

## MIL-DTL-38999 Series I Type 231-211 Dual-flange wall-mount receptacle

| HOW TO ORDER           |                                                 |     |    |    |     |   |   |
|------------------------|-------------------------------------------------|-----|----|----|-----|---|---|
| Sample Part Number     | 231-211                                         | -CM | NF | 23 | -99 | P | N |
| Basic Part Number      | 231-211                                         |     |    |    |     |   |   |
| Connector Style        | (See Table IV)                                  |     |    |    |     |   |   |
| Material/Finish        | NF, MA, MT, ME, ZR, Z1, ZL, AB<br>(See Table V) |     |    |    |     |   |   |
| Shell Size             | 9, 11, 13, 15, 17, 19, 21, 23, 25               |     |    |    |     |   |   |
| Insert Arrangement     | PER MIL-STD-1560                                |     |    |    |     |   |   |
| Contact Style          | P = Pin, PC Tail<br>S = Socket, PC Tail         |     |    |    |     |   |   |
| Alternate Polarization | A, B, C, D, E, N = Normal                       |     |    |    |     |   |   |

### "BETTER THAN QPL" FEATURES AND BENEFITS

- Improved, positive-lock, 3-point stainless-steel pin bayonet coupling with outstanding vibration and shock resistance
- Plug ground fingers for advanced EMC
- Glenair Signature tin zinc finish class is RoHS compliant and cadmium compatible
- Precision-machined key/keyway polarization for reliable mismatching protection
- Expanded receptacle styles include Clinch-nut and Helicoil mounting, and In-Line configurations
- Scoop-proof design prevents pin damage and short circuits
- Fully tooled for all MIL-STD-1560 insert arrangements
- Contact options include size #22D, #20, #16, and #12 (see High-Speed series for Size #8)
- 500+ mating cycles exceeds MIL-DTL-38999 specification

### POWER SPECIFICATIONS

- Max operating temperature is 200°C finish dependent
- Meets Mil-Spec service rating, insert dependent

TABLE II - MOUNTING HOLES

| Shell Size Code | Shell Size | ØN Min        | ØR Holes                   | V Bsc         |
|-----------------|------------|---------------|----------------------------|---------------|
| A               | 9          | 0.656 (16.66) |                            | 0.719 (18.26) |
| B               | 11         | 0.796 (20.22) |                            | 0.812 (20.62) |
| C               | 13         | 0.922 (23.42) |                            | 0.906 (23.01) |
| D               | 15         | 1.047 (26.59) | .133 (3.38)                | 0.969 (24.61) |
| E               | 17         | 1.219 (30.96) | .123 (3.12)                | 1.062 (26.97) |
| F               | 19         | 1.297 (32.94) |                            | 1.156 (29.36) |
| G               | 21         | 1.422 (36.12) |                            | 1.250 (31.75) |
| H               | 23         | 1.547 (39.29) | .159 (4.04)<br>.149 (3.78) | 1.375 (34.93) |
| J               | 25         | 1.672 (42.47) | .155 (3.94)<br>.145 (3.68) | 1.500 (38.10) |

TABLE IV - CONNECTOR STYLE

| SYM | Description                                                   |
|-----|---------------------------------------------------------------|
| CM  | Receptacle, Wall-mount With Metric Clinch-nuts                |
| CS  | Receptacle, Wall-mount With Standard Clinch-nuts              |
| D0  | Receptacle, Wall-mount With Thru Holes                        |
| D1  | Receptacle, Wall-mount With Thru Holes, Metric Stand-off thd. |
| HM  | Receptacle, Wall-mount With Metric Helicoils                  |
| HS  | Receptacle, Wall-mount With Standard Helicoils                |
| T0  | Receptacle, Wall-mount With Std Tapped Holes (MAT; SST & MB)  |
| T1  | Receptacle, Wall-mount With Mtc Tapped Holes (MAT; SST & MB)  |

TABLE V - MATERIAL/FINISH

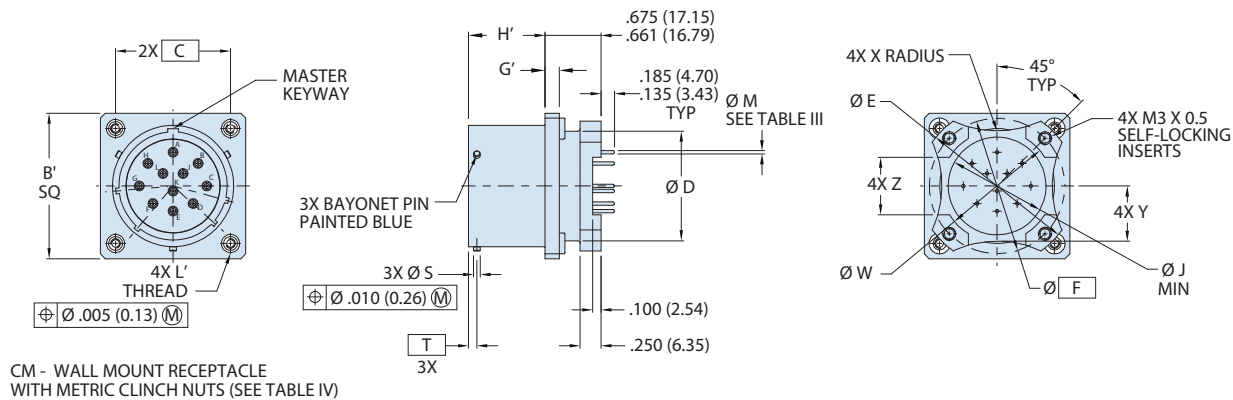
| Sym | Material              | Finish                           |
|-----|-----------------------|----------------------------------|
| NF  | Aluminum Alloy        | Cad/O.D. Over Electroless Nickel |
| MA  |                       | Electroless Nickel, Matte        |
| ME  |                       | Electroless Nickel               |
| MN  |                       | Tri-Nickel Alloy                 |
| MT  |                       | Nickel-PTFE                      |
| TZ  |                       | Tin Zinc Over Electroless Nickel |
| ZR  | Stainless Steel (SST) | Zinc Ni, Black (Tri-Valent CR)   |
| Z1  |                       | Passivate                        |
| ZL  |                       | Electrodeposited Nickel          |
| AB  | Marine Bronze (MB)    | None (Clean Only)                |

TABLE III

| Contact Size | PC Tail ØK                 |
|--------------|----------------------------|
| No 23        | .020 (0.51)<br>.018 (0.46) |
| No 22        | .020 (0.51)<br>.018 (0.46) |
| No 20        | .030 (0.76)<br>.028 (0.71) |
| No 16        | .040 (1.02)<br>.038 (0.97) |
| No 12        | .072 (1.83)<br>.070 (1.78) |

# MIL-DTL-38999 Series I Type 231-211 Dual-flange wall-mount receptacle

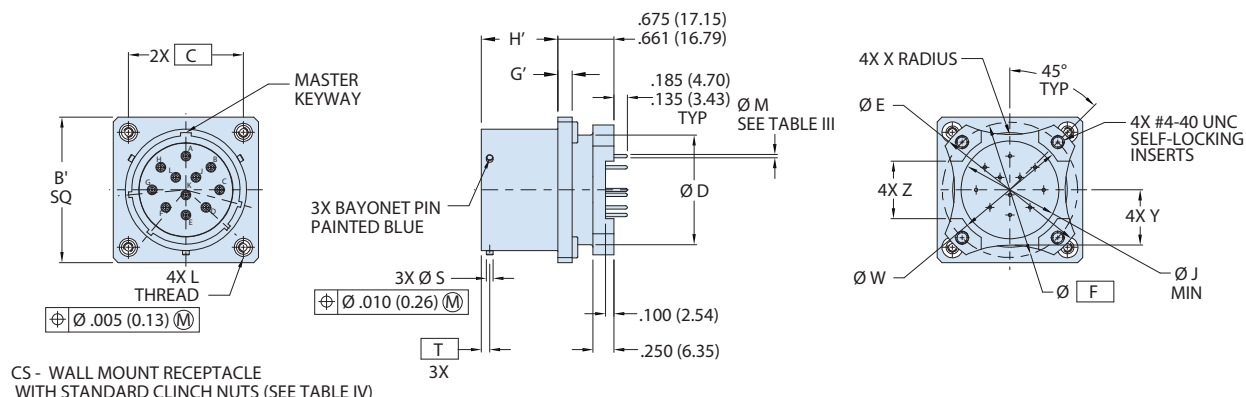
CM - WALL-MOUNT RECEPTACLE



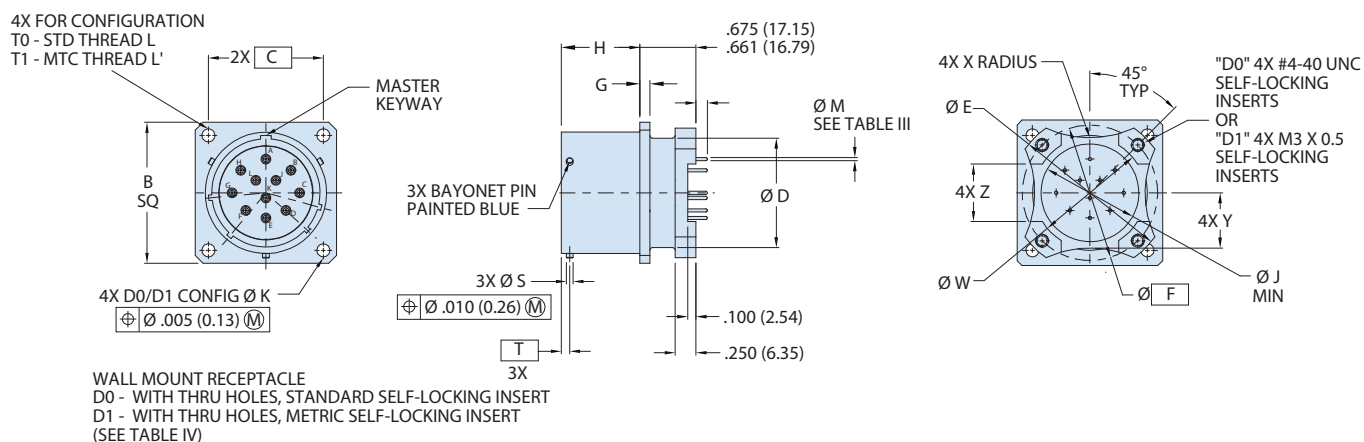
| Shell Size Code | Shell Size | B Sq             | B' Sq            | C Bsc            | G              | G'             | H               | H'              | ØJ Min           | ØK             | L Thread    | L' Thread | ØS             | T Bsc           | ØD ±.005         | ØE ±.005         | ØF Bsc           | ØW ±.005         | X Rad ±.020      | Y ±.020          | Z ±.010          |
|-----------------|------------|------------------|------------------|------------------|----------------|----------------|-----------------|-----------------|------------------|----------------|-------------|-----------|----------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| A               | 9          | 0.948<br>(24.08) | 1.043<br>(26.49) | 0.719<br>(18.26) |                |                |                 |                 | 0.340<br>(8.64)  |                |             |           |                |                 | 0.535<br>(13.59) | 1.016<br>(25.81) | 0.752<br>(19.10) | 0.532<br>(13.51) | 0.225<br>(5.72)  | 0.275<br>(6.99)  | 0.225<br>(5.72)  |
| B               | 11         | 1.043<br>(26.49) | 1.136<br>(28.85) | 0.812<br>(20.62) |                |                |                 |                 | 0.468<br>(11.89) |                |             |           |                |                 | 0.560<br>(14.22) | 1.062<br>(26.97) | 0.850<br>(21.59) | 0.595<br>(15.11) | 0.250<br>(6.35)  | 0.290<br>(7.37)  | 0.250<br>(6.35)  |
| C               | 13         | 1.137<br>(28.88) | 1.230<br>(31.24) | 0.906<br>(23.01) | .103<br>(2.62) |                |                 |                 | 0.572<br>(14.53) |                |             |           |                |                 | 0.700<br>(17.78) | 1.250<br>(31.75) | 0.994<br>(25.25) | 0.720<br>(18.29) | 0.375<br>(9.53)  | 0.370<br>(9.40)  | 0.250<br>(6.35)  |
| D               | 15         | 1.232<br>(31.29) | 1.293<br>(32.84) | 0.969<br>(24.61) | .153<br>(3.89) | .127<br>(3.23) | .952<br>(24.18) | .927<br>(23.55) | 0.705<br>(17.91) | .136<br>(3.45) | .112-40 UNC | M3X0.5    | .084<br>(2.13) | 0.100<br>(2.54) | 0.857<br>(21.77) | 1.375<br>(34.93) | 1.119<br>(28.42) | 0.843<br>(21.41) | 0.438<br>(11.13) | 0.440<br>(11.18) | 0.325<br>(8.26)  |
| E               | 17         | 1.323<br>(33.60) | 1.386<br>(35.20) | 1.062<br>(26.97) |                |                | .928<br>(23.57) | .903<br>(22.94) | 0.830<br>(21.08) | .120<br>(3.05) |             |           | .076<br>(1.93) |                 | 0.980<br>(24.89) | 1.500<br>(38.10) | 1.237<br>(31.42) | 1.000<br>(25.40) | 0.562<br>(14.27) | 0.495<br>(12.57) | 0.375<br>(9.53)  |
| F               | 19         | 1.449<br>(36.80) | 1.480<br>(37.59) | 1.156<br>(29.36) |                |                |                 |                 | 0.934<br>(23.72) |                |             |           |                |                 | 1.060<br>(26.92) | 1.625<br>(41.28) | 1.379<br>(35.03) | 1.125<br>(28.58) | 0.875<br>(22.23) | 0.540<br>(13.72) | 0.500<br>(12.70) |
| G               | 21         | 1.575<br>(40.01) | 1.574<br>(39.98) | 1.250<br>(31.75) |                |                |                 |                 | 1.055<br>(26.80) |                |             |           |                |                 | 1.210<br>(30.73) | 1.750<br>(44.45) | 1.489<br>(37.82) | 1.240<br>(31.50) | 1.170<br>(29.72) | 0.625<br>(15.88) | 0.562<br>(14.27) |
| H               | 23         | 1.701<br>(43.21) | 1.759<br>(44.68) | 1.375<br>(34.93) | .133<br>(3.38) | .107<br>(2.72) |                 |                 | 1.160<br>(29.46) | .162<br>(4.11) | .138-32 UNC | M4X0.7    | .146<br>(3.71) |                 | 1.310<br>(33.27) | 1.875<br>(47.63) | 1.619<br>(41.12) | 1.328<br>(33.73) | 1.250<br>(31.75) | 0.660<br>(16.76) | 0.688<br>(17.48) |
| J               | 25         | 1.823<br>(46.30) | 1.884<br>(47.85) | 1.500<br>(38.10) |                | .157<br>(3.99) |                 |                 | 1.307<br>(33.20) |                |             |           | .131<br>(3.33) | 0.109<br>(2.77) | 1.460<br>(37.08) | 2.000<br>(50.80) | 1.744<br>(44.30) | 1.453<br>(36.91) | 1.375<br>(34.93) | 0.740<br>(18.80) | 0.750<br>(19.05) |

# MIL-DTL-38999 Series I Type 231-211 Dual-flange wall-mount receptacle

## CS - WALL-MOUNT RECEPTACLE

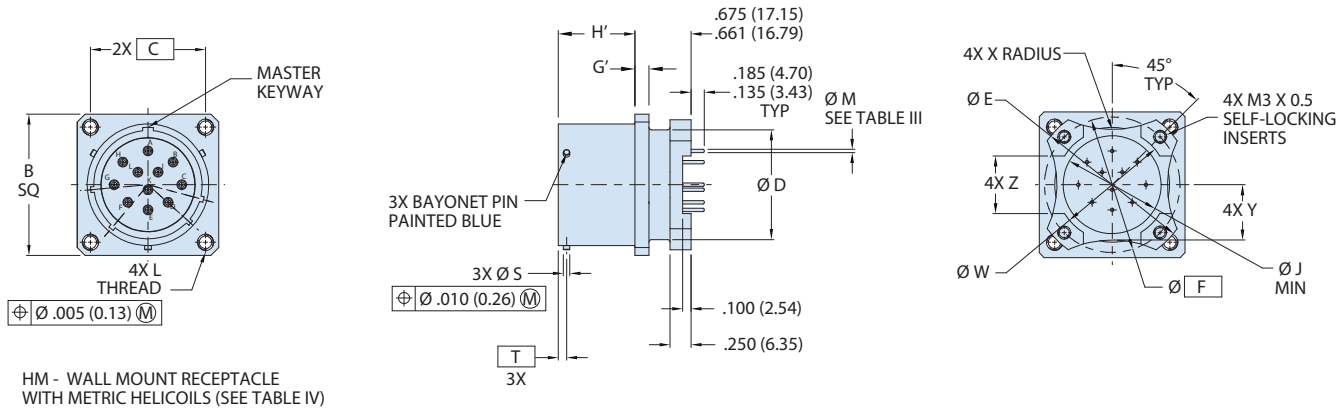


## D0/D1 - WALL-MOUNT RECEPTACLE

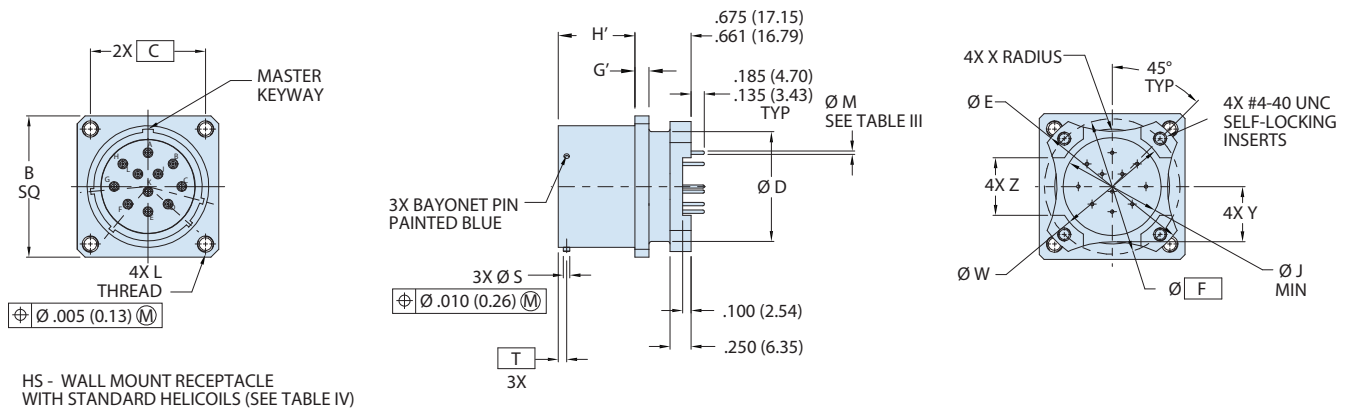


MIL-DTL-38999 Series I Type  
 231-211 Dual-flange wall-mount receptacle

**HM - WALL-MOUNT RECEPTACLE**



**HS - WALL-MOUNT RECEPTACLE**



**MIL-DTL-38999 Series I Type  
231-211-07 Jam-nut mount dual flange receptacle**



| HOW TO ORDER           |                                               |     |    |    |    |   |   |
|------------------------|-----------------------------------------------|-----|----|----|----|---|---|
| Sample Part Number     | 231-211                                       | -07 | NF | 17 | -8 | P | N |
| Basic Part Number      | 231-211-07                                    |     |    |    |    |   |   |
| Connector Style        | 07 = Receptacle, Jam-nut                      |     |    |    |    |   |   |
| Material/Finish        | NF, MA, MT, ME, ZR, Z1, ZL, AB (See Table II) |     |    |    |    |   |   |
| Connector Size         | 9, 11, 13, 15, 17, 19, 21, 23, 25             |     |    |    |    |   |   |
| Insert Arrangement     | PER MIL-STD-1560                              |     |    |    |    |   |   |
| Contact Style          | P = Pin, PC Tail<br>S = Socket, PC Tail       |     |    |    |    |   |   |
| Alternate Polarization | A, B, C, D, N = Normal                        |     |    |    |    |   |   |

**“BETTER THAN QPL”  
FEATURES AND BENEFITS**

- Improved, positive-lock, 3-point stainless-steel pin bayonet coupling with outstanding vibration and shock resistance
- Plug ground fingers for advanced EMC
- Glenair Signature tin zinc finish class is RoHS compliant and cadmium compatible
- Precision-machined key/keyway polarization for reliable mismatching protection
- Expanded receptacle styles include Clinch-nut and Helicoil mounting, and In-Line configurations
- Scoop-proof design prevents pin damage and short circuits
- Fully tooled for all MIL-STD-1560 insert arrangements
- Contact options include size #22D, #20, #16, and #12 (see High-Speed series for Size #8)
- 500+ mating cycles exceeds MIL-DTL-38999 specification

**POWER SPECIFICATIONS**

- Max operating temperature is 200°C finish dependent
- Meets Mil-Spec service rating, insert dependent

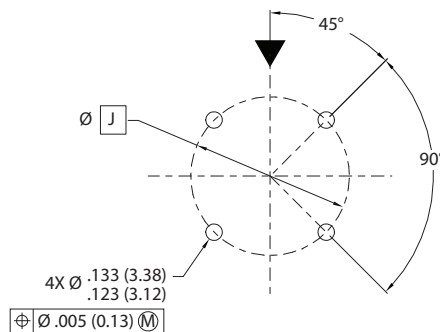
| TABLE III - PANEL-MOUNT |            |               |               |
|-------------------------|------------|---------------|---------------|
|                         |            |               |               |
| Size Code               | Shell Size | ØAA           | BB FLAT       |
| A                       | 9          | .703 (17.86)  | .661 (16.79)  |
|                         |            | .693 (17.60)  | .654 (16.61)  |
| B                       | 11         | .835 (21.21)  | .771 (19.58)  |
|                         |            | .825 (20.96)  | .761 (19.33)  |
| C                       | 13         | 1.020 (25.91) | .955 (24.26)  |
|                         |            | 1.010 (25.65) | .945 (24.00)  |
| D                       | 15         | 1.145 (29.08) | 1.085 (27.56) |
|                         |            | 1.135 (28.83) | 1.075 (27.31) |
| E                       | 17         | 1.270 (32.26) | 1.210 (30.73) |
|                         |            | 1.260 (32.00) | 1.200 (30.48) |
| F                       | 19         | 1.395 (35.43) | 1.335 (33.91) |
|                         |            | 1.385 (35.18) | 1.325 (33.66) |
| G                       | 21         | 1.520 (38.61) | 1.460 (37.08) |
|                         |            | 1.510 (38.35) | 1.450 (36.83) |
| H                       | 23         | 1.645 (41.78) | 1.585 (40.26) |
|                         |            | 1.635 (41.53) | 1.575 (40.01) |
| J                       | 25         | 1.770 (44.96) | 1.710 (43.43) |
|                         |            | 1.760 (44.70) | 1.700 (43.18) |

| TABLE II - MATERIAL/FINISH |                       |                                  |
|----------------------------|-----------------------|----------------------------------|
| Sym                        | Material              | Finish                           |
| NF                         | Aluminum Alloy        | Cad/O.D. Over Electroless Nickel |
| MA                         |                       | Electroless Nickel, Matte        |
| ME                         |                       | Electroless Nickel               |
| MN                         |                       | Tri-Nickel Alloy                 |
| MT                         |                       | Nickel-PTFE                      |
| TZ                         |                       | Tin Zinc Over Electroless Nickel |
| ZR                         | Stainless Steel (SST) | Zinc Ni, Black (Tri-Valent CR)   |
| Z1                         |                       | Passivate                        |
| ZL                         | Marine Bronze (MB)    | Electrodeposited Nickel          |
| AB                         |                       | None (Clean Only)                |

| TABLE V      |                            |
|--------------|----------------------------|
| Contact Size | PC Tail ØK                 |
| No 23        | .020 (0.51)<br>.018 (0.46) |
| No 22        | .020 (0.51)<br>.018 (0.46) |
| No 20        | .030 (0.76)<br>.028 (0.71) |
| No 16        | .040 (1.02)<br>.038 (0.97) |
| No 12        | .072 (1.83)<br>.070 (1.78) |

MIL-DTL-38999 Series I Type  
231-211-07 Jam-nut mount dual flange receptacle

| TABLE II        |            |                              |              |                                |                                |                                |                   |                            |               |               |               |               |               |               |               |
|-----------------|------------|------------------------------|--------------|--------------------------------|--------------------------------|--------------------------------|-------------------|----------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|                 |            |                              |              |                                |                                |                                |                   |                            |               |               |               |               |               |               |               |
| Shell Size Code | Shell Size | Ø S                          | Ø T Bsc      | Ø U                            | V Sq                           | W Flat                         | X Thread          | Z                          | Ø G ±.005     | Ø H ±.005     | Ø J Bsc       | Ø K ±.005     | L Rad ±.020   | M ±.020       | N ±.010       |
| A               | 9          | 0.084 (2.13)<br>0.076 (1.93) | 0.100 (2.54) | 1.204 (30.58)<br>1.172 (29.77) | 1.078 (27.38)<br>1.046 (26.57) | 0.655 (16.64)<br>0.645 (16.38) | .6875-24 UNEF-2A  | .120 (3.05)<br>.099 (2.51) | 0.535 (13.59) | 1.016 (25.81) | 0.752 (19.10) | 0.532 (13.51) | 0.225 (5.72)  | 0.275 (6.99)  | 0.225 (5.72)  |
| B               | 11         |                              |              | 1.391 (35.33)<br>1.359 (34.52) | 1.266 (32.16)<br>1.234 (31.34) | 0.755 (19.18)<br>0.745 (18.92) | .8125-20 UNEF-2A  |                            | 0.560 (14.22) | 1.062 (26.97) | 0.850 (21.59) | 0.595 (15.11) | 0.250 (6.35)  | 0.290 (7.37)  | 0.250 (6.35)  |
| C               | 13         |                              |              | 1.516 (38.51)<br>1.484 (37.69) | 1.391 (35.33)<br>1.359 (34.52) | 0.942 (23.93)<br>0.932 (23.67) | 1.0000-20 UNEF-2A |                            | 0.700 (17.78) | 1.250 (31.75) | 0.994 (25.25) | 0.720 (18.29) | 0.375 (9.53)  | 0.370 (9.40)  | 0.250 (6.35)  |
| D               | 15         |                              |              | 1.641 (41.68)<br>1.609 (40.87) | 1.516 (38.51)<br>1.484 (37.69) | 1.066 (27.08)<br>1.056 (26.82) | 1.1250-18 UNEF-2A |                            | 0.857 (21.77) | 1.375 (34.93) | 1.119 (28.42) | 0.843 (21.41) | 0.438 (11.13) | 0.440 (11.18) | 0.325 (8.26)  |
| E               | 17         |                              |              | 1.766 (44.86)<br>1.734 (44.04) | 1.641 (41.68)<br>1.609 (40.87) | 1.191 (30.25)<br>1.181 (30.00) | 1.2500-18 UNEF-2A | .151 (3.84)<br>.130 (3.30) | 0.980 (24.89) | 1.500 (38.10) | 1.237 (31.42) | 1.000 (25.40) | 0.562 (14.27) | 0.495 (12.57) | 0.375 (9.53)  |
| F               | 19         |                              |              | 1.954 (49.63)<br>1.922 (48.82) | 1.828 (46.43)<br>1.796 (45.62) | 1.316 (33.43)<br>1.306 (33.17) | 1.3750-18 UNEF-2A |                            | 1.060 (26.92) | 1.625 (41.28) | 1.379 (35.03) | 1.125 (28.58) | 0.875 (22.23) | 0.540 (13.72) | 0.500 (12.70) |
| G               | 21         |                              |              | 2.078 (52.78)<br>2.046 (51.97) | 1.954 (49.63)<br>1.922 (48.82) | 1.441 (36.60)<br>1.431 (36.35) | 1.5000-18 UNEF-2A |                            | 1.210 (30.73) | 1.750 (44.45) | 1.489 (37.82) | 1.240 (31.50) | 1.170 (29.72) | 0.625 (15.88) | 0.562 (14.27) |
| H               | 23         |                              |              | 2.204 (55.98)<br>2.172 (55.17) | 2.078 (52.78)<br>2.046 (51.97) | 1.566 (39.78)<br>1.556 (39.52) | 1.6250-18 UNEF-2A |                            | 1.310 (33.27) | 1.875 (47.63) | 1.619 (41.12) | 1.328 (33.73) | 1.250 (31.75) | 0.660 (16.76) | 0.688 (17.48) |
| J               | 25         | 0.131 (3.33)<br>0.123 (3.12) | 0.109 (2.77) | 2.328 (59.13)<br>2.296 (58.32) | 2.204 (55.98)<br>2.172 (55.17) | 1.691 (42.95)<br>1.681 (42.70) | 1.7500-18 UNEF-2A |                            | 1.460 (37.08) | 2.000 (50.80) | 1.744 (44.30) | 1.453 (36.91) | 1.375 (34.93) | 0.740 (18.80) | 0.750 (19.05) |



RECOMMENDED PCB  
MOUNTING HOLE LOCATIONS