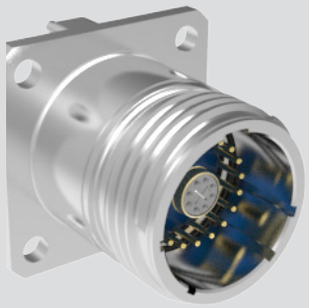
ENVIRONMENTAL, MICRO MINIATURE CIRCULAR

Series 806 Mil-Aero Connectors

806-040 Box Mount PCB Receptacle Connectors, High-Speed / RF



806-040 Box-mount PCB receptacles with potted-in-place printed circuit board terminals, integral standoffs, and threaded holes for secure attachment to rigid or flex circuit boards. Series supports hybrid signal and high-speed / RF shielded contacts including Glenair Signature El Ochito (up to 40 Gbe), Quadrax, 50 Ohm Coax, and differential Twinax for 10GbE, HDMI, USB 3.0, and RF applications. Micro miniature Series 806 connectors save size and weight compared to legacy aerospace-grade circular connectors. These hybrid insert arrangement connectors are suitable for high-speed digital and standard signal applications in unpressurized aircraft zones subject to vibration, moisture, altitude, and temperature extremes.

Features

- Triple-start stub ACME mating thread
- Size 8 El Ochito arrangements or hybrid size 8 and 22 arrangements
- Aerospace-grade materials, construction
- Integral PC board standoffs
- Threaded holes for secure attachment to rigid or flex circuits
- Alignment post

Specifications

- Operating temperature: -65°C to +175°C
- Dielectric withstanding voltage: #22HD contacts: 1300 VAC #8 contacts: contact factory
- Mating durability: 500 cycles
- Mechanical shock: EIA-364-27, 300g.
- Vibration (sine): MIL-DTL-38999M, 60g.
- Vibration (random) EIA-364-28 Condition VI, Letter J, 43.92 Grms, +200°C
- High Impact shock: MIL-S-901 Grade A
- Humidity: EIA-364-31 Method 4
- Salt spray (dynamic): EIA-364-26, 500 hours (96 hours for nickel-plated versions)
- Fluid immersion: EIA-364-10
- Altitude immersion: EIA-364-03 75,000 feet altitude
- Indirect Lightning Strike: EIA-364-75 Type B Level 2 10kA Peak

Connector Construction

- Shell, jam-nut: aluminum or stainless steel
- Contacts: copper alloy, gold plating
- Potting compound: epoxy
- Interfacial seal and peripheral seal: fluorosilicone
- Dielectric inserts: high grade rigid dielectric
- Clinch nuts: stainless steel, passivated

How To Order

SAMPLE PART NUMBER	806-040	-ME	14	E	-	20A	S	T	A
Product	**806-040** = Box Mount, El Ochito PCB Receptacle								
Shell Material and Finish	**ME** = Aluminum, Electroless Nickel **MT** = Aluminum, Ni/PTFE **ZR** = Aluminum, Black Zinc-Nickel **NF** = Aluminum, Olive Drab Cadmium **Z1** = Stainless Steel, Passivated								
Shell Size	See Table I								
Contact Type	See Table II								
Ground Option	**G** = Common Ground Dash (**–**) = None Available for 10-1, 16-2, 18-3, 20-4, 22-5, and 24-8 inserts								
Contact Layout	See Table I								
Contact Gender	**P** = Pin **S** = Socket; see Table VI for El Ochito mating contacts								
Mounting Hole Style	**T** = Thru holes **C** = Clinch nut flange, #4-40, M45938/6-4C (rear panel mounting); consult factory for SST material								
Polarization	**A B C D E F**								

Table I: Shell Size - Insert Arrangement

Contact Layout	Number of Contacts	
	22HD	8
10-1		1
16-2		2
18-3		3
20-4		4
22-5		5
24-8		8
14-20A	19	1
16-22	20	2
18-21	18	3
20-28	24	4
22-44	40	4
24-97	93	4

Table II: Contact Type

Contact Symbol	Description
C	Coax, 50 ohm
D	Differential Twinax 100 ohm
E**	El Ochito (see Table IV for symbol)
Q	Quadrax, 100 ohm

**See Table III for complete Protocol Code

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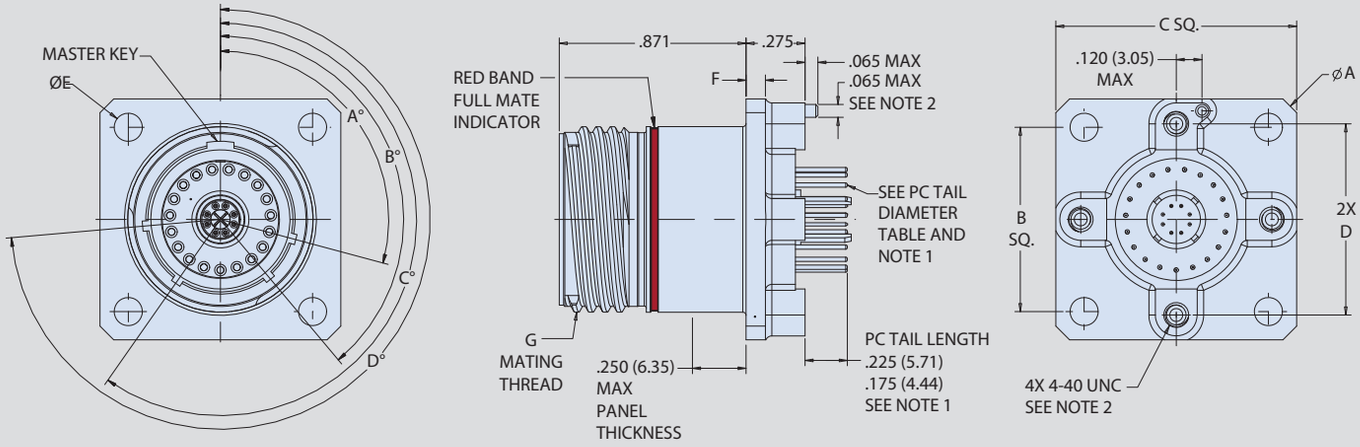


Dimensions

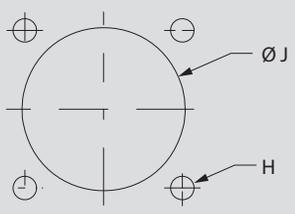
Shell Size	A Max	B	C Max	D	E Mounting Hole	F Max Flange Thickness	G Mating Thread
10	1.174 (29.82)	0.625 (15.88)	0.913 (23.19)	0.679 (17.25)	0.128 (3.25)	0.100 (2.54)	.625-.067P-.2L-TS-2B
14	1.510 (38.35)	0.859 (21.82)	1.133 (28.78)	0.891 (22.63)			.875-.067P-.2L-TS-2B
16	1.620 (41.15)	0.938 (23.83)	1.242 (31.55)	1.049 (26.64)			1.000-.067P-.2L-TS-2B
18	1.784 (45.31)	1.016 (25.81)	1.343 (34.11)	1.148 (29.16)			1.125-.067P-.2L-TS-2B
20	1.910 (48.51)	1.109 (28.17)	1.444 (36.68)	1.252 (31.80)		0.125 (3.18)	1.250-.067P-.2L-TS-2B
22	2.083 (52.91)	1.203 (30.56)	1.570 (39.88)	1.369 (34.77)	0.154 (3.91)		1.375-.067P-.2L-TS-2B
24	2.200 (55.88)	1.312 (33.32)	1.704 (43.28)	1.509 (38.33)			1.500-.067P-.2L-TS-2B

PC Tail Diameter

CONTACT SIZE	PC TAIL
22	Ø.020 (0.51)
COAX	Ø.025 (0.64)
DIFF TWINAX	Ø.025 (0.64)
EL OCHITO	Ø.016 (0.41)
QUADRAX	Ø.025 (0.64)
SIZE 8 GROUND	.030 (0.76) SQ.

Recommended Mounting Hole

Shell Size	ØJ	H With Clinch Nut	H Without Clinch Nut
10	0.645 (16.38)	0.128 (3.25)	0.128 (3.25)
14	0.890 (22.61)		
16	1.015 (25.78)		
18	1.125 (28.58)		
20	1.275 (32.39)		0.154 (3.91)
22	1.400 (35.56)		
24	1.525 (38.73)		



NOTES

1. See Glenair application note AN0002 for optimal El Ochito board layout and design
2. Integral PCB Stand off 4x 4-40 UNC .156 min thread and locating post
3. See Table V for different combinations of El Ochito types
4. Connector meets all performance requirements of Glenair product specification 806-014 and applies to all finishes
5. Receptacle connector mates with all quick coupling, Glenair 806 style, plug connectors with same polarization and opposite contact gender

Rev. 06.18.26

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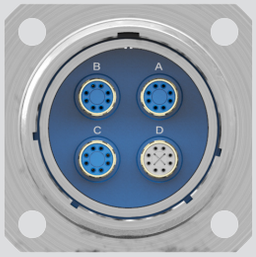
El Ochito Mating Contact		
PART NUMBER		PROTOCOLS
WHITE - PIN	858-045 Type I	10GBASE-T ETHERNET, CAT 6A 40GBASE-T ETHERNET, CAT 8
	858-051 Type II	10GBASE-T ETHERNET, CAT 6A 40GBASE-T ETHERNET, CAT 8
WHITE - SKT	858-046 Type I	10GBASE-T ETHERNET, CAT 6A 40GBASE-T ETHERNET, CAT 8
	858-052 Type II	10GBASE-T ETHERNET, CAT 6A 40GBASE-T ETHERNET, CAT 8
BLUE - PIN	858-047	USB 3.0, OTHER 90 OHM SIGNALS
BLUE - SKT	858-048	USB 3.0, OTHER 90 OHM SIGNALS
RED - PIN	858-049	HDMI, DISPLAYPORT, SATA, OTHER 100 OHM SIGNALS
RED - SKT	858-050	HDMI, DISPLAYPORT, SATA, OTHER 100 OHM SIGNALS

El Ochito Protocols		
		
WHITE	**BLUE**	**RED**
10GBASE-T	**USB 3.0**	**HDMI, SATA, DisplayPort**

The Ochito octaxial contact has a color-coded insulator signifying the data protocol. White is used for 10 Gb Ethernet, blue is used for USB 3.0, and red is used for multi gigabit 100 ohm protocols including HDMI, DisplayPort and SATA. The connector part number includes a protocol code from Table III. This code determines specific contact position for every combination of protocol.



Example Code E7

Example Code E5

Table III: Protocol Code for El Ochito Contact Positons
B = Blue, R = Red, W = White

SYMBOL	Contact							
	A	B	C	D	E	F	G	H
E	W	W	W	W	W	W	W	W
E2	B	W	W	W	W	W	W	W
E3	R	W	W	W	W	W	W	W
E4	B	B	W	W	W	W	W	W
E5	R	B	W	W	W	W	W	W
E6	R	R	W	W	W	W	W	W
E7	B	B	B	W	W	W	W	W
E8	R	B	B	W	W	W	W	W
E9	R	R	B	W	W	W	W	W
E10	R	R	R	W	W	W	W	W
E11	B	B	B	B	W	W	W	W
E12	R	B	B	B	W	W	W	W
E13	R	R	B	B	W	W	W	W
E14	R	R	R	B	W	W	W	W
E15	R	R	R	R	W	W	W	W
E16	B	B	B	B	B	W	W	W
E17	R	B	B	B	B	W	W	W
E18	R	R	B	B	B	W	W	W
E19	R	R	R	B	B	W	W	W
E20	R	R	R	R	B	W	W	W
E21	R	R	R	R	R	W	W	W
E22	B	B	B	B	B	B	W	W
E23	R	B	B	B	B	B	W	W
E24	R	R	B	B	B	B	W	W
E25	R	R	R	B	B	B	W	W
E26	R	R	R	R	B	B	W	W
E27	R	R	R	R	R	B	W	W
E28	R	R	R	R	R	R	W	W
E29	B	B	B	B	B	B	B	W
E30	R	B	B	B	B	B	B	W
E31	R	R	B	B	B	B	B	W
E32	R	R	R	B	B	B	B	W
E33	R	R	R	R	B	B	B	W
E34	R	R	R	R	R	B	B	W
E35	R	R	R	R	R	R	B	W
E36	R	R	R	R	R	R	R	W
E37	B	B	B	B	B	B	B	B
E38	R	B	B	B	B	B	B	B
E39	R	R	B	B	B	B	B	B
E40	R	R	R	B	B	B	B	B
E41	R	R	R	R	B	B	B	B
E42	R	R	R	R	R	B	B	B
E43	R	R	R	R	R	R	B	B
E44	R	R	R	R	R	R	R	B
E45	R	R	R	R	R	R	R	R

Rev. 12.02.21

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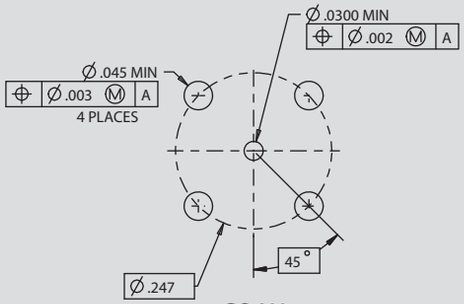
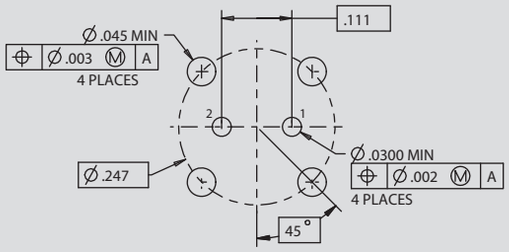
Size 8 PCB Footprints for Coax, Quadrax, Twinax and El Ochito

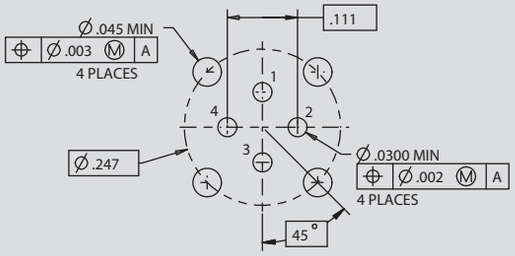
See Appendix A for complete PCB footprint details



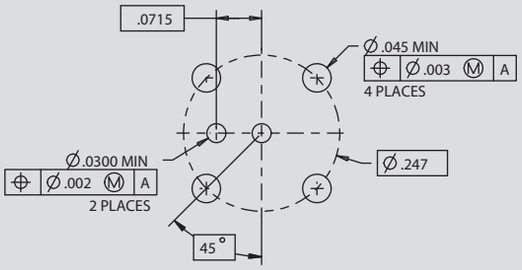
COAX



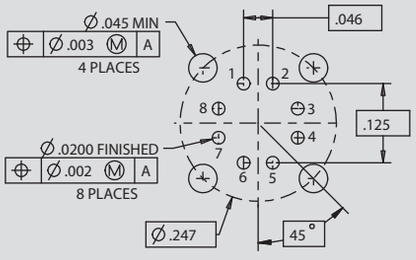
DIFFERENTIAL TWINAX



QUADRAX



TRIX/CONCENTRIC TWINAX



EL OCHITO

PIN INTERFACE SHOWN
SOCKET INTERFACE OPPOSITE