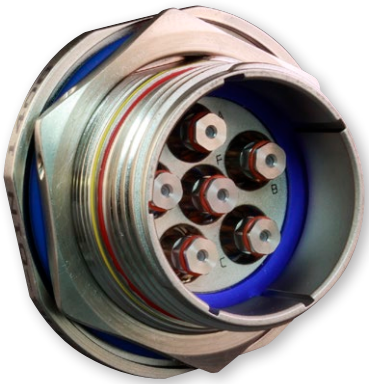
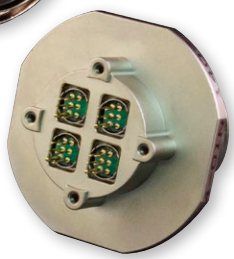
MIL-DTL-38999 type receptacle connector with size 8 opto-electronic contacts







050-304 series of Active Opto-electronic sealed panel mount connectors offers customers the power to convert from electrical to fiber optic signals within a D38999 connector to support high speed fiber optic transmission in harsh environments. The 050-304s incorporates size 8 active contacts in one of three standard configurations to enable optical Transmitters, optical Receivers or Optical Transceivers. The opto-electronic performance parameters of the 050-304 are defined by the performance of the size 8 contacts that are incorporated. For example if one incorporates 4.25Gbps contacts into the connector then each of the contacts will be 4.25Gbps capable.

The fiber optic signal that is generated within the 050-304 active connectors is transmitted via ARINC 801 fiber optic connector interface to fiber optic cable system using a standard D38999 plug connector that has been fitted with adapters to incorporate ARINC 801 fiber optic contacts. For example a 38999 plug connectors with size #8 contact cavities, such as 25-08 insert arrangement (per MIL-STD-1560) can be fitted with Glenair ARINC 801 contact adaptersthat convert this electrical connector into a fiber optic connector that enables it to properly house and retain contacts at the required optical interface to achieve very repeatable low loss optical transmission characteristics

COMPANION ACCESSORY ADAPTER PRODUCTS

These adapters are used to make the PLUG connector that serves as the fiber optic cable interface.

- **059-0001 adapters convert D38999 size 8 cavities (twinax, coax, quadrax or power cavities) into ARINC 801 LuxCis® fiber optic connectors.**
- **059-0002 adapters convert D38999 size 8 cavities (twinax, coax, quadrax or power cavities) into ARINC 801 appendix C, EN4531, ELIO®**

APPLICATIONS

- **Support Harsh Environment applications where robust 38999 connectors are required, Airborne, Tactical and Shipboard**
- **Ethernet, Fast Ethernet, Gigabit Ethernet, AFDX, 1x/2x/4x Fiber Channel, DVI, HDMI, SFDP, Serial Rapid I/O (sRIO) and other high speed communication all over Multimode Fiber**

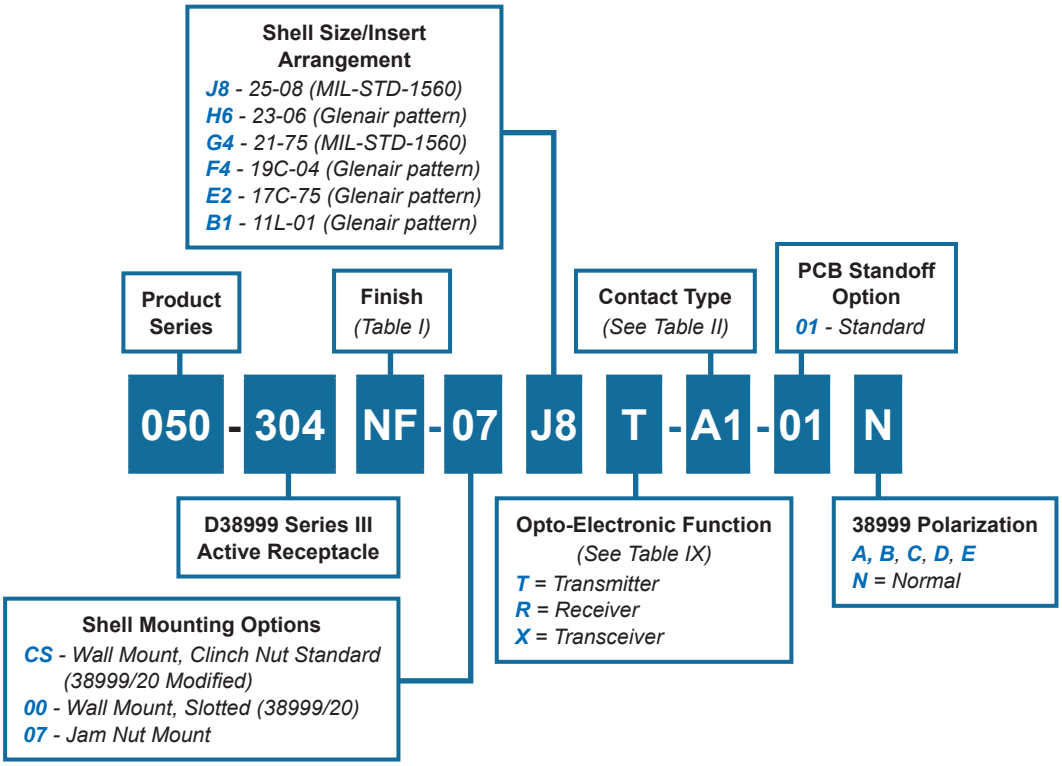
FEATURES

- **Supports up to 34Gbps aggregate transmission bandwidth in a single connector**
- **MIL-STD-1560 arrangements & Glenair arrangements**
- **Arrangements from 1 to 8 size 8 cavities available, contact factory for custom arrangements**
- **Operating temperatures -40 to +85C as supported by the size 8 contacts**
- **May be configured in one of 3 standard configurations: Transmitter, Receiver or Transceiver**
- **050-301 contacts to support ARINC 8011.25mm fiber optic interconnect, 100Mbps to 4.25Gbps per contact**
- **059-0001 Adapters available to support converting PLUG D38999 size 8 cavities into ARINC 801 fiber optic compatible connectors**
- **050-307 Active size 8 contacts to support 2.5mm Fiber Optic contact systems, 100Mbps to 4.25Gbps per contact**
- **050-308 Active size 8 contacts to support ARINC 801 1.25mm fiber optic contact system, 10Mbps to 200Mbps, 1300nm LED**
- **059-0002 Adapter available to support converting PLUG D38999 size 8 cavities into ELIO® fiber optic compatible connectors**
- **PC tail electrical interfaces or custom micro-coax or flex to PCB interfaces available**
- **Connector rear face contains standoffs to allow direct mechanical attachment to PCB.**

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050-304
D38999 Series III Type Active Receptacle Connector
with Glenair Size 8 Opto-electronic Contacts

How To Order



Notes

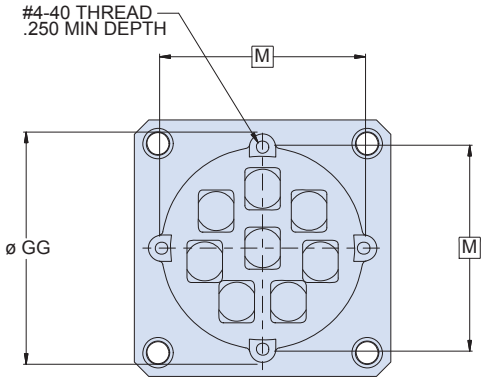
- This connector is designed to meet applicable dimensional, environmental and performance characteristics of D38999 Series III per appropriate material class
- For opto-electric performance specifications, see Table II
- This connector mates with standard MIL-DTL-38999/26 plug connector. See Table X for applicable part numbers
- For cleaning tools and instructions, see GCLT-H125 in Glenair Fiber Optic catalog
- Receptacle contact removal tool: M81969/14-12
  Plug contact insertion/removal tool: M81969/14-03

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Table I: Material And Finish		
SYM	Material	Finish Description
M	Aluminum	Electroless Nickel
MT		Nickel - PTFE
NF		Cadmium, Olive Drab
ZR		Zinc Ni, Black (Tri-Valent CR)
MA		Electroless Nickel Plate, Matte
Z1	Stainless Steel	Passivate
ZL		Electro-Deposited Nickel

Table II: Contact Type				
Contact Type	Contact Option	Contact P/N	Description	Contact Type Description
A (Multimode 50/125 & 62.5/125)	1	050-301-01T	1.25 GBPS Transmitter	050-301 series opto-electronic size 8 contact, 100 MBPS – 4.25 GBPS, 850 µm vcsel transmitter or Pin/TIA receiver, 1.25mm LuxCis® optical interface that mates with ARINC 801 terminus.
		050-301-01R	1.25 GBPS Receiver	
	2	050-301-02T	2.50 GBPS Transmitter	
		050-301-02R	2.50 GBPS Receiver	
	3	050-301-03T	3.20 GBPS Transmitter	
		050-301-03R	3.20 GBPS Receiver	
	4	050-301-04T	4.25 GBPS Transmitter	
		050-301-04R	4.25 GBPS Receiver	

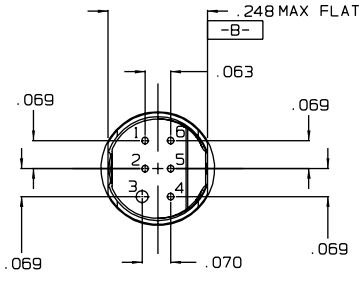
Table XII: Dimensions			
Shell Size Code	Shell Size	M basic	Ø GG Max
B	11	.550 (14.0)	.760 (19.3)
E	17	.920 (23.4)	1.130 (28.7)
F	19	1.025 (26.0)	1.235 (31.4)
G	21	1.025 (26.0)	1.235 (31.4)
H	23	1.275 (32.4)	1.485 (37.7)
J	25	1.450 (36.8)	1.600 (42.2)



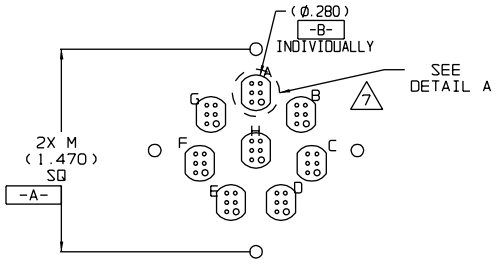
PCB Standoff Locations
Applicable to All Configurations

Table IX: Reccommended PCB Hole Sizes		
	Ø J	Ø L
Solder	.028	.040
Mill-Max*	.039	.060

*Minimum PCB thickness to use Mill-Max contacts is .090"
5X 0566-2-15-15-21-27-10-0
1X 0305-2-15-80-47-27-10-0

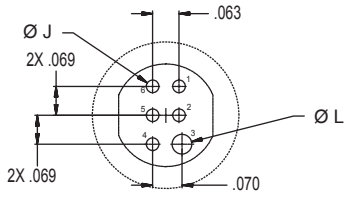


Size 8 Active Contact
PC Tail Arrangement



J8 Arrangement Example
Recommended PCB Cutout

All diameters are ⌖ | Ø .004 Ⓜ | A



Detail A
Scale 3:1

All diameters are ⌖ | Ø .004 Ⓜ | B

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Glenair®

050-304
D38999 Series III Type Active Receptacle Connector
with Glenair Size 8 Opto-electronic Contacts

Insert arrangements and PCB tails

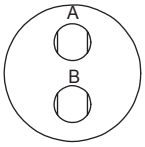
Arrangement B1



Arr. 11L-01
1X #8
Glenair Special

Recommended PCB Layout		
Contact Position ID	Master Pin Position	
	X Position	Y Position
A	.000	.000

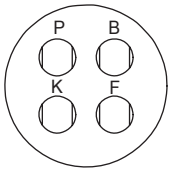
Arrangement E2



Arr. 17C-75
2X #8
Glenair Special

Recommended PCB Layout		
Contact Position ID	Master Pin Position	
	X Position	Y Position
A	.000	+.187
B	.000	-.187

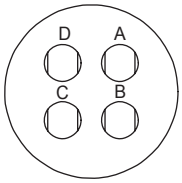
Arrangement F4



Arr. 19C-04
4X #8
Glenair Special

Recommended PCB Layout		
Contact Position ID	Master Pin Position	
	X Position	Y Position
B	+.180	+.180
F	+.180	-.180
K	-.180	-.180
P	-.180	+.180

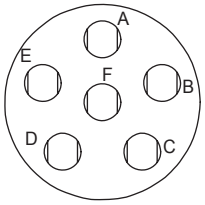
Arrangement G4



Arr. 21-75
4X #8
Per M1560

Recommended PCB Layout		
Contact Position ID	Master Pin Position	
	X Position	Y Position
A	+.180	+.180
B	+.180	-.180
C	-.180	-.180
D	-.180	+.180

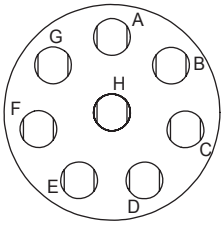
Arrangement H6



Arr 23-06
6X #8
Glenair Special

Recommended PCB Layout		
Contact Position ID	Master Pin Position	
	X Position	Y Position
A	.000	+.364
B	+.347	+.113
C	+.214	-.295
D	-.214	-.295
E	-.347	+.113
F	.000	.000

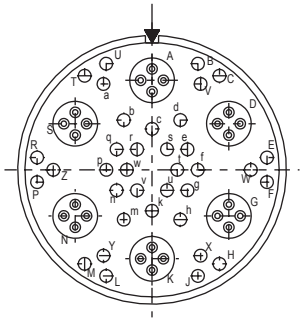
Arrangement J8



Arr. 25-08
8X #8
Per M1560

Recommended PCB Layout		
Contact Position ID	Master Pin Position	
	X Position	Y Position
A	.000	+.426
B	+.333	+.266
C	+.415	-.095
D	+.185	-.384
E	-.185	-.384
F	-.415	-.095
G	-.333	+.266
H	.000	.000

Arrangement 25-17



Arr. 25-17
Contact Factory for Details

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Function assignments and mating connectors

Table IX: Function Assignments

Insert Arrrangement	Contact Position ID	T = Transmitter	R = Receiver	X* = Transceiver
B1	A	Transmitter	Receiver	N/A
E2	A	Transmitter	Receiver	Transmitter
	B			Receiver
F4	B	Transmitter	Receiver	Transmitter
	F			Receiver
	K			Transmitter
	P			Receiver
G4	A	Transmitter	Receiver	Transmitter
	B			Receiver
	C			Transmitter
	D			Receiver
H6	A	Transmitter	Receiver	Transmitter
	B			Receiver
	C			Transmitter
	D			Receiver
	E			Transmitter
	F			Receiver
J8	A	Transmitter	Receiver	Transmitter
	B			Receiver
	C			Transmitter
	D			Receiver
	E			Transmitter
	F			Receiver
	G			Transmitter
	H			Receiver

*Contact factory for other function assignments

Table X: Mating Connector P/N

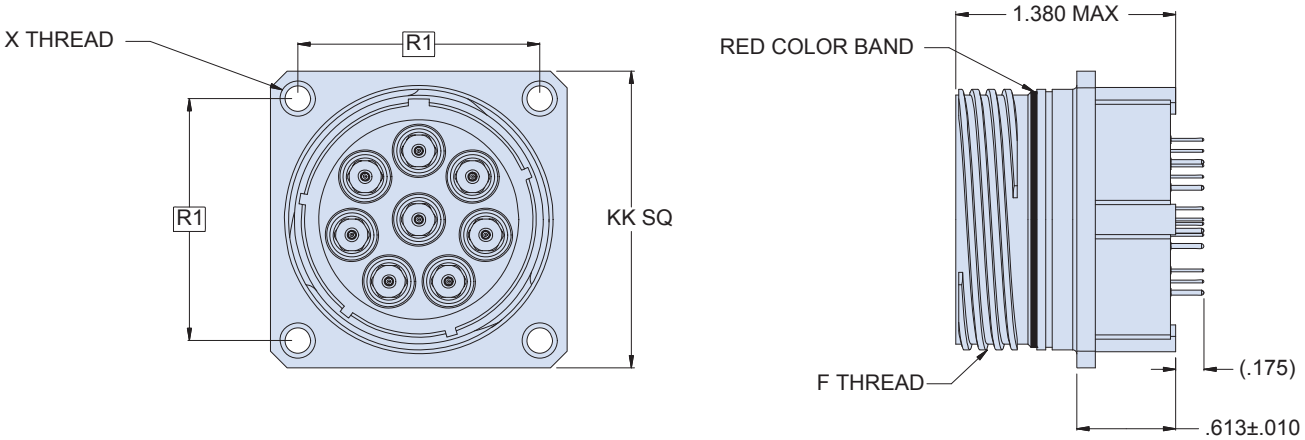
Receptacle Connector Ins. Arr.	Mating Connector Description	Glenair P/N**	Contact Adapter Type A***	
			Qty	P/N
B1	Glenair Special	257-606?G6-11Q-01BN	1	059-0001
E2	Glenair Special	257-606?G6-17Q-75BN	2	059-0001
F4	Glenair Special	257-606?G6-19Q-04BN	4	059-0001
G4	D38999/26FG4SN	257-606?G6-21Q-75BN	4	059-0001
H6	Glenair Special	257-606?G6-23Q-06BN	6	059-0001
J8	D38999/26FJ8SN	257-606?G6-25Q-08BN	8	059-0001

** Replace ? with material/finish code from Table I. If unavailable, inquire about 233-105 as alternative.
***Must order indicated amount for complete plug connector. Contact adapters include respective contacts for each type

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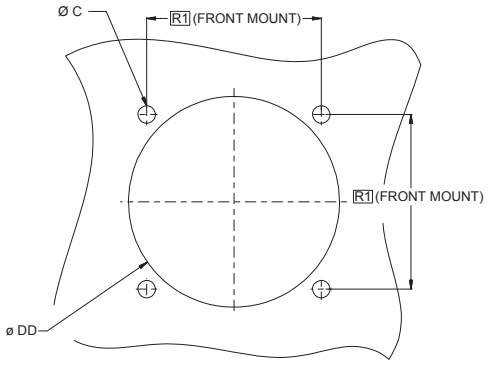
050-304 CS Wall Mount, Clinch Nut
D38999 Series III Type Active Receptacle Connector
with Glenair Size 8 Opto-electronic Contacts

Active MIL-DTL-38999 type wall-mount clinch nut receptacle



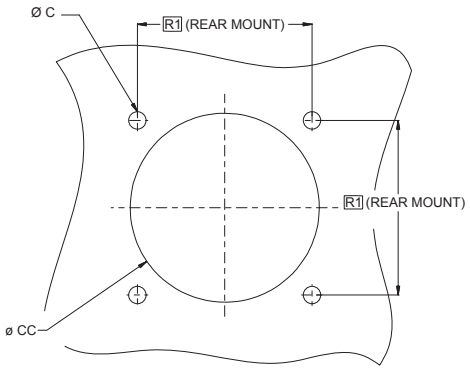
CS - Wall Mount, Clinch Nut (38999/20 Modified)

Table XII: Dimensions for Clinch Nut Receptacles				
Shell Size Code	Shell Size	F Thread Per M38999/20	X Thread	KK sq ±.010
B	11	.7500-.1P-.3L-TS-2A	#4-40	1.200 (30.5)
E	17	1.875-.1P-.3L-TS-2A	#4-40	1.450 (36.8)
F	19	1.2500-.1P-.3L-TS-2A	#4-40	1.550 (39.4)
G	21	1.3750-.1P-.3L-TS-2A	#4-40	1.650 (41.9)
H	23	1.5000-.1P-.3L-TS-2A	#6-32	1.770 (45.0)
J	25	1.6250-.1P-.3L-TS-2A	#6-32	1.900 (48.3)



RECOMMENDED PANEL CUT-OUT
FOR FRONT PANEL MOUNTING
CS AND 00 WALL MOUNT
RECEPTACLES
(NOT TO SCALE)

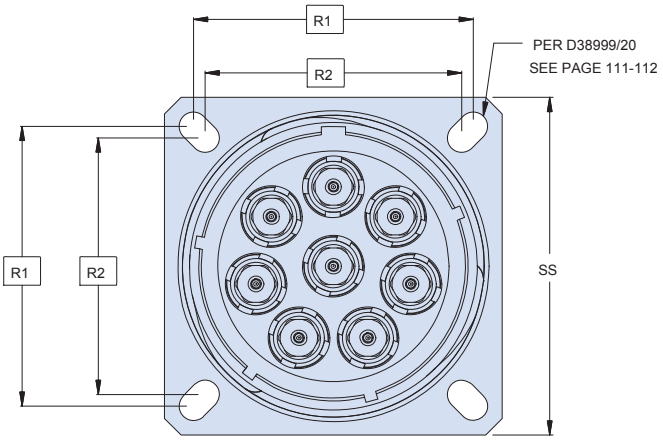
Table XI: Recommended Panel Cut-Out			
Shell Size Code	Shell Size	ØC ±.005	ØCC min
A	11	0.128 (3.3)	0.796 (20.2)
E	17	0.128 (3.3)	1.219 (31.0)
F	19	0.128 (3.3)	1.297 (32.9)
G	21	0.128 (3.3)	1.422 (36.1)
H	23	0.154 (3.9)	1.547 (39.3)
J	25	0.154 (3.8)	1.672 (42.5)

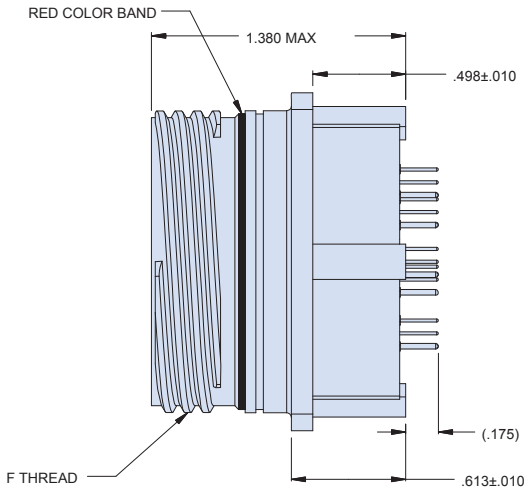


RECOMMENDED PANEL CUT-OUT
FOR BACK PANEL MOUNTING
CS AND 00 WALL MOUNT
RECEPTACLES

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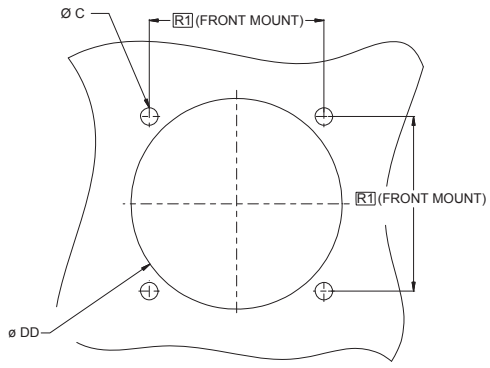
Active MIL-DTL-38999 type wall-mount slotted receptacle





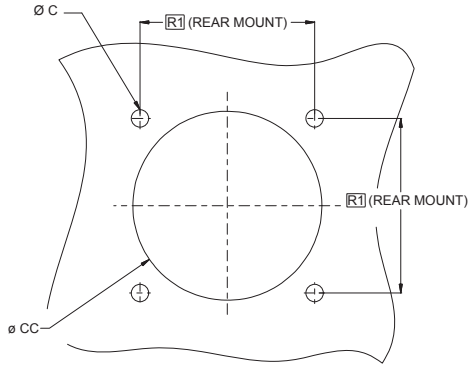
00 - Wall Mount, Slotted (38999/20)

Table XII: Dimensions for Slotted Receptacles			
Shell Size Code	Shell Size	F Thread Per M38999/20	SS sq ±.010
B	11	.7500-.1P-.3L-TS-2A	1.032 (26.2)
E	17	1.875-.1P-.3L-TS-2A	1.311 (33.3)
F	19	1.2500-.1P-.3L-TS-2A	1.437 (36.5)
G	21	1.3750-.1P-.3L-TS-2A	1.563 (39.7)
H	23	1.5000-.1P-.3L-TS-2A	1.689 (42.9)
J	25	1.6250-.1P-.3L-TS-2A	1.811 (46.0)



RECOMMENDED PANEL CUT-OUT
FOR FRONT PANEL MOUNTING
CS AND 00 WALL MOUNT
RECEPTACLES
(NOT TO SCALE)

Table XI: Recommended Panel Cut-Out						
Shell Size Code	Shell Size	ØC ±.005	ØCC min	ØDD min	R1 per D38999	R2 per D38999
B	11	0.128 (3.3)	.796 (20.2)	.800 (20.3)	0.812 (20.6)	.719 (18.3)
E	17	0.128 (3.3)	1.219 (31.0)	1.170 (29.7)	1.062 (27.0)	0.969 (24.6)
F	19	0.128 (3.3)	1.297 (32.9)	1.275 (32.4)	1.156 (29.4)	1.062 (27.0)
G	21	0.128 (3.3)	1.422 (36.1)	1.275 (32.4)	1.250 (31.8)	1.156 (29.4)
H	23	0.154 (3.9)	1.547 (39.3)	1.525 (38.7)	1.375 (34.9)	1.250 (31.8)
J	25	0.154 (3.8)	1.672 (42.5)	1.700 (43.2)	1.500 (38.1)	1.375 (34.9)

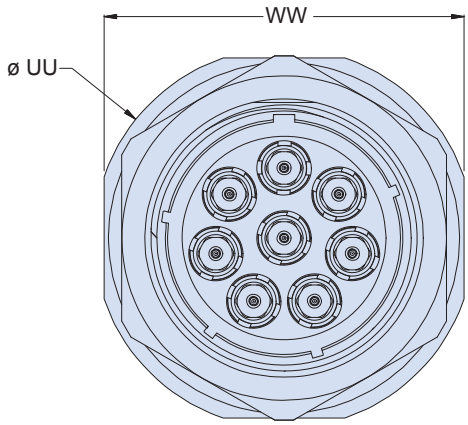


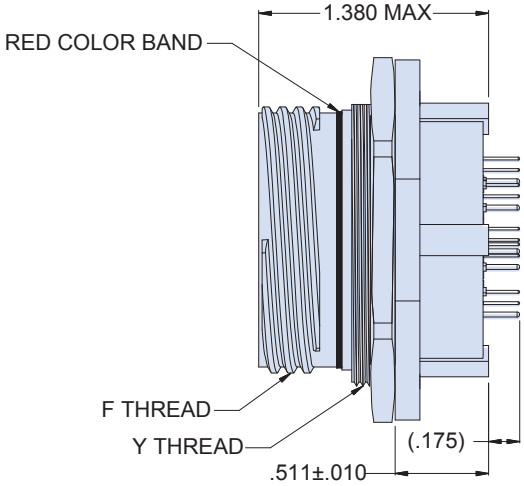
RECOMMENDED PANEL CUT-OUT
FOR BACK PANEL MOUNTING
CS AND 00 WALL MOUNT
RECEPTACLES

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050-304 07 Jam Nut
D38999 Series III Type Active Receptacle Connector
with Glenair Size 8 Opto-electronic Contacts

Active MIL-DTL-38999 type jam nut receptacle

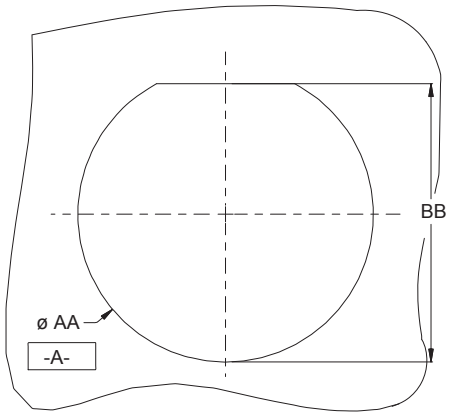




07 - Jam Nut Mount (38999/24)

Table XII: Dimensions for Clinch Nut and Slotted Receptacles					
Shell Size Code	Shell Size	F Thread Per M38999/20	Y Thread Per M38999/24	ØUU ±.010	WW sq ±.010
B	11	.7500-.1P-.3L-TS-2A	M20 X 1.0-6g 0.100R	1.377 (35.0)	1.259 (32.0)
E	17	1.875-.1P-.3L-TS-2A	M32 X 1.0-6g 0.100R	1.752 (44.5)	1.625 (41.3)
F	19	1.2500-.1P-.3L-TS-2A	M35 X 1.0-6g 0.100R	1.937 (49.2)	1.822 (46.3)
G	21	1.3750-.1P-.3L-TS-2A	M38 X 1.0-6g 0.100R	2.063 (52.4)	1.940 (49.3)
H	23	1.5000-.1P-.3L-TS-2A	M41 X 1.0-6g 0.100R	2.190 (55.6)	2.073 (52.7)
J	25	1.6250-.1P-.3L-TS-2A	M44 X 1.0-6g 0.100R	2.311 (58.7)	2.189 (55.6)

Table XI: Recommended Panel Cut-Out			
Shell Size Code	Shell Size	ØAA (min) Per M38999/24 ±.005	ØBB min Per M38999/24 ±.005
B	11	0.830 (21.1)	0.766 (19.5)
E	17	1.265 (32.1)	1.205 (30.6)
F	19	1.390 (35.3)	1.330 (33.8)
G	21	1.515 (38.5)	1.455 (37.0)
H	23	1.640 (41.7)	1.850 (47.0)
J	25	1.765 (44.8)	1.705 (43.3)



RECOMMENDED PANEL CUT-OUT
FOR JAM NUT RECEPTACLE
(NOT TO SCALE)

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