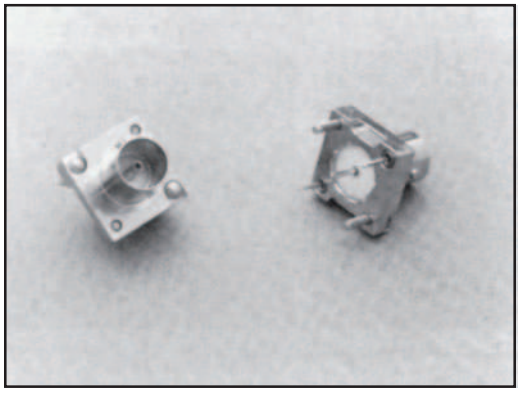
Catalog Number = 121-29262-1

Recommended P.C. Board Hole Replacement



121 Series

Coaxial-BNC 75 Ohm



The C-Press® 75 ohm BNC connector eliminates soldering to the printed circuit board. The connector is pressed into the PCB using Standard C-Press® contacts with installation tool provided by Winchester Electronics. This BNC connector combines the use of our C-Press®compliant contacts and drive screws to allow low insertion force into the PCB as well as high retention force to the printed circuit board.

This patented drive screw design allows the drive screw to screw freely into the hole but prevents it from spinning out of the hole when the mated connector and cable is tugged or pulled on. The result is a connector that meets or exceeds 100 lbs. minimum retention.

C-Press® BNC connectors can be removed from the P.C.B. using a drive screw knockout tool and connector removal tool available from Winchester Electronics. Removal and replacement of these connectors is a cost effective, quick and easy process.

These connector features combine to offer significant advantages in reliability, assembly, repairability and cost over other soldered in or press fit BNC connectors.

SPECIFICATIONS

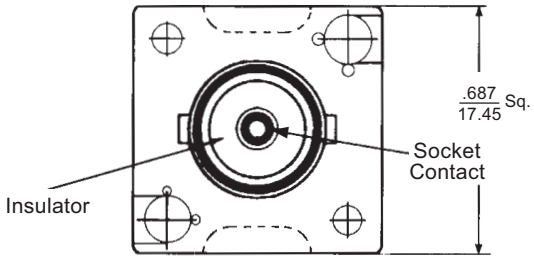
This connector meets the mechanical and electrical intermating requirements for class 2 coaxial connectors per Mil-C-39012.

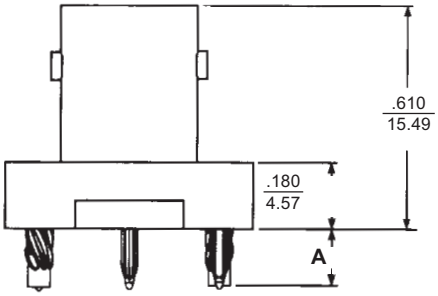
Impedance:	75 ohms commercial
Voltage rating:	500 VAC, RMS @ sea level
VSWR:	Less than or equal to 1.15 (return loss better than 23.0 dB)
RF Leakage:	-55 dB @ 2 GHz
Frequency range:	0 to 4 GHz
Practical Frequency range:	0 to 2 GHz
Center contact:	20 milliohms max. @ 1 amp.
Outer contact:	1.5 milliohms max. @ 1 amp
Insulation resistance:	5000 megohms min. @ 500 V DC
Insertion Loss:	.3 dB max. @ 2 GHz
Center contact insertion force:	2 lbs. max. with a .054" dia. steel pin
Center contact withdrawal force:	2 oz. min. with a .052 dia. steel pin
Temperature range:	-55°C to +125°C
Connector insertion force:	500 lbs. max.
Connector removal force:	100 lbs. min.
Packaging:	Anti-static
BNC Body:	Zinc die cast. 150 microinches min. nickel over 200 micro-inches min. copper
Contact Socket:	Beryllium Copper. 50 microinches min. gold over 150 microinches min. nickel over 10 microinches max. copper plating
Insulator, Front:	Teflon
Insulator, Rear:	Teflon
Insert:	Brass. 100 microinches min. tin-lead over 100 microinches min. copper plate
Fastener, Locking:	Stainless steel. Passivated
Contact, C-Press®:	Copper, Nickel, Tin. 100 microinches min. tin-lead over 50 microinches min. nickel

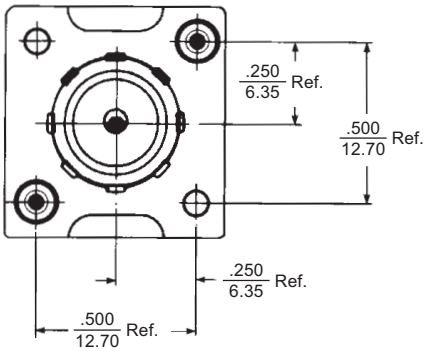
Recognized under the Component Program of Underwriters Laboratories Inc. File No. E136181, to Standard UL 1863

121 Series — Coaxial-BNC 75 Ohm

OUTLINE



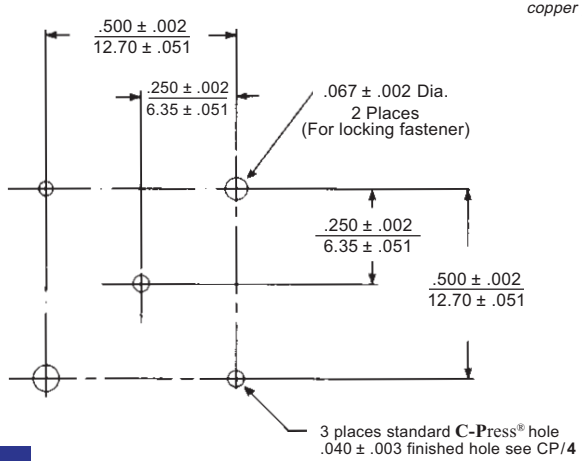




Part Number	A
121-13305-1	.17 / 4.3
121-13305-2	.25 / 6.4

BACKPANEL REQUIREMENTS

Hole pattern



NOTE: *Consult Winchester Electronics for C-Press® applications for backpanels less than .093" thick and for bare copper plated through holes.*

ORDERING INFORMATION

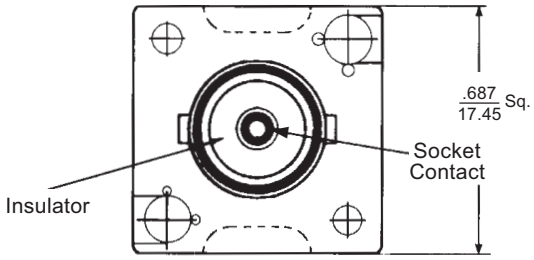
Part Number 121-13305-1

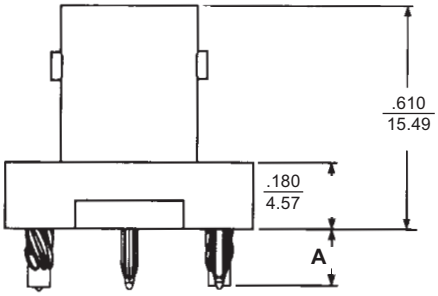
Connector Insertion Tool: 107-43184
Connector Removal Tool: 107-43185
Drive Screw Knockout Tool: 107-43186

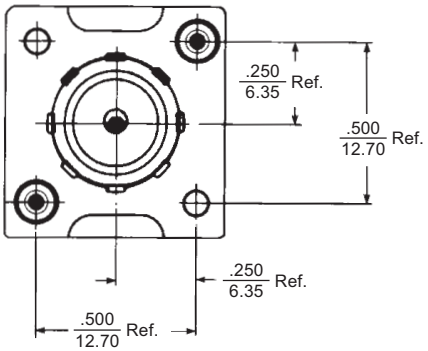
Recognized under the Component Program of Underwriters Laboratories Inc. File No. E136181, to Standard UL 1863

121 Series — Coaxial-BNC 75 Ohm

OUTLINE



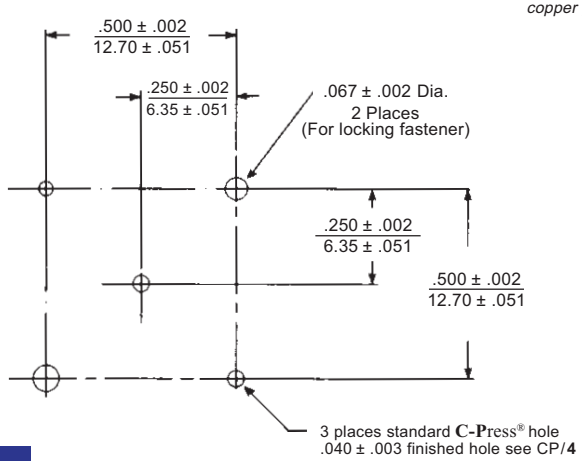




Part Number	A
121-13305-1	.17 / 4.3
121-13305-2	.25 / 6.4

BACKPANEL REQUIREMENTS

Hole pattern



NOTE: *Consult Winchester Electronics for C-Press® applications for backpanels less than .093" thick and for bare copper plated through holes.*

ORDERING INFORMATION

Part Number 121-13305-1

Connector Insertion Tool: 107-43184
Connector Removal Tool: 107-43185
Drive Screw Knockout Tool: 107-43186

Recognized under the Component Program of Underwriters Laboratories Inc. File No. E136181, to Standard UL 1863

121 Series

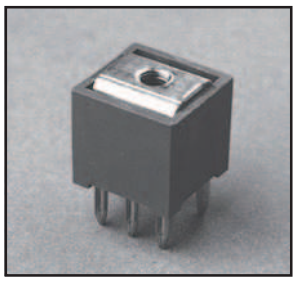
Power Terminal 6 Pin - .125" x .250" Grid
10 Pin - .100" x .300" Grid

Winchester Electronics offers you a cost effective, reliable method to get power to your printed circuit board without soldering.

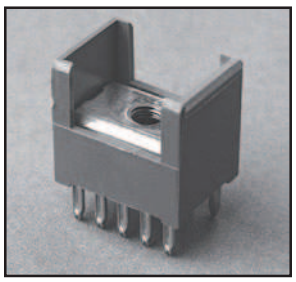
C-Press® compliant pin power terminals can be removed from the board and replaced with a virgin power terminal with no loss of contact reliability. Assembly is easy.Tools are available.

An insulator is available to shield the terminal from adjacent components.An isolator is available to prevent shorting across the top of the terminal.

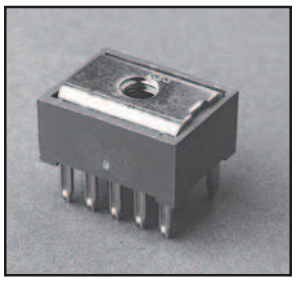
6 Pin - Bare



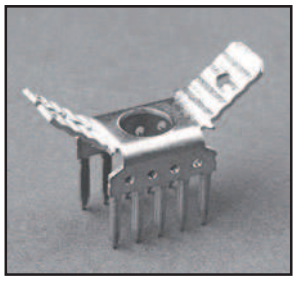
6 Pin - Insulator



10 Pin - Isolator

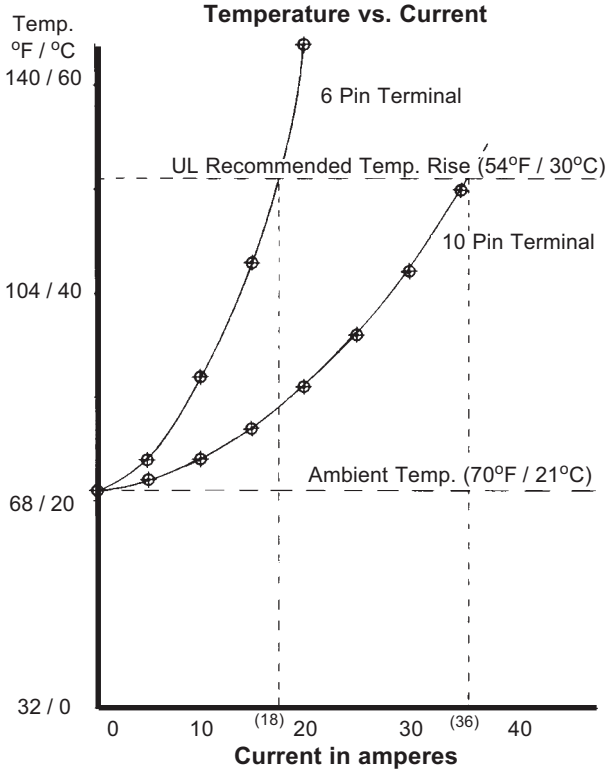


10 Pin - Insulator



10 Pin - Bare Tabs

SPECIFICATIONS



INSULATOR / ISOLATOR

Material:	Nylon reinforced, UL rated 94 V-O
Insulation Resistance:	5,000 Megohms (min.)
Operating Temperature:	-55°C to +105°C

CONTACTS

Material:	Copper alloy 725
Plating:	Tin lead
Current Rating:	See chart
Contact Resistance:	2 Milliohms (max.)
Insertion Force:	
6 pin	240 lbs. max
10 pin	400 lbs. max
Retention Force:	
6 pin	48 lbs. min
10 pin	80 lbs. min
Thread Torque:	
#4-40 thread	8 in.- lbs. min.
#6-32 thread	8 in.- lbs. min.

Note: Utlilzing a brass screw and a .038 min. thick washer or lug.

Recognized under the Component Program of Underwriters Laboratories Inc. File No. E136181, to Standard UL 1863

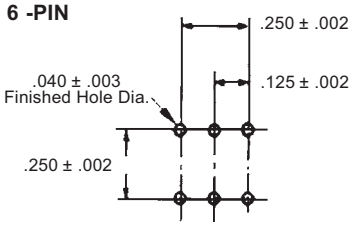
121 Series

Power Terminal 6 Pin - .125" x .250" Grid
10 pin - .100" x .300" Grid

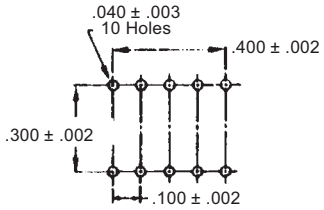
BACKPANEL REQUIREMENTS

Hole pattern

6 -PIN



10 -PIN



Screw packaged separately

Hole Size & Plating - Standard C-Press®: Winchester illustration on page CP/4.

NOTE: *Consult Winchester Electronics for C-Press® applications for backpanels less than .093" thick and for bare copper plated through holes.*

ORDERING INFORMATION

Terminal Style	Number of Pins	Hole Size	Part Number		
			Without Screw	With Screw*	Captive Screw
Bare	6	6/32	121-14207	121-14207-1	—
	10		121-27239	121-27239-1	121-27390
	6	4/40	121-14208-1	121-14208	—
	6	M3	121-14201	—	—
	10		121-14202	—	—
	10	M4	121-14202-1	—	—
	6	6/32	—	121-14207-2***	—
	6	6/32	—	121-14207-3**	—
Isolator	6	6/32	121-27295-2	121-27295-4	—
	10		121-14205	121-14205-1	121-27391
	6	4/40	121-27295-1	121-27295-3	—
	10	M3	121-14205-2	—	—
	10	—	121-24565	—	—
	10	6/32	—	121-27391*	—
Insulator	6	6/32	121-27296-2	121-27296-4	—
	10		121-14204	121-14204-1	—
	6	M3	121-27395	—	—
	10		121-27394	—	—
	6	4/40	121-27296-1	121-27296-3	—
Bare With Tabs	10	—		121-24539	

Notes:

* Torx with captive washer

** Screw and washer unassembled

*** Screw and washer assembled

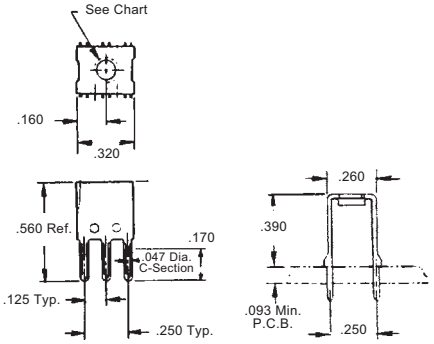
121 Series

Power Terminal 6 Pin - .125" x .250" Grid
10 Pin - .100" x .300" Grid

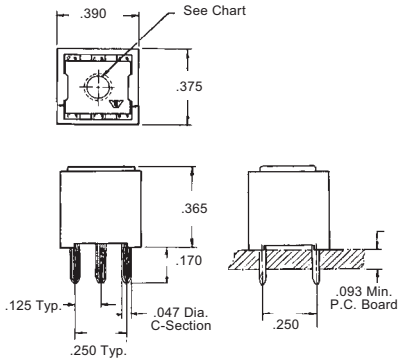
OUTLINE

6 Pin

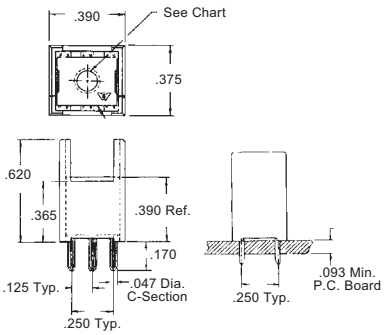
Bare



With Insulator

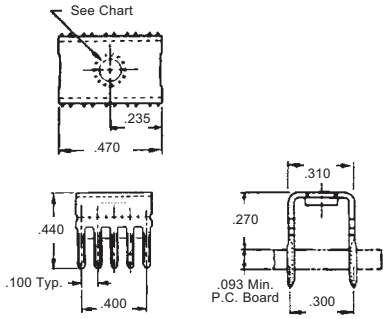


With Isolator

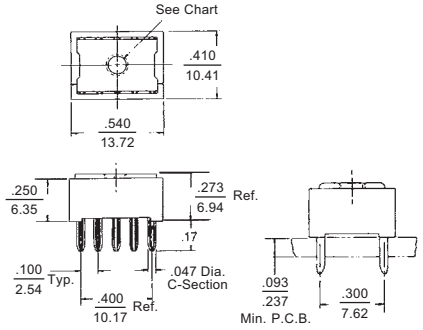


10 Pin

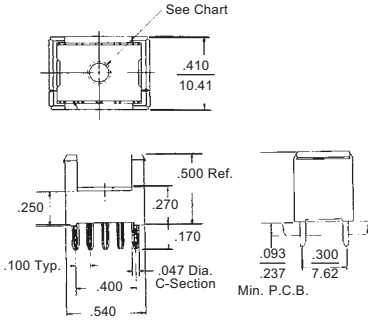
Bare



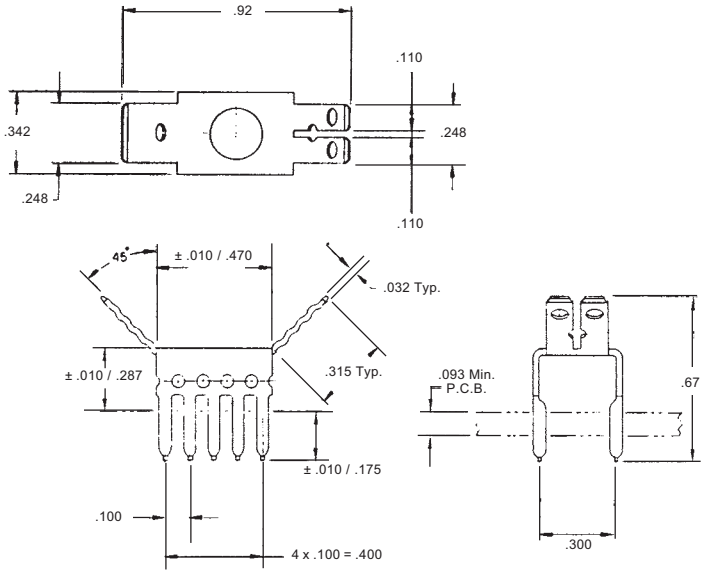
With Insulator



With Isolator



With .250" Quick Disconnect Tabs



121 Series

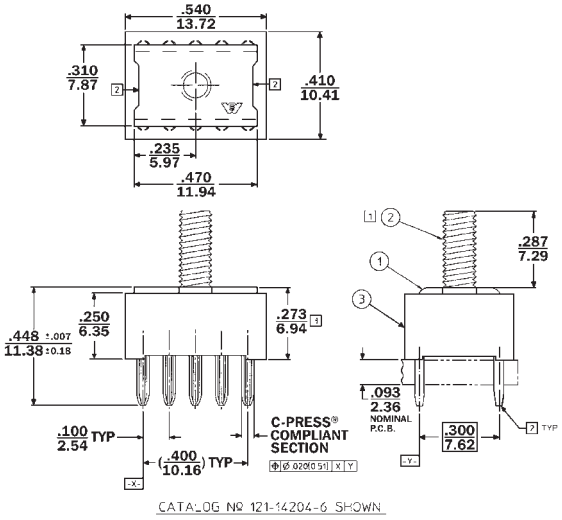
Alternate Power Terminal Connector

Winchester Electronics is prepared and eager to help you with your power connector needs. Our 121 Series power terminal connectors can be modified to meet your needs and fit your application.

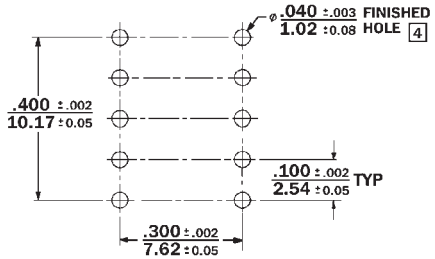
As you can see below we can do some interesting and useful modifications for our customers. Call today and we'll engineer a solution for you.

OUTLINE

10 Pin Power Terminal With Insulator And 6/32 Stud



CATALOG NO 121-14204-6 SHOWN



P.C. BOARD HOLE PATTERN

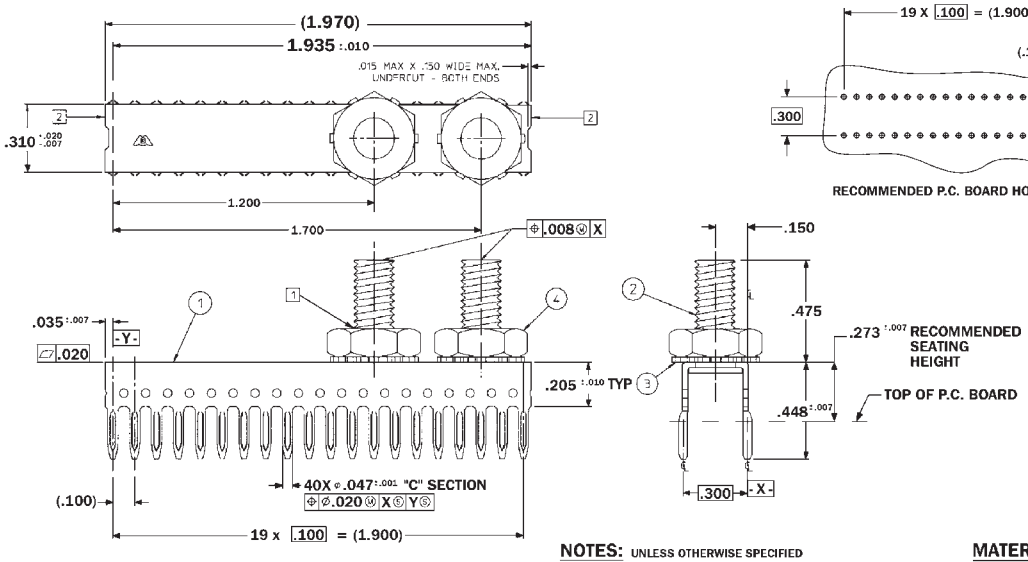
MATERIALS:

1. Terminal Power — Copper-Nickel-Tin Alloy, CA72500 Tin/Lead Plating, Except per Note
2. #6-32 Stud — Steel, Zinc Plate
3. Insulator — Nylon, UL94V-0 Rated, Color: Natural

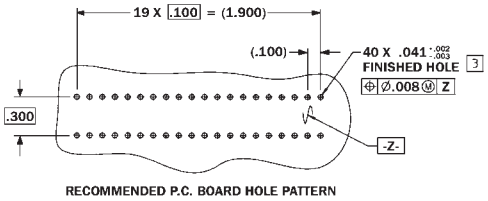
NOTES:

1. FASTENER & THREAD TO WITHSTAND 14 in-lbs MIN. TORQUE, APPLIED WITH A STANDARD #6-32 UNC-2B NUT, AND THE FASTENER TO WITHSTAND A PUSH-OUT FORCE OF 100 lbs MIN.
2. NO PLATING ON EDGES SHOWN.
3. SEATING HEIGHT TO P.C. BOARD SURFACE.
4. PLATED THROUGH HOLE REQUIREMENTS PER DWG № 27331.
5. INSTALLATION TOOLING: INSERTION № 107-43940-01. REMOVAL № 107-42503. IMPACT HANDLE № 107-42055

80 Amp Power Buss Strp



CATALOG NO. 121-29293-02 SHOWN



RECOMMENDED P.C. BOARD HOLE PATTERN

NOTES: UNLESS OTHERWISE SPECIFIED

1. FASTENER & THREAD TO WITHSTAND 14 IN-LBS MIN. TORQUE, APPLIED WITH A STANDARD #10-32 UNC-2B NUT, AND THE FASTENER TO WITHSTAND A PUSH-OUT FORCE OF 100 LBS. MIN.
2. NO PLATING ON EDGES SHOWN.
3. FOR HOLE REQUIREMENT REQUEST WEB DWG. 27331.
4. CUSTOMER TOOLING: INSERTION TOOL № 107-43939-01.

MATERIALS

1. Power Buss — Material: Copper Alloy #725, Finish: Tin-Lead Plated Except per 2
2. #10-32 Stud — Material: Steel, Finish: Zinc Plated
3. #10 External Tooth Washer — Material: Steel, Finish: Zinc Plated
4. #10-32 Hex Machine Screw Nut — Material: Steel, Finish: Zinc Plated

121 Series

FUSECLIP®

Winchester Electronics has combined C-Press® compliant pin technology with a 3ag FUSECLIP® to create another solderless printed circuit device.

- For 1/4" diameter fuses
- 30AMP @ 30°C rise
- -55°C to 105°C operating temperature

OUTLINE

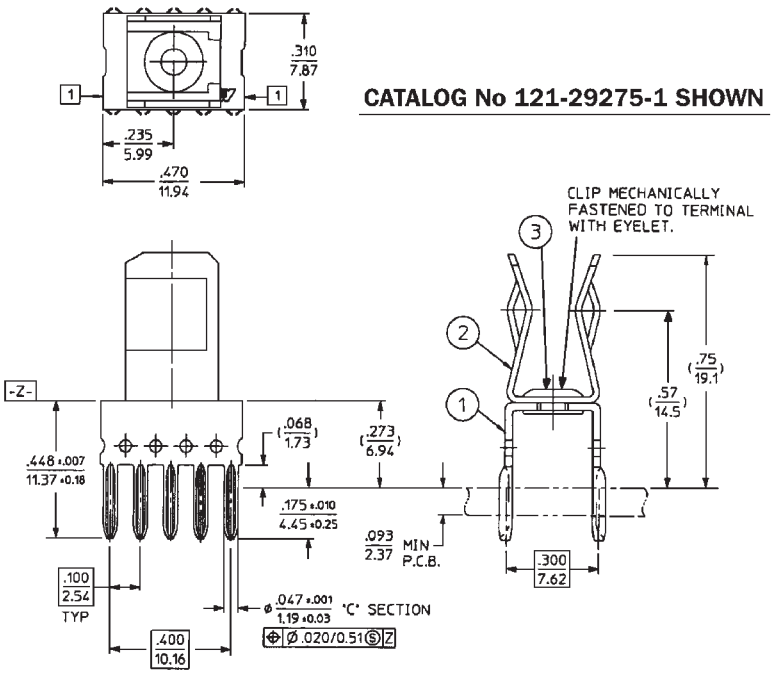
MATERIALS & FINISHES

1. Power Terminal — Material: Copper-Nickel-Tin Alloy, CDA 72500; Finish: Tin Lead Plating.
2. Fuse Clip — Material: Beryllium Copper; Finish: Silver Plating
3. Eyelet — Material: Stainless Steel; Finish: Tin Plating

PERFORMANCE CHARACTERISTICS

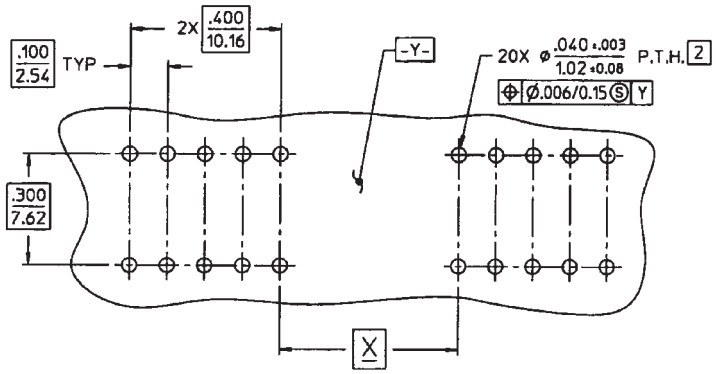
C-Press® Performance:

- Maximum insertion force, 10 Pin — 400 lbs. max.
- Minimum retention force, 10 Pin — 80 lbs. min.
- Number of repair cycles without hole deformation or performance loss — 3
- Contact to PTH electrical resistance — 2 milliohms max.



BACKPANEL REQUIREMENTS

FUSE LENGTH	X
5/8	.100 2.54
3/4	.150 3.81
7/8	.275 6.99
1 1/16	.475 12.07
1 1/4	.650 16.51
1 7/16	.850 21.59



RECOMMENDED P.C. BOARD HOLE REQUIREMENTS